

# Fruits, Vegetables, & Farinaceous Products

*Chef Marcelle Bienvenu*

*With*

*William R. Thibodeaux Ph.D.*





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## Preface

*There is a communion of more than our bodies when bread is broken and wine is drunk.*

M.F.K. Fisher

*One cannot think well, love well, or sleep well, if one has not dined well.*

Virginia Wolf.

Welcome to one of the core classes at the Chef John Folse Culinary Institute at Nicholls State University.

Before we begin this course, I want to emphasize the importance of Louisiana's culture and foodways. There are a couple of axioms that explain how much they are relished.

*"The locals have a 24-hour-a-day love affair with food. While they are eating breakfast, they're looking ahead to lunch AND dinner, and even probably discuss what will be on the menu for the Sunday meal or a holiday celebration."*

*"Some people eat to live, while here we live to eat."*

I didn't realize how significant food was to my family, my friends and me until I spent a summer working in Washington D.C. when I noted that not everyone ate gumbo, boudin and crawfish etouffee. I was curious as to why we eat what we eat. What influenced the development of our Louisiana cuisines? I thought about how my life was influenced by food.

My father was one of twelve siblings, and his mother was a revered cook who known for her delicate pastries, fine candies and daube glace, an old Creole delicacy that takes the better part of a day to prepare. She had two stoves in her kitchen and they were in constant use.

When Papa reached adulthood, he became a Boy Scout leader AND an avid sportsman who loved fishing and hunting. He often cooked our family meals, especially on weekends at our camp near the Atchafalaya Spillway or at our rural home where our backyard was surrounded by sugarcane fields. He cooked mostly over a wood fire and I was quite intrigued as to how he managed the fire. One of my colleagues once told me "cooking is merely learning how to control heat." After observing my father cooking, I totally agree.

My mother grew up on a farm where the produce came from their home gardens, from the chickens and hogs they raised, and the food they canned and otherwise preserved. An annual 'boucherie' (hog butchering) supplied the family and friends with all things pork---sausages, salted or smoked meat, boudin, cracklings and hams.

While I never gave thought to pursuing a career in culinary, fate presented me with opportunities that steered me to becoming involved in restaurants, culinary journalism, and culinary education. In the early 1970's, I was "recruited" by Ella Brennan, the matriarch of the New Orleans Brennan clan, to work at Commander's Palace. It was there that I learned the fundamentals of restaurant operations. The Brennan family (especially Ella Brennan who became my mentor for almost 50 years) always maintained that hospitality, good food, and attention to details were the keys to being successful.

I was there when Paul Prudhomme, the man who came from humble beginnings, was hired in 1975 as the Executive Chef for Commander's, one of the most prestigious restaurants in the country. It was exciting for me to watch Paul preach the gospel of Cajun cuisine, and to see him and the Brennans introduce a completely new culinary concept that married Cajun cuisine to Creole fare.

In 1981, I opened my own restaurant, Chez Marcelle, near Lafayette, La. It was a great success but it had its ups and downs. I was up at dawn and usually was the first to arrive to open up the kitchen. Menus had to be planned. There was purchasing to be done. There were daily meetings with my kitchen and wait staff. Inventories had to be taken. Dishwashing machines broke down in the middle of service. Who was taking my silverware home with them? Why was there always a shortage of wine glasses? Are the bathrooms spic and span?

After all was said and done, there were a great many rewards. The restaurant was popular. The phones rang off the hook. We won great awards for not only our food, but also for service. Alas, in the 1980's we had to contend with the oil glut with the serious surplus of crude oil. While we were still very solvent, we had to close the doors.

Nevertheless, I always adhere to the adage that when God closes one door, He opens another. In 1984, I began writing a food column (*Cooking Creole*) for The Times-Picayune in New Orleans and continued the column until 2016. During those thirty-two years, I watched the culinary scene change and evolve, not only in New Orleans, but also across the United States. It was a time during which people became enamored with cooking. Television cooking shows became popular with just about every age group. High-end cookware flew off the shelves. Grocery stores and supermarkets became stocked with exotic spices and foodstuffs. Cookbooks rolled off the presses.

In 1982 when the Brennans hired Emeril Lagasse to replace Chef Paul Prudhomme as Executive Chef at Commander's Palace, he and I quickly became food friends. We roamed the countryside throughout south Louisiana tasting boudin, andouille, tasso and every kind of gumbo we could find.

In 1990, shortly after Emeril left Commander's to open his first restaurant Emeril's, he called me to help him write one of his cookbooks, *Louisiana: Real and Rustic*. We went on to co-author several more books, and it was quite exciting to be onboard when he began his cooking shows in

1993 on the TV Food Network. Our working relationship lasted until 2005 when Katrina came roaring through the Crescent City. To say the least, it was an exciting time to be involved in gastronomy.

In 2009, I was asked to join the faculty at the Chef John Folse Culinary Institute at Nicholls State University in Thibodaux, Louisiana. For over ten years, I have taught just about every class offered in the curriculum and I learned as much as I taught.

I wanted to impassion the students, showing them how important it is to be a culinary professional who is prepared, organized and eager to bring to the table exemplary food – food not only for the body but also for the soul. Being raised in a culture where family, food and fun is the core of its existence, I feel it is important to continue culinary traditions of family and region and perhaps contribute to its never-ending evolution---nothing is so good that it cannot be improved.

No matter what level or capacity a culinary student chooses in the culinary field, it's so important to be respectful of the food, as well as to the staff and of course the customers. Be gracious, be kind, and be willing to work the backbreaking hours with nary a word of complaint. Always be aware that you will never stop learning. Read, read, and read. Stay abreast of trends and changes. Be open to new ideas. Become a people person who cares.

***Cooking done with care is an act of love.***

*Craig Claiborne*

*My Advice:* Before a student goes down the path of learning the skills, techniques and history of world cuisines, I urge them to question their aspiration to be a culinarian. Set some goals. Make a plan. Sometimes the goals and plan may change, but it is so important to focus on what may become your life's work---of course, I always explain that if you find the right position, you will never work a day in your life. Never refuse an invitation to volunteer. Practice your knife skills every day. Be passionate. Be curious. Expand your knowledge. Be humble. Do everything in your power to make a guest happy. Always remember, it's all in the details.

***The dining room is a theater...the table is a stage.***

*Chatillon-Plessis, 19<sup>th</sup> century French Journalist*

Teaching culinary students has been an experience that has given me many opportunities to share my knowledge and passion of preserving our foodways, traditions and culture. I sincerely hope it will become your passion as well!

*Marcelle Bienvenu*



# Chapter 1:

## *FLAVORS*





## FLAVORS

The chef must understand how to flavor foods and be able to recognize flavoring ingredients and know how to use them. This chapter looks at the sense of taste and smell and the flavoring ingredients used in the professional kitchen to enhance foods. Flavorings are the herbs, spices, salt, oils, vinegars, condiments, wines and other alcoholic beverages typically used to create, enhance or alter the natural flavors of a dish-are featured.

From the simplest grunt of pleasure upon biting into a chunk of meat fresh from the fire to the most sophisticated discourse on the fruity top notes of a full-bodied Cabernet Sauvignon, people have long attempted to describe the flavors of food. This is done by describing physical perceptions ("it tastes tart or sugary" or "it feels greasy") or the recognition of the flavor ("I can sense the rosemary" or "there is a hint of strawberries"). In either case, the terms *flavor* and *taste* are often confused. Although often used interchangeably, they are not synonymous.

A **flavor** is a combination of the tastes, aromas and other sensations caused by the presence of a foreign substance in the mouth.

**Tastes** are the sensations we detect when a substance comes in contact with the taste buds on the tongue (sweet, sour, salt, bitter and umami.) Some substances irritate other nerves on the tongue or embedded in the fleshy areas of the mouth. These nerves respond to sensations of pain, heat or cold, or sensations our brain interprets as spiciness, pungency, or astringency.

**Mouthfeel** refers to the sensation created in the mouth by a combination of a food's taste, smell, texture and temperature.

**Aromas** are the odors that enter the nose or float up through the back of the mouth to activate smell receptors in the nose. Whenever a particular taste, sensation and/or aroma is detected, a set of neurons in the brain is excited and, with experience, we learn to recognize these patterns as the flavor of bananas, chocolate, grilled lamb or sour milk. Each person has a unique ability to recognize and appreciate thousands of these patterns.

**This collection of flavors and your ability to recognize them is sometimes referred to as your palate.**

### ***TASTES: SWEET, SOUR, SALTY, BITTER AND NOW UMAMI***

Over the centuries, various cultures have developed complex philosophies based, in part, on the basic tastes they found in the foods they ate. For example, as early as 1000 R.C.E., the Chinese were describing the five-taste scheme that they still adhere to today.

For them, each of the basic tastes - sweet, sour, salty, bitter and pungent/ hot/spicy- is associated with a vital organ of the body, a certain season, a specific element of nature, or an astrological sign. Maintaining the proper balance of tastes in a dish or during a meal assists in the maintenance of good health and good fortune.

About the same time, in what is now India, the practice of ayurvedic medicine was developing. Indians recognized six tastes (and still do) sweet, sour, salty, spicy/ pungent, bitter and astringent. Based on the tastes of various herbs and spices, practitioners of ayurvedic medicine associate them with specific vital organs or bodily systems. Indian cooks attempt to create dishes with a balance of all six tastes, in part to encourage good health.

A continent away and several hundred years later, the Greek philosopher Aristotle identified seven tastes. He arranged the various tastes on a sort of continuum with the two primary and contrasting tastes, sweet and bitter, at either end. He placed a secondary taste next to each primary taste: succulent to the right of sweet and salty to the left of bitter. Between these secondary tastes he placed - from left to right- pungent, harsh and astringent. Each taste gave way to the next, creating, along with the other senses, the perception of flavors.

As the understanding of the human body evolved, the definition of taste came to be based more on science than on a balancing of elements. Today, taste is defined as the sensations detected when substances come in contact with the taste buds on the tongue.

**Sweet** - For most people, sweetness is the most pleasurable and often sought-after taste, although, ironically, the fewer sweet-tasting foods we consume, the more enhanced our ability to recognize sweetness becomes. A food's sweetness comes from the naturally occurring sugars it contains (for example, sucrose and fructose) or sweeteners added to it. This sweetness can sometimes be enhanced by adding a small amount of a sour, bitter or salty taste. Adding too much sourness, bitterness or saltiness, however, will lessen our perception of the food's sweetness.

**Sour** - Considered the opposite of sweet, a sour taste is found in acidic foods and, like sweetness, can vary greatly in intensity. Many foods with a dominant sour taste, such as real currants or sour cream, will also contain a secondary or slight sweetness. Often a sour taste can be improved by adding a little sweetness or negated by adding a large amount of a sweet ingredient.

**Salty** - With the notable exception of oysters and other shellfish and seaweed, the presence of a salty taste in a food is the result of the cook's decision to add the mineral sodium chloride, known as salt, or to use a previously salted ingredient such as salt-cured fish or soy sauce. Salt helps finish a dish, heightening or enhancing its other flavors. Dishes that lack salt often taste flat. Like the taste of sweetness, the less salt consumed on a regular basis, the more saltiness we can detect in foods.

**Bitter** - Although the bitterness associated with tasting alkaloids and other organic substances may occasionally be appreciated, such as when tasting chocolate or coffee, a bitter-flavored ingredient unbalanced by something sour or salty is generally disliked and, as a survival mechanism, is believed to serve as a warning of inedibility or unhealthfulness.

In the past several years, many western researchers have begun to recognize a fifth taste, akin to the savory taste long recognized as the fifth taste in Japanese cuisine. Called '**umami**' (from the Japanese word *umai*, meaning "delicious"), this fifth taste does not have a simple English translation. Rather, for some people it refers to a food's savory characteristic; for others to the richness or fullness of a dish's overall taste, and still others, the meatiness or meaty taste of a dish.

Taste buds sense umami in the presence of several substances, including the naturally occurring amino acid glutamate and its commercially produced counterpart known as monosodium glutamate (MSG).

Cheeses, meats, rich stocks, soy sauce, shellfish, fatty fish, mushrooms, tomatoes and wine are all high in glutamate and produce the taste sensation of umami. Aged or fermented foods also provide umami.

Often food professionals and others refer to tastes in addition to sweet, sour, salty, bitter and umami. Typically, they describe something as pungent, hot, spicy or piquant or something that is astringent, sharp or dry. None of these terms, however, fit the definition of a taste, as none are detected solely by taste buds. Rather, these sensations are detected by nerve endings embedded in the fleshy part of the mouth. These nerves, when "irritated" by the presence of compounds such as piperine (the active ingredient in black peppercorns) or capsaicin (the active ingredient in chiles), register a burning sensation that the brain translates as the hot and spicy "taste" of Szechuan or Mexican cuisines, for example.

### **FACTORS AFFECTING PERCEPTION OF FLAVORS**

Obviously, the most important factors affecting the flavor of a dish are the quantity, quality and concentration of the flavoring ingredients. (With practice, a chef gains a feel for the proper proportions.) Other factors that affect one's perception of flavors include the following:

**Temperature** - Food at warm temperatures offer the strongest tastes. Heating foods releases volatile flavor compounds, which intensifies one's perceptions of odors. This is why fine cheese is served at room temperature to improve its eating quality and flavor. Foods tend to lose their sour or sweet tastes both the colder and the hotter they become. Saltiness, however, is perceived differently at extreme cold temperatures; the same quantity of salt in a solution is perceived more strongly when very cold than when merely cool or warm. Therefore, it is best to adjust a dish's final flavors at its serving temperature.

*That is, season hot food when they are hot and cold foods when they are cold.*

**Consistency** - A food's consistency affects its flavor. Two items with the same amount of taste and smell compounds that differ in texture will differ in their perceived intensity and onset time; the thicker item will take longer to reach its peak intensity and will have a less intense flavor. For example, two batches of sweetened heavy cream made from the same ingredients in the same portions can taste different if one is whipped and the other is un-whipped; the whipped cream has more volume and therefore a milder flavor.

**Presence of contrasting tastes** - Sweet and sour are considered opposites, and often the addition of one to a food dominated by the other will enhance the food's overall flavor. For example, adding a little sugar to vinaigrette reduces the dressing's sourness, or adding a squeeze of lemon to a broiled lobster reduces the shellfish's sweetness. Nevertheless, add too much, and the dominant taste will be negated. Likewise, adding something sweet, sour or salty to a dish with a predominantly bitter flavor will cut the bitterness.

**Presence of fats** - Many of the chemical compounds that create tastes and aromas are dissolved in the fats naturally occurring in foods or added to foods during cooking. As these compounds are slowly released by evaporation or saliva, they provide a sustained taste sensation. If, however, there is too little fat, the flavor compounds may not be released efficiently, resulting in a dish with little sustained flavor. Too much fat poses another problem; it can coat the tongue and interfere with the ability of taste receptors to perceive flavor compounds.

**Color** - A food's color affects how the consumer will perceive the food's flavor before it is even tasted. When foods or beverages lack their customary color, they are less readily identified correctly than, when appropriately colored. As color level changes to match normal expectations, our perception of taste and flavor intensity increases. A miscue created by the perceived flavor (the flavor associated with the color) can have an adverse impact on the consumer's appreciation of the actual flavor. For example, if the predominant flavor of a dessert is lemon, the dessert or some component of the dessert should be yellow; a green color will trigger an expectation of lime and the possible disappointment of the consumer. Similarly, the dark ruby-red flesh of a blood orange looks different from the bright orange flesh of a Valencia orange. This tonal difference can create the expectation of a different, non-orangey flavor, even though the blood orange's flavor is similar to that of other sweet orange varieties. Likewise, a sliced apple that has turned brown may suggest an off-flavor, although there is none.

### ***COMPROMISES TO THE PRECEPTION OF TASTE***

The sense of taste can be challenged by factors both within and beyond one's control. Age and general health can diminish one's perception of flavor, as can fatigue and stress. Chefs need to be aware of the age and health of their clientele, adjusting the seasoning of foods served according to their needs. Here are some factors that can affect one's taste perceptions.

**Age.** "The bad news is that taste and smell sensitivity does decline as we age. The good news is that it declines at a slower rate than our vision and hearing. The sense of smell tends to decline earlier than the sense of taste. There is a great deal of variance across individuals, with some showing declines earlier than others."

**Health.** "An acute condition, such as a cold, can result in a temporary loss of smell. The presence of mucus can prevent airflow, preventing the odor compounds from reaching the olfactory receptors. In contrast, the sense of taste would remain largely unaffected.

Medications can also alter the perception of taste and smell. Some medications suppress the perceptions of saltiness, while others result in chronic perception of bitterness. Still other medications alter salivary flow, making it difficult to swallow dry foods. A further complication is the underlying conditions for taking medication. If an individual is taking high blood pressure medications, not only may the medication have a direct impact on perceived taste, but the same individual is likely to be on a sodium-restricted diet."

**Smoking.** "Anecdotal reports from those who quit smoking strongly indicate that smoking diminishes odor sensitivity. This is further supported by evidence indicating that people who smoke generally are less sensitive to odors than those who do not. In contrast, evidence indicates that if one waits two hours after smoking, the sense of taste is unaltered. Immediately after smoking, however, taste sensitivity is lowered."

## **DESCRIBING AROMAS AND FLAVORS IN FOOD**

Food scientists and professional tasters make their living describing the smell and taste of foods. Many have attempted to standardize the language used to describe positive and negative aromas and flavors in foods such as beer, cheese, chocolate, coffee and fish. Frequently they employ flavor wheels or other charts to identify types of flavors and tastes found in foods.

## **DESCRIBING FOOD USING FLAVOR PROFILES**

A food's **flavor profile** describes its flavor from the moment the consumer gets the first whiff of its aroma until he or she swallows that last morsel. It is a convenient way to articulate and evaluate a dish's sensory characteristics as well as identify contrasting or complementing items that could be served with it.

A food's flavor profile consists of one or more of the following elements:

1. **Top notes or high notes** - the sharp, first flavors or aromas that come from citrus, herbs, spices and many condiments. These top notes provide instant impact and dissipate quickly.
2. **Middle notes** – the second wave of flavors and aromas. More subtle and more lingering than top notes, middle notes come from dairy products, poultry, some vegetables, fish and some meats.

3. **Low notes or bass notes** - the most dominant, lingering flavors. These flavors consist of the basic tastes (especially sweetness, sourness, saltiness and um ami) and come from foods such as anchovies, beans, chocolate, dried mushrooms, fish sauce, tomatoes, most meats (especially beef and game) and garlic. Or they can be created by smoking or caramelizing the food's sugars during grilling, broiling and other dry-heat cooking processes.
4. **After taste or finish** - the final flavor that remains in the mouth after swallowing; for example, the lingering bitterness of coffee or chocolate or the pungency of black pepper or a strong mustard.
5. **Roundness** - the unity of the dish's various flavors achieved through the judicious use of butter, cream, coconut milk, reduced stocks, salt, sugar and the like; these ingredients cause the other flavorings to linger without necessarily adding their own dominant taste or flavor.
6. **Depth of flavor** - whether the dish has a broad range of flavor notes.
7. these expressions can be applied to any dish to describe its sensory characteristics. For example, a free-range chicken has a flavor profile with a top note of rosemary. Its middle notes are contributed by the chicken, and the low notes from the anchovies and garlic. There is an aftertaste of garlic and vinegar. The sauce adds roundness to the chicken, thus creating a dish with a fine depth of flavor. An experienced chef is able to taste and evaluate a version of this dish, adjusting flavorings, ingredients and cooking technique as needed to maintain the balance of flavors in the original recipe.

### Important Terms:

**seasoning** an item added to enhance the natural flavors of a food without dramatically changing its taste; salt is the most common seasoning

**flavoring** an item that adds a new taste to a food and alters its natural flavors; flavorings include herbs, spices, vinegars and condiments; the terms seasoning and flavoring are often used interchangeably.

**herb** any of a large group of aromatic plants whose leaves, stems or flowers are used as a flavoring; used either dried or fresh

**aromatic** a food added to enhance the natural aromas of another food ; aromatics include most flavorings, such as herbs and spices , as well as some vegetables

**spice** any of a large group of aromatic plants whose bark, roots, seeds, buds or berries are used as a flavoring; usually used in dried form, either whole or ground

**condiment** traditionally, any item added to a dish for flavor, including herbs, spices and vinegars; now also refers to cooked or prepared flavorings such as prepared mustards, relishes, bottled sauces and pickles.

## FLAVORINGS: HERBS AND SPICES

Herbs and spices are used as flavorings. Herbs refer to the large group of aromatic plants whose leaves, stems or flowers are used to add flavors to other foods. Most herbs are available fresh or dried. Because drying alters their flavors and aromas, fresh herbs are generally preferred and should be used if possible. Spices are strongly flavored or aromatic portions of plants used as flavorings, condiments or aromatics. Spices are the bark, roots, seeds, buds or berries of plants, most of which grow naturally only in tropical climates. Spices are usually used in their dried form, rarely fresh, and can usually be purchased whole or ground. Some plants- dill, for example- can be used as both an herb (its leaves) and a spice (its seeds).

## HERBS



*Basil*

Basil is considered one of the great culinary herbs. It is available in a variety of "flavors" - cinnamon, garlic, lemon, even chocolate- but the most common is sweet basil. Sweet basil has light green, tender leaves and small white flowers. Its flavor is strong, warm and slightly peppery, with a hint of cloves. Basil is used in Mediterranean and some Southeast Asian cuisines and has a special affinity for garlic and tomatoes. When purchasing fresh basil, look for bright green leaves; avoid flower buds and wilted or rust-colored leaves. Dried sweet basil is readily available but has a decidedly weaker flavor.

**Opal basil** is named for its vivid purple color. It has a tougher, crinkled leaf and a medium-strong flavor. Opal basil may be substituted for sweet basil in cooking, and its appearance makes it a distinctive garnish.



*Bay leaves*

Bay, also known as sweet laurel, is a small tree from Asia that produces tough, glossy leaves with a sweet balsamic aroma and peppery flavor. Bay symbolized wisdom and glory in ancient Rome; the leaves were used to form crowns or "laurels" Bay leaves worn by emperors and victorious athletes. In cooking, dried bay leaves are often preferred over the more bitter fresh leaves. Essential in French cuisine, bay leaves are part of the traditional bouquet garni and court bouillon. Whole dried leaves are usually added to a dish at the start of cooking, then removed when sufficient flavor has been extracted the Middle East. Its lacy, fern-like leaves are similar to parsley and can be used as a garnish.



*Chervil*

Chervil is commonly used in French cuisine and is one of the traditional *finest herbes*. Chervil's flavor is delicate, similar to parsley but with the distinctive aroma of anise. It should not be heated for long periods.





*Chives*

Chives are perhaps the most delicate and sophisticated members of the onion family. Their hollow, thin grass-green stems grow in clumps and produce round, pale purple flowers, which are used as a garnish. Chives may be purchased dried, quick-frozen or fresh. They have a mild onion flavor and bright green color. Chives complement eggs, poultry, potatoes, fish and shellfish. They should not be cooked for long periods or at high temperatures. Chives make an excellent garnish when snipped with scissors or carefully chopped and sprinkled over finished soups or sauces.

**Garlic chives**, also known as Chinese chives, actually belong to another plant species. They have flat, solid (not hollow) stems and a mild garlic flavor. They may be used in place of regular chives if their garlic flavor is desired.



*Cilantro*

Cilantro is the green leafy portion of the plant that yields seeds known as coriander. The flavors of the two portions of this plant are vely different and cannot be substituted for each other. Cilantro, also known as Chinese parsley, is sharp and tangy with a strong aroma and an almost citrus flavor. It is widely used in Asian, Mexican and South American cuisines, especially in salads and sauces. It should not be subjected to heat, and cilantro's flavor is completely destroyed by drying. Do not use yellow or discolored leaves or the tough stems. When used in excess, cilantro can impart a soapy taste to foods.



*Curry leaves*

Curry leaves are the distinctively flavored leaves of a small tree that grows wild in the Himalayan foothills, southern India and Sri Lanka. They look like small shiny bay leaves and have a strong curry-like fragrance and a citrus-curry flavor. Often added to a preparation whole, then removed before serving, they can also be minced or finely chopped for marinades and sauces. Choose fresh bright green leaves, if possible, or frozen leaves; dried leaves have virtually no flavor. Although used in making southern Indian and Thai dishes, curry leaves (also known as neem leaves) must not be confused with curry powder.



*Dill*

Dill, a member of the parsley family, has tiny, aromatic, yellow flowers and feathery, delicate blue-green leaves. The leaves taste like parsley, but sharper, with a touch of anise. Dill seeds are flat, oval and brown, with a bitter flavor similar to caraway. Both the seeds and the leaves of the dill plant are used in cooking.

Dill is commonly used in Scandinavian and central European cuisines, particularly with fish and potatoes, mushrooms, and other vegetables. Both leaves and seeds are used in pickling and sour dishes. Dill leaves are available fresh or dried but lose their aroma and flavor during cooking, so add them only after the dish is removed from the heat. Dill seeds are available whole or ground and are used in fish dishes, pickles and breads.



*Epazote*

Epazote, also known as wormseed or stinkweed, grows wild throughout the Americas. It has a strong aroma similar to kerosene and a wild flavor. Fresh epazote is used in salads and as a flavoring in Mexican and Southwestern cuisines. It is often cooked with beans to reduce their gaseousness. Dried epazote is brewed to make a beverage.



*Lavender*

Lavender is an evergreen with thin leaves and tall stems bearing spikes of tiny purple flowers. Although lavender is known primarily for its aroma, which is widely used in perfumes, soaps and cosmetics, the flowers are also used as a flavoring, particularly in Middle Eastern cuisines though other cuisines use it as well. These flowers have a sweet, lemony flavor and can be crystallized and used as a garnish. Lavender is also used in jams and preserves and to flavor teas and tisanes.



*Lemongrass*

Lemongrass, also known as citronella grass, is a tropical grass with the strong aroma and flavor of a lemon. It is similar to scallions in appearance but with a woody texture. Only the lower base and white leaf stalks are used. Available fresh or quick-frozen, lemongrass is widely used in Southeast Asian cuisines.



*Lime leaves*

Lime leaves from a species of thorny lime trees are used much like bay leaves to flavor soups and stews in Thai and other Asian cuisines. These small, dark green leaves have a bright citrus floral aroma. Fragrant lime leaves are available fresh in the United States now that these trees are cultivated domestically.





*Lovage*

Lovage has tall stalks and large dark green celery-like leaves. The leaves, stalks and seeds (which are commonly known as celery seeds) have a strong celery flavor. Also known as, 'sea parsley', the leaves and stalks are used in salads and stews and the seeds are used for flavoring.



*Marjoram*

Marjoram, also known as sweet marjoram, is a flowering herb native to the Mediterranean and used since ancient times. Its flavor is similar to thyme but sweeter; it also has a stronger aroma. Marjoram is now used in many European cuisines. Although it is available fresh, marjoram is one of the few herbs whose flavor increases when dried. Wild marjoram is more commonly known as **oregano**.



*Mint*

Mint a large family of herb, includes many species and flavors (even chocolate). Spearmint is the most common garden and commercial variety. It has soft, bright green leaves and a tart aroma and flavor. Mint does not blend well with other herbs, so its use is confined to specific dishes, usually fruits or fatty meats such as lamb. Mint has an affinity for chocolate. It can also be brewed into a beverage or used as a garnish.



*Peppermint*

Peppermint has thin, stiff, pointed leaves and a sharper menthol flavor and aroma. Fresh peppermint is used less often in cooking or as a garnish than spearmint, but peppermint oil is a common flavoring in sweets and candies.



*Oregano*

Oregano, also known as wild marjoram, is a pungent, peppery herb used in Mediterranean cuisines, particularly Greek and Italian, as well as in Mexican cuisine. It is a classic complement to tomatoes. Oregano's thin, woody stalks bear clumps of tiny, dark green leaves, which are available dried and crushed.



*Parsley*

Parsley is probably the best-known and most widely used herb in the world. It grows in almost all climates and is available in many varieties, all of which are rich in vitamins and minerals. The most common type in the United States and Northern Europe is curly parsley. It has small curly leaves and a bright green color. Its flavor is tangy and clean. Other cuisines use a variety sometimes known as Italian parsley, which has flat leaves, a darker color and coarser flavor. Curly parsley is a ubiquitous garnish; both types can be used in virtually any food except sweets. Parsley stalks have a stronger flavor than the leaves and are part of the standard bouquet garni. Chopped parsley forms the basis of any fine herb blend.



*Rosemary*

Rosemary is an evergreen bush that grows wild in warm, dry climates worldwide. It has stiff, needlelike leaves; some varieties bear pale blue flowers. It is highly aromatic, with a slight odor of camphor or pine. Rosemary is best used fresh. When dried, it loses flavor, and its leaves become very hard and unpleasant to chew. Whole rosemary stems may be added to a dish such as a stew and then removed when enough flavor has been imparted. They may also be added to a bouquet garni. Rosemary has a great affinity for roasted and grilled meats, especially lamb.



*Sage*

Sage was used as a medicine for centuries before it entered the kitchen as a culinary herb. Culinary sage has narrow, fuzzy, gray-green leaves and blue flowers. Its flavor is strong and balsamic, with notes of camphor. Sage is used in poultry dishes, with fatty meats or brewed as a beverage. Sage's strong flavor does not blend well with other herbs. It dries well and is available in whole or chopped leaves or rubbed (coarsely ground).



*Savory*



Savory has been used since ancient times. Its leaves are small and narrow, and it has a sharp, bitter flavor, vaguely like thyme. It dries well and is used in bean dishes, sausages and fine herb blends. While the variety called *summer savory* is most common and popular, a variety called *winter savory* is also available.



***Tarragon***

Tarragon is another of the great culinary herbs, is native to Iberia. It is a bushy plant with long, narrow, dark green leaves and tiny gray flowers. Tarragon goes well with fish and tomatoes and is essential in many French dishes such as bearnaise sauce and fine herb blends. Its flavor is strong and diffuses quickly through foods. It is available dried, but drying may cause hay-like flavors to develop.




***Thyme***

Thyme has been popular since 3500 B.C.E., when Egyptians used it as a medicine and for embalming. Thyme is a small, bushy plant with woody stems, tiny green-gray leaves and purple flowers. Its flavor is strong but refined, with notes of sage. Thyme dries well and complements virtually all types of meat, poultry, fish, shellfish and vegetables. It is often included in a bouquet garni or added to stocks.

## *SPICES*










































































**Different cuisines and areas of the world utilize different spices, and spice combinations. See the chart below:**



# SPICES BY CUISINE

These spice combinations will have you whipping up dishes from all over the world! Use this chart as a guide to give your meals those traditional ethnic flavors you love.

MEXICAN	CARIBBEAN	FRENCH	NORTH AFRICAN	CAJUN	THAI
 CORIANDER  CUMIN  OREGANO  GARLIC POWDER  CINNAMON  CHILI POWDER	 ALLSPICE  NUTMEG  GARLIC POWDER  CLOVES  CINNAMON  GINGER	 NUTMEG  THYME  GARLIC POWDER  ROSEMARY  OREGANO  HERBES DE PROVENCE	 CARDAMOM  CINNAMON  CUMIN  PAPRIKA  TURMERIC  GINGER  RAS EL HANOUT	 CAYENNE PEPPER  OREGANO  PAPRIKA  THYME  ROSEMARY  BAY LEAVES  CAJUN SEASONING	 BASIL  CUMIN  GARLIC  GINGER  TURMERIC  CARDAMOM  CURRY POWDER
MEDITERRANEAN	INDIAN	MIDDLE EASTERN			
 OREGANO  ROSEMARY  THYME  BAY LEAVES  CARDAMOM  CINNAMON  CLOVES  CORIANDER  BASIL  GINGER	 BAY LEAVES  CARDAMOM  CAYENNE PEPPER  CINNAMON  CORIANDER  CUMIN  GINGER  NUTMEG  PAPRIKA  TURMERIC  GARAM MASALA  CURRY POWDER	 BAY LEAVES  CARDAMOM  CINNAMON  CLOVES  CUMIN  GINGER  CORIANDER  OREGANO  ZA'ATAR  GARLIC POWDER			

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### Aleppo pepper

Aleppo pepper is made from bright red chiles grown in Turkey and northern Syria. The sun-dried Aleppo chiles are seeded and crushed, then used as a condiment. It has a sharp, but sweet, fruity flavor, with only mild heat (15,000 Scoville units). Although a member of the capsicum family, Aleppo pepper is used more like ground peppercorns (*piper nigrum*) than a chile. Also known as Halaby pepper, it adds an authentic Mediterranean flavor and fragrance to foods.



*Anise*

Anise is native to the eastern Mediterranean and is grown commercially in warm climates throughout India, North Africa and southern Europe. The tiny, gray-green egg-shaped seeds have a distinctively strong, sweet flavor, similar to licorice and fennel. When anise seeds turn brown, they are stale and should be discarded. Anise is used in pastries as well as fish, shellfish and vegetable dishes, and is commonly used in alcoholic beverages (for example, Pernod and ouzo). The green leaves of the anise plant are occasionally used fresh as an herb or in salads.



*Star anise*

**Star anise**, also known as Chinese anise, is the dried, star-shaped fruit of a Chinese magnolia tree. Although it is botanically unrelated, its flavor is similar to anise seeds but bitterer and pungent. It is an essential flavor in many Chinese dishes and one of the components of five-spice powder.



*Anatto*



Annatto seeds are the small, brick red triangular seeds of a shrub from South America and the Caribbean. Annatto seeds add a mild, peppery flavor to rice, fish and shellfish dishes and are crushed to make Mexican achiote paste. Because they impart a bright yellow-orange color to foods, annatto seeds are commonly used as a natural food coloring, especially in cheeses and margarine.



### *Asafetida*

Asafetida is a pale brown resin made from the sap of a giant fennel-like plant native to India and Iran. Also known as devil's dung, it has a garlicky flavor and a strong unpleasant fetid aroma (the aroma is not transferred to food being flavored). Available powdered or in lump form, it is used- very sparingly as a flavoring in Indian and Middle Eastern cuisines.



### *Capers*

Capers come from a small bush that grows wild throughout the Mediterranean basin. Its unopened flower buds have been pickled and used as a condiment for thousands of years. Fresh capers are not used, as the sharp, salty, sour flavor develops only after curing in strongly salted white vinegar. The finest capers are the smallest, known as nonpareils, which are produced in France's Provence region. Capers are used in a variety of sauces (tartare, remoulade) and are excellent with fish and game. Capers will keep for long periods if moistened by their original liquid. Do not acid or substitute vinegar, however, as this causes the capers to spoil.



*Caraway*

Caraway is perhaps the world's oldest spice. Its use has been traced to the Stone Age, and seeds have been found in ancient Egyptian tombs. The caraway plant grows wild in Europe and temperate regions of Asia. It produces a small, crescent-shaped brown seed with the peppery flavor of rye. Seeds may be purchased whole or ground. (The leaves have a mild, bland flavor and are rarely used in cooking.) Caraway is a 'European' flavor, used extensively in German and Austrian dishes, particularly breads, meats and cabbage. It is also used in alcoholic beverages and cheeses.



**Cardamom**

Cardamom is one of the most expensive spices, second only to saffron in cost. Its seeds are encased in 1/4-inch- (6-millimeter) long light green or brown pods. Cardamom is highly aromatic. Its flavor, lemony with notes of camphor, is quite strong and is used in both sweet and savory dishes. Cardamom is widely used in Indian and Middle Eastern cuisines, where it is also used to flavor coffee. Scandinavians use cardamom to flavor breads and pastries. Ground cardamom loses its flavor rapidly and is easily adulterated, so it is best to purchase whole seeds and grind your own as needed.

### Chiles

Chiles, including paprika, chile peppers, bell peppers and cayenne, are members of the capsicum plant family. Although cultivated for thousands of years in the West Indies and Americas, capsicum peppers were unknown in the Old World prior to Spanish explorations during the 15th century.



### Capsicum

Capsicum peppers come in all shapes and sizes, with a wide range of flavors, from sweet to extremely hot. Some capsicums are used as a vegetable, while others are dried, ground and used as a spice.



### Cayenne

Cayenne, sometimes simply labeled "red pepper," is ground from a blend of several particularly hot types of dried red chile peppers. Its flavor is extremely hot and pungent; it has a bright orange-red color and fine texture.

**Paprika***Plant**Spice*

Paprika, also known as Hungarian pepper, is a bright red powder ground from specific varieties of red-ripened and dried chiles. Paprika's flavor ranges from sweet to pungent; its aroma is distinctive and strong. It is essential to many Spanish and eastern European dishes. Mild paprika is meant to be used in generous quantities and may be sprinkled on prepared foods as a garnish.

**Chile powders** are made from a wide variety of dried chile peppers, ranging from sweet and mild to extremely hot and pungent. The finest pure chile powders come from dried chiles that are simply roasted, ground and sieved. Commercial chilli powder, an American invention, is actually a combination of spices- oregano, cumin, garlic and other flavorings- intended for use in Mexican dishes. Each brand is different and should be sampled before using.

***Crushed chiles***

Crushed chiles, also known as chile flakes, are blended from dried, coarsely crushed chiles. They are quite hot and are used in sauces and meat dishes.





### *Cinnamon*

Cinnamon and its cousin cassia are among the oldest known spices: Cinnamon's use is recorded in China as early as 2500 B.C.E., and the Far East still produces most of these products. Both cinnamon and cassia come from the bark of small evergreen trees, peeled from branches in thin layers and dried in the sun. High-quality cinnamon should be pale brown and thin, rolled up like paper into sticks known as quills. Cassia is coarser and has a stronger, less subtle flavor than cinnamon. Consequently, it is cheaper than true cinnamon. Cinnamon is usually purchased ground because it is difficult to grind.

Cinnamon sticks are used when long cooking times allow for sufficient flavor to be extracted (for example in stews or curries). Cinnamon's flavor is most often associated with pastries and sweets, but it has a great Ground Cinnamon and affinity for lamb and spicy dishes. Labeling laws do Cinnamon Sticks not require that packages distinguish between cassia and cinnamon, so most of what is sold as cinnamon in the United States is actually cassia, blended for consistent flavor and aroma.



### *Cloves*

Cloves are the unopened buds of evergreen trees that flourish in muggy tropical regions. When dried, whole cloves have hard, sharp prongs that can be used to push them into other foods, such as onions or fruit, in order to provide flavor. Cloves are extremely pungent, with a sweet, astringent aroma. A small amount provides a great deal of flavor. Cloves are used in desserts and meat dishes, preserves and liquors. They may be purchased whole or ground.



*Coriander*

Coriander seeds come from the cilantro plant. They are round and beige, with a distinctive sweet, spicy flavor and strong aroma. Unlike other plants in which the seeds and the leaves carry the same flavor and aroma, coriander and cilantro are very different. Coriander seeds are available whole or ground and are frequently used in Indian cuisine and pickling mixtures.



*Cumin*

Cumin is the seed of a small delicate plant of the parsley family that grows in North Africa and the Middle East. The small seeds are available whole or ground and look (but do not taste) like caraway seeds. Cumin has a strong earthy flavor and tends to dominate any dish in which it is included. It is used in Indian Middle Eastern and Mexican cuisines, in sausages and a few cheeses.



*Fennel*

**Fennel** is a perennial plant with feathery leaves and tiny flowers long cultivated in India and China as a medicine and cure for witchcraft. Its seeds are greenish brown with prominent ridges and short, hair-like fibers. Their taste and aroma are similar to anise, though not as sweet. Whole seeds are widely used in Italian stews and sausages; central European cuisines use fennel with fish, pork, pickles and vegetables. Ground seeds can also be used in breads, cakes and cookies. The same plant produces a bulbous stalk used as a vegetable.



*Fenugreek*

Fenugreek is grown in Mediterranean countries since ancient times, is a small, beanlike plant with a tiny flower. The seeds, available whole or ground, are pebble shaped and transfer their pale orange color to the foods with which they are cooked. Their flavor is bittersweet, like burnt sugar with a bitter aftertaste. Fenugreek is a staple in Indian cuisines, especially curries and chutneys.



### ***File powder***

*Sassafras plant*

File powder is the dried, ground leaf of the sassafras plant. Long used by Choctaw Indians, it is now most commonly used as a thickener and flavoring in Cajun and Creole cuisines. File is also used as a table condiment to add a spicy note to stews, gumbo and the like. The powder forms strings if allowed to boil, so it should be added during the last minutes of cooking.



### **Galangal**

*Galangal root*

Galangal is the rhizome of a plant native to India and Southeast Asia. The rhizome has a reddish skin, an orange or whitish flesh and a peppery, ginger-like flavor and piney aroma. Also known as *galanga root*, Thai ginger and Laos ginger, it is peeled and crushed for use in Thai, and Indonesian cuisines. Fresh ginger is an appropriate substitute.





*Ginger*

Ginger is a well-known spice obtained from the rhizome of a tall, flowering tropical plant. Fresh ginger is known as a "hand" because it looks vaguely like a group of knobby fingers. It has grayish-tan skin and a pale yellow, fibrous interior. Fresh ginger should be plump and firm with smooth skin. It should keep for about a month under refrigeration. Its flavor is fiery but sweet, with notes of lemon and rosemary. Fresh ginger is widely available and is used in Indian and Asian cuisines. It has a special affinity for chicken, beef and curries. Ginger is also available peeled and pickled in vinegar, candied in sugar or preserved in alcohol or syrup. Dried, ground ginger is a fine yellow powder widely used in pastries. Its flavor is spicier than and not as sweet as fresh ginger.



*Grains of paradise*

Grains of paradise are the seeds of a perennial reed-like plant indigenous to the West African coast. Related to cardamom, grains of paradise have a spicy, warm and slightly bitter flavor,

similar to peppercorns. In fact, grains of paradise were traditionally used in place of black pepper and are also known as Guinea pepper or Melegueta pepper. Now enjoying a resurgence in popularity and increased availability, they are ground and used primarily in West African and Maghreb dishes, and in the spice blend known as 'ras el hanout'.



### *Horseradish*

Horseradish is the large off-white taproot of a hardy perennial (unrelated to radishes) that flourishes in cool climates. Fresh roots should be firm and plump; they will not have the distinctive horseradish aroma unless cut or bruised. The outer skin and inner core of a fresh horseradish root can have an unpleasant flavor and should be discarded. Typically used in Russian and Central European cuisines, especially as an accompaniment to roasted meats and fish and shellfish dishes, horseradish is usually served grated, creamed into a sauce or as part of a compound butter or mustard preparation. If horseradish is cooked, heat can destroy its flavor and pungency, so any horseradish should be added near the end of cooking.



### *Juniper*

Juniper is an evergreen bush grown throughout the Northern Hemisphere. It produces round purple berries with a sweet flavor similar to pine. Juniper berries are used for flavoring gin and other alcoholic beverages, and are crushed and incorporated in game dishes, particularly venison and wild boar.



*Mustard seeds*

Mustard seeds, available in black, brown and yellow, come from three different plants in the cabbage family. Mustard seeds are small, hard spheres with a bitter flavor. The seeds have no aroma, but their flavor is sharp and fiery hot. Yellow seeds have the mildest and black seeds the strongest flavor. All are sold whole and can be crushed for cooking. Mustard seeds are a standard component of pickling spices and are processed and blended for prepared mustards, which we discuss later. Ground or city mustard is a bright yellow powder made from a blend of ground seeds, wheat flour and turmeric.



*Nutmeg*

Nutmeg and mace come from the yellow plum-like fruit of a large tropical evergreen. These fruits are dried and opened to reveal the seed known as nutmeg. A bright red lacy coating or aril surrounds the seed; the aril is the spice mace. Whole nutmegs are oval and look rather like a piece of smooth wood. The flavor and aroma of nutmeg are strong and sweet, and a small quantity provides a great deal of flavor. Nutmeg should be grated directly into a dish as needed; once grated, flavor loss is rapid. Nutmeg is used in many European cuisines, mainly in pastries and sweets, but is also important in meat and savory dishes.



*Mace*

Mace is an expensive spice, with a flavor similar to nutmeg but more refined. It is almost always purchased ground and retains its flavor longer than other ground spices. Mace is used primarily in pasty items.



*Peppercorns*

Peppercorns are the berries of a vine plant (*piper nigrum*) native to tropical Asia. Peppercorns should not be confused with the chile (*capsicum*) peppers discussed earlier. Peppercorns vary in



size, color, pungency and flavor. Many of these differences are the result of variations in climate and growing conditions. Good-quality pepper is expensive and should be purchased whole and ground fresh in a pepper mill as needed. Whole peppercorns will last indefinitely if kept dry. They should be stored well covered in a cool, dark place.

### *Black and white peppercorns*

Black and white peppercorns are produced from the same plant, but are picked and processed differently. For black peppercorns, the berries are picked when green and simply dried whole in the sun. Black pepper has a warm, pungent flavor and aroma. Tellicherry peppercorns from the southwest coast of

India are generally considered the finest black peppercorns in the world and are priced accordingly. For white peppercorns, the berries are allowed to ripen until they turn red. The ripened berries are allowed to ferment, and then the outer layer of skin is washed off. Now, white pepper may be produced by mechanically removing the outer skin from black peppercorns. This is not true white pepper, and the resulting product should be labeled "decorticated." White pepper has fewer aromas than black pepper but is useful in white sauces, or, when the appearance of black speckles is undesirable.

### *Green peppercorns*

Green peppercorns are unripened berries that are either freeze-dried or pickled in brine or vinegar. Pickled green peppercorns are soft, with a fresh, sour flavor similar to capers. They are excellent in spiced butters and sauces or with fish.

### *Pink peppercorns*

Pink peppercorns are actually the berries of a South American tree, not a vine pepper plant. Pink peppercorns are available dried or pickled in vinegar. Although they are attractive, their flavor is bitter and pine-like, with less spiciness than true pepper.



### *Szechuan pepper*

Szechuan pepper is the dried red berries of the prickly ash tree native to China. Also known as anise pepper and Chinese pepper, the berries have an extremely hot, peppery, spicy flavor with citrus overtones and are used in Chinese cuisines and as part of Chinese five-spice powder.



*Poppy seeds*

Poppy seeds are the ripened seeds of the opium poppy, which flourishes in the Middle East and India. (When ripe, the seeds do not contain any of the medicinal alkaloids found elsewhere in the plant.) The tiny blue-gray seeds are round and hard with a sweet, nutty flavor. Poppy seeds are used in pastries and breads.



*Saffron*

*Crocus plant*



*Saffron spice*

Saffron comes from the dried stigmas of the saffron crocus. Each flower bears only three thread-like stigmas, and each must be picked by hand. It takes about 250,000 flowers to produce one pound of saffron, making it the most expensive spice in the world. Beware of bargains; there is no such thing as cheap saffron. Luckily, a tiny pinch is enough to color and flavor a large quantity of food. Good saffron should be a brilliant orange color, not yellow, with a strong aroma and a bitter, honey-like taste. Saffron produces a yellow dye that diffuses through any warm liquid. Valencia or Spanish saffron is considered the finest. It is commonly used with fish and shellfish (a necessity for bouilla-baisse) and rice dishes such as paella and risotto. When using saffron threads, first crush them gently, and then soak them in some hot liquid from the recipe. Powdered saffron is less expensive but more easily adulterated. It may be added directly to the other ingredients when cooking.



*Sesame seeds*

Sesame seeds, also known as benne seeds, are native to India. They are small, flat ovals, with a creamy white color. Their taste is nutty and earthy, with a pronounced aroma when roasted or ground into a paste (known as tahini). Sesame seeds are the source of sesame oil, which has a mild, nutty flavor and does not go rancid easily. Sesame seeds are roasted and used in or as a garnish for breads and meat dishes. They are popular in Indian and Asian cuisines, with a black variety of seeds most popular as a Japanese condiment.



*Tamarind*

Tamarind also known as an Indian date, is the brown, bean-shaped pod of the tamarind tree, which is native to Africa. Although naturally sweet, tamarind also contains 12% tartaric acid, which makes it extremely tart. It is commonly used in Indian curries and Mediterranean cooking as a souring agent and in the West Indies in fruit drinks. Tamarind is sold as a concentrate or in sticky blocks of crushed pods, pulp and seeds, which should be soaked in warm water for about five minutes, then squeezed through a sieve. Tamarind's high pectin content is useful in chutneys and jams, and it is often included in barbecue sauces and marinades. It is a key ingredient in Worcestershire sauce.



### *Turmeric*

Turmeric, also known as Indian saffron, is produced from the rhizome of a flowering tropical plant related to ginger. It has a mild, woody aroma. It is most often available dried and usually ground although fresh turmeric appears in ethnic markets. Turmeric is renowned for its vibrant yellow color and is used as a food coloring and dye. Turmeric's flavor is distinctive and strong; it should not be substituted for saffron. Turmeric is a traditional ingredient in Indian curries, to which it imparts color as well as flavor.



### *Wasabi*

Wasabi is a pale green root similar, but unrelated, to horseradish. It has a strong aroma and a sharp, cleansing flavor with herbal overtones that is a bit hotter than that of horseradish. Fresh wasabi is rarely found outside Japan, but tins of powder and tubes of paste are readily available. It is commonly served with sushi and sashimi and can be used to add a spicy Asian note to other dishes, such as mashed potatoes or a compound butter.

## **HERB AND SPICE BLENDS**

Many cuisines have created recognizable combinations of flavors that are found in a variety of dishes. Although many of these blends are available already prepared for convenience, most can be mixed by the chef as need. (In addition, commercial blends can contain large amounts of salt.) Chinese five-spice powder is a combination of equal parts finely ground Szechuan pepper, star anise, cloves, cinnamon and fennel seeds. This blend is widely used in Chinese and some Vietnamese foods and is excellent with pork and in pates.

**Curry powder** is a European invention that probably took its name from the Tamil word *Kari*, meaning "sauce." Created by 19th-century Britons returning from colonial India, it was meant to be the complete spicing for a "curry" dish. There are as many different formulas for curry powder as there are manufacturers, some mild and sweet (Bombay or Chinese style), others hot and pungent (Madras style). Typical ingredients in curry powder are black pepper, cinnamon, cloves, coriander, cumin, ginger, mace and turmeric.

**Fine herbs** are a combination of parsley, tarragon, chervil and chives widely used in French cuisine. The mixture is available dried, or it can be created from fresh ingredients.

**Jamaican jerk seasoning** is a powdered or wet mixture used on the Caribbean island of the same name made from a combination of spices that typically includes thyme, ground spices such as allspice, cinnamon, cloves, and ginger as well as onions and garlic. Chicken and pork are typically rubbed or marinated in the blend, then grilled.

**Herbes de Provence** is a blend of dried herbs commonly grown and used in southern France. Commercial blends usually include thyme, rosemary, bay leaf, basil, fennel seeds, savory, and lavender. The herb blend is used with grilled or roasted meat, fish or chicken; in vegetable dishes; on pizza; and even in steamed rice and yeast breads.

**Italian seasoning blend** is a commercially prepared mixture of dried basil, oregano, sage, marjoram, rosemary, thyme, savory and other herbs associated with Italian cuisine.

**Masala** is a flavorful, aromatic blend of roasted and ground spices used in Indian cuisines. A **garam masala** is a masala made with hot spices (*garam* means warm or hot). A dry garam masala usually contains peppercorns, cardamom, cinnamon, cloves, coriander, nutmeg, turmeric, bay leaves and fennel seeds and is added toward the end of cooking or sprinkled on the food just before service. Adding coconut milk, oil or sometimes tamarind water to a dry garam masala makes a wet garam masala. A wet garam masala is typically added at the start of cooking.

**Pickling spice**, as with other blends, varies by manufacturer. Most pickling spice blends are based on black peppercorns and red chiles, with some or all of the following added: allspice, cloves, ginger, mustard seeds, coriander seeds, bay leaves and dill. These blends are useful in making cucumber or vegetable pickles as well as in stews and soups.

**Quatre-epices**, literally "four spices" in French and also the French word for allspice, is a peppery mixture of black peppercorns with lesser amounts of nutmeg, cloves and dried ginger. Sometimes cinnamon or allspice is included. Quatre-epices is used in charcuterie and long-simmered stews.

**Ras el hanout** is a common Moroccan spice blend varying greatly from supplier to supplier. It typically contains 20 or more spices, such as turmeric, cinnamon, cloves, grains of paradise, coriander, cumin, cardamom, peppercorns, dried chiles, dried flower petals and, allegedly, an aphrodisiac or two. It is sold whole and ground by the cook as necessary to flavor stews, rice, couscous, and game dishes.

**Seasoned salts** are commercially blended products containing salt and one or more natural flavoring ingredients such as garlic, spices or celery seeds and, often, monosodium glutamate.

### ***STORING HERBS AND SPICES***

Fresh herbs should be kept refrigerated at 34°F-40°F (2°C-4°C). Large bouquets can be stored upright, their leaves loosely covered with plastic wrap and their stems submerged in water. Smaller bunches should be stored loosely covered with a damp towel. You can dry excess fresh herbs for later use in an electric dehydrator. You can also spread them out on baking sheets in a 100°F (38°C) oven.

Dried herbs and spices should be stored in airtight, opaque containers in a cool, dry place. Avoid light and heat, both of which destroy delicate flavors. If stored properly, dried herbs should last for two to three months.

### ***USING HERBS AND SPICES***

Herbs and spices are a simple, inexpensive way to bring individuality and variety to foods. They add neither fat nor sodium and virtually no calories to foods; most contain only 3 to 10 calories per teaspoon.

Although the flavors and aromas of fresh herbs are generally preferred, dried herbs are widely used because they are readily available and convenient. Use less dried herb than you would fresh herb. The loss of moisture strengthens and concentrates the flavor in dried herbs. In general, use only one-half to one-third as much dried herb as fresh in any given recipe. For example, if a recipe calls for 1-tablespoon of fresh basil, substitute only 1-teaspoon of dried basil. More can usually be added later if necessary. The delicate aroma and flavors of fresh herbs is volatile. Most fresh herbs such as chives, parsley, cilantro, basil and tarragon are best when added at the end of cooking.

Spices are often available whole or ground. Once ground, they lose their flavors rapidly, however. Whole spices should keep their flavors for at least six to nine months if stored properly. Stale spices lose their spicy aroma and develop a bitter or musty aftertaste. Discard them.

Most dried spices need to be added early in order for their flavor to develop during the cooking. Whole spices take the longest; ground spices release their flavor more quickly. In some preparations, Indian curries for example, ground spices are first cooked in oil to release their aromas before being added to a dish. However, some dried spices such as black pepper may become bitter when cooked for an extended period. In uncooked dishes that call for ground spices (for example, salad dressings), the mixture should be allowed to stand for several hours to develop good flavor.

Creating dishes with appealing and complex flavors comes with practice and a solid understanding and appreciation of flavoring ingredients. Although some flavoring combinations are timeless - rosemary with lamb, dill with salmon, nutmeg with spinach, and caraway with rye bread - less common pairings can be equally delicious and far more exciting. Chefs must be willing and able to experiment with new flavors. First, they must become familiar with the distinctive flavors and aromas of an herb, spice, condiment, vinegar or the like.

When experimenting, always bearing in mind the following guidelines:

1. Flavorings should not hide the taste or aroma of the primary ingredient. Balance flavoring combinations so as not to overwhelm the palate.
2. Flavorings should not be used to disguise poor quality or poorly prepared products.
3. Flavorings should be added sparingly when foods are to be cooked over an extended time.
4. When reduced during cooking, flavorings can intensify and overpower the dish.
5. Taste and season foods frequently during cooking.

Even in a well-tested recipe, the quantity of flavorings may need to be adjusted because of a change in brands or the condition of the ingredients. A chef should strive to develop his or her palate to recognize and correct subtle variances as necessary.

## **SALT**

**Salt** is the most basic and universal seasoning. It preserves foods, heightens their flavors and provides the distinctive taste of saltiness. The presence of salt can be tasted easily but not smelled. Salt suppresses bitter flavor, making the sweet and sour ones more prominent. The flavor of salt will not evaporate or dissipate during cooking so it should be added to foods carefully, according to taste. Remember, more salt can always be added to a dish but too much salt cannot be removed nor can its flavor be masked if too much salt has been added.

**Culinary or table salt** is sodium chloride (NaCl), one of the minerals essential to human life. Salt contains no calories, proteins, fats or carbohydrates. It is available from several sources, each with its own flavor and degree of saltiness. **Rock salt**, mined from underground deposits, is available in both edible and nonedible forms. It is used in ice cream churns, for thawing frozen sidewalks and, in edible form, in salt mills.

Common **kitchen or table salt** is produced by pumping water through underground salt deposits, then bringing the brine to the surface to evaporate, leaving behind crystals. Chemicals are usually added to prevent table salt from absorbing moisture and thus keep it free flowing. Iodized salt is commonly used in the United States. The iodine has no effect on the salt's flavor or use; it is simply added to provide an easily available source of iodine, an important nutrient, to a large number of people.

**Kosher salt** has large, irregular crystals and is used in the "koshering " or curing of meats. It is purified rock salt containing no iodine or additives. It is a perfect substitution for common kitchen salt. Some chefs prefer it to table salt because they prefer its flavor and it dissolves more easily than other salts.

**Sea salt** is obtained, not surprisingly, by evaporating seawater. The evaporation can be done naturally by drying the salt in the sun (unrefined sea salt) or by boiling the salty liquid (refined sea salt). Unlike other table salts, unrefined sea salt contains additional mineral salts such as magnesium, calcium and potassium, which give it a stronger, more complex flavor and a grayish-brown color. The region where it is produced can also affect its flavor and color. For example, salt from the Mediterranean Sea will taste different from salt obtained from the Indian Ocean or the English Channel.

**Sel gris** is a sea salt harvested off the coast of Normandy, France. It is slightly wet and takes its gray color from minerals in the clay from which it is collected. **Fleur de sel**, which means "flower of salt," is a salt that collects on rocks in the sel gris marshes. It forms delicate crystals and has little color because it has not been exposed to the clay.

Some **specialty salts** are mined from the earth, such as that from the foothills of the Himalayan Mountains. The presence of iron and copper along with other minerals gives Himalayan salt a pink hue and distinct flavor. Black salt, common in traditional Indian recipes, is mined rock salt; minerals and other components in the salt give it a dark color and sulfurous taste. Smoked salt is a type of flavored salt made by smoking the salt over a smoldering fire. It can also be made by adding liquid smoke to a salt solution before it is evaporated.

Sea salt is considerably more expensive than other table salts and is often reserved for finishing a dish or used as a condiment. Because it is nonorganic, salt keeps indefinitely. However, it will absorb moisture from the atmosphere, which prevents it from flowing properly. Salt is a powerful preservative; its presence stops or greatly slows down the growth of many undesirable organisms. Salt is used to preserve meats, vegetables and fish. It is also used to develop desirable flavors in bacon, ham, cheeses and fish products as well as pickled vegetables.



## Notes about Flavor -

*Flavor is to food what hue is to color. It is what timbre is to music. (Flavor is adjective; food is noun.) Each ingredient has its own particular character, which is altered by every other ingredient it encounters. A secret ingredient is one that mysteriously improves the flavor of a dish without calling attention to itself. It is either undetectable or extremely subtle, but its presence is crucial because the dish would not be nearly as good without it.*

*Primary flavors are those that are obvious, such as the flavors of chicken and tarragon in a chicken tarragon, shrimp and garlic in a shrimp scampi, or beef and red wine in a beef à la Bourguignonne. Secret ingredients belong to the realm of secondary flavors. However obvious it is that you need tarragon to prepare a chicken tarragon, you would not achieve the most interesting result using only tarragon. Tarragon, in this case, needs secondary ingredients—a hint of celery seed and anise—to make it taste more like quintessential tarragon and at the same time more than tarragon. In this way, primary flavors often depend on secret ingredients to make them more interesting and complex. Using only one herb or spice to achieve a certain taste usually results in a lackluster dish—each mouthful tastes the same. Whether they function in a primary or secondary way, flavors combine in only three different ways: They marry, oppose, or juxtapose.*

*When flavors marry, they combine to form one taste. Some secondary flavors marry with primary ones to create a new flavor greater than the sum of its parts, and often two flavors can do the job better than one. It may sound like an eccentric combination, but vanilla marries with the flavor of lobster, making it taste more like the essence of lobster than lobster does on its own. Additionally when ginger and molasses marry, they create a flavor superior to either alone.*

*Opposite flavors can highlight or cancel each other; they can cut or balance each other. Sweet/sour, sweet/salty, sweet/hot, salty/sour, and salty/tart are all opposites. Salt and sugar are so opposed, in fact, that when used in equal amounts they cancel each other entirely. Sweet relish helps cancel the salty flavor of hot dogs. Chinese sauces usually contain some sugar to help balance the saltiness of soy sauce.*

*Knowing how to combine many flavors and aromas to achieve a simple and pure result (and knowing when not to combine flavors) will make you a better, more confident cook. Good cooks over the centuries have known these things intuitively but they have had neither the huge variety of ingredients nor the knowledge of world cuisines that we have today.*

From: Chef Michael Roberts, author of *Secret Ingredients*.

## OILS

Oils are a type of fat that remains liquid at room temperature. Cooking oils are refined from various seeds, plants and vegetables. When purchasing oils, consider their use, smoke point, flavor and cost. Fats, including oils and shortenings, are manufactured for specific purposes such as deep-frying, cake baking, salad dressings and sautéing. Most food service operations purchase different ones for each of these needs. Fats break down at different temperatures. When fats break down, their chemical structure is altered - the triglyceride molecules that make up fat are converted into individual fatty acids. These acids add undesirable flavors to the fat and can ruin the flavor of the food being cooked. The temperature at which a given fat begins to break down and smoke is known as its smoke point. Select fats with higher smoke points for high-temperature cooking such as deep-frying and sautéing.

The flavor and cost of each oil must be considerations. For example, both corn oil and walnut oil can be used in a salad dressing. Their selection may depend on balancing cost (corn oil is less expensive) against flavor (walnut oil has a stronger, more distinctive flavor).

*Terms:*

- **smoke point** the temperature at which a fat begins to break down and smoke.
- **flash point** the temperature at which a fat ignites and small flames appear on the surface of the fat.
- **shortening** (1) a white, flavorless, solid fat formulated for baking or deep-frying; (2) any fat used in baking to tenderize the product by shortening gluten strands.

When fats spoil, they go **rancid**. Rancidity is a chemical change caused by exposure to air, light or heat. It results in objectionable flavors and odors. Different fats turn rancid at different rates, but all fats benefit from refrigerated storage away from moisture, light and air. (Some oils are packaged in colored glass containers because certain tints of green and yellow block the damaging light rays that can cause an oil to go rancid.) Although oils may become thick and cloudy under refrigeration, this is not a cause for concern. The oils will return to their clear, liquid states at room temperature. Stored fats should also be covered to prevent them from absorbing odors.

**Vegetable oils** are extracted from a variety of plants, including corn, cottonseed, peanuts, grape seeds, sesame seeds and soybeans, by pressure or chemical solvents. The oil is then refined and cleaned to remove unwanted colors, odors or flavors. Vegetable oils are virtually odorless and have a neutral flavor. Because they contain no animal products, they are cholesterol-free. If a commercial product contains only one type of oil, it is labeled "pure" (as in "pure corn oil") Products labeled "vegetable oil" are blended from several sources. Products labeled "salad oil" are highly refined blends of vegetable oil.

**Canola oil** is processed from rapeseeds. Its popularity is growing rapidly because it contains no cholesterol and has a high percentage of monounsaturated fat. Canola oil is useful for frying and general cooking because it has no flavor and a high smoke point.

**Nut oils** are extracted from a variety of nuts and are usually packaged as a "pure" product, never blended. A nut oil should have the strong flavor and aroma of the nut from which it was processed. Popular examples are walnut and hazelnut oils. These oils are used to give flavor to salad dressings, marinades and other dishes. Heat diminishes their flavor, so nut oils are not recommended for frying or baking. Nut oils tend to go rancid quickly and therefore are usually packaged in small containers.

**Olive oil** is the only oil that is extracted from a fruit rather than a seed, nut or grain. Olive oil is produced primarily in Spain, Italy, France, Greece and North Africa; California produces a relatively minor amount of olive oil. Like wine, olive oils vary in color and flavor according to the variety of tree, the ripeness of the olives, the type of soil, the climate and the producer's preferences. Colors range from dark green to almost clear, depending on the ripeness of the olives at the time of pressing and the amount of subsequent refining. Color is not a good indication of flavor, however. Flavor is ultimately a matter of personal preference. A stronger-flavored oil may be desired for some foods, while a milder oil is better for others. Good olive oil should be thicker than refined vegetable oils, but not so thick that it has a fatty texture.

The label designations - **extra virgin**, **virgin** and **pure** refer to the acidity of the oil (a low acid content is preferable) and the extent of processing used to extract the oil. The first cold pressing of the olives results in virgin oil. (The designation "virgin" is used only when the oil is 100% unadulterated olive oil, unheated and without any chemical processing.) Virgin oil may still vary in quality depending on the level of free acidity, expressed as oleic acid. Extra virgin oil is virgin oil with not more than 1% free acidity (oleic acid); virgin oil may have up to 3%. Pure olive oil is processed from the pulp left after the first pressing using heat and chemicals. Pure oil is lighter in flavor and less expensive than virgin oil.

**Flavored oils**, also known as infused oils, are an interesting and increasingly popular condiment. These oils may be used as a dip for breads, a cooking medium or a flavoring accent in marinades, dressings, sauces or other dishes. Flavors include basil and other herbs, garlic, citrus and spice. Flavored oils are generally prepared with olive oil for additional flavor or canola oil, both considered more healthful than other fats.

Top-quality commercially flavored oils are prepared by extracting aromatic oils from the flavoring ingredients and then emulsifying them with a high-grade oil; any impurities are then removed by placing the oil in a centrifuge. Using the aromatic oils of the flavoring ingredients yields a more intense flavor than merely steeping the same ingredients in the oil. Flavored oils should be stored as you would any other high-quality oil.

## CONDIMENTS

Strictly speaking, a condiment is any food added to a dish for flavor, including herbs, spices and vinegars. Today, however, condiments more often refer to cooked or prepared flavorings, such as prepared mustards, relishes, bottled sauces and pickles served to accompany foods. We discuss several frequently used condiments here. These staples may be used to alter or enhance the flavor of a dish during cooking, or added to a completed dish at the table.

**Chutney** (from the Hindi word for catnip) is a pungent relish made from fruits, spices and herbs and is frequently used in Indian cooking.

**Fermented black bean sauce** is a Chinese condiment and flavoring ingredient made from black soybeans that have been heavily salted, then fermented and either slightly mashed (whole bean sauce) or pureed (paste). Both versions are usually mixed with hoisin, chile sauce or minced garlic to produce a sauce that has an intense, pungent, salty flavor. Yellow bean sauces are similar, but milder and sweeter.

**Fish sauce** is the liquid drained from fermenting salted anchovy-like fish. It is a thin, golden to light brown liquid with a very pungent odor and salty flavor. There is no substitute for the savory richness that it adds to food and it is considered an essential flavoring and condiment throughout South east Asia, where it is used in and served with most every sort of dish.

**Ketchup** (also known as catsup or catchup) originally referred to any salty extract from fish, fruits or vegetables. Prepared tomato ketchup is really a sauce, created in America and used worldwide as a flavoring ingredient or condiment. It is bright red and thick, with a tangy, sweet-sour flavor. Ketchup can be stored either in the refrigerator or at room temperature; it should keep well for up to four months after opening. Ketchup does not turn rancid or develop mold, but it will darken and lose flavor as it ages.

**Prepared mustard** is a mixture of crushed mustard seeds, vinegar or wine and salt or spices. It can be flavored in many ways- with herbs, onions, peppers and even citrus zest. It can be a smooth paste or coarse and chunky, depending on how finely the seeds are ground and whether the skins are strained out. Prepared mustard gets its tangy flavor from an essential oil that forms only when the seeds are crushed and mixed with water. Prepared mustard can be used as a condiment, particularly with meat and charcuterie items, or as a flavoring ingredient in sauces, stews and marinades.

Dijon mustard takes its name from a town and the surrounding region in France that produces about half of the world's mustard. French mustard labeled as "Dijon" must by law, be produced 'only' in that region. Dijon and Dijon-style mustards are smooth with a rich, complex flavor.

English and Chinese mustards are made from mustard flour and cool water. They are extremely hot and powerful. American or "ballpark" mustard is mild and vinegary with a bright yellow color. Unless it contains a high percentage of oil, mustard never really spoils; its flavor just fades away.

## VINEGARS

**Vinegar** is a thin, sour liquid used for thousands of years as a preservative, cooking ingredient, condiment and cleaning solution. Vinegar is obtained through the fermentation of wine or other alcoholic liquid. Bacteria attack the alcohol in the solution, turning it into acetic acid. No alcohol remains when the transformation is complete. The quality of vinegar depends on the quality of the wine or other liquid on which it is based. Vinegar flavors are as varied as the liquids from which they are made.

Vinegars should be clear and clean looking, never cloudy or muddy. Commercial vinegars are pasteurized, so an unopened bottle should last indefinitely in a cool, dark place. Once opened, vinegars should last about three months if tightly capped. Any sediment that develops can be strained out; if mold develops, discard the vinegar.

**Wine vinegars** are as old as wine itself. They may be made from white or red wine, sherry or even Champagne, and should bear the color and flavor hallmarks of the wine used. Wine vinegars are preferred in French and Mediterranean cuisines.

**Malt vinegar** is produced from malted barley. Its slightly sweet, mild flavor is used as a condiment, especially with fried foods.

**Distilled vinegar**, made from grain alcohol, is completely clear with a stronger vinegary flavor and higher acid content than other vinegars. It is preferred for pickling and preserving.

**Cider vinegar** is produced from unpasteurized apple juice or cider. It is pale brown in color with a mild acidity and fruity aroma. Cider vinegar is particularly popular in the United States.

**Rice vinegar** is a clear, slightly sweet product brewed from rice wine. Its flavor is clean and elegant, making it useful in a variety of dishes, especially those of Japanese or Asian origin.

**Flavored vinegars** are simply traditional vinegars in which herbs, spices, fruits or other foods are steeped to infuse their flavors. They are easily produced from commercial wine or distilled vinegars, using any herb, spice or fruit desired.

Inferior flavored vinegars are made by adding the desired flavoring to low-grade vinegar. The use of flavored vinegars is extremely popular but definitely not new. Clove, raspberry and fennel vinegars were sold on the streets of Paris during the 13th century. Making fruit-flavored vinegars was also one of the responsibilities of housewives during the 18th and 19th centuries.

**Balsamic vinegar** is newly popular in the United States, though it has been produced in Italy for more than 800 years. To produce traditional balsamic vinegar, red or white wine made from specially cultivated grapes (white Trebbiano and red Lambrusco grapes among others), is reduced, then aged in a succession of wooden barrels made from a variety of woods-oak, cherry, locust, ash, mulberry and juniper- for at least 4, but sometimes up to 50, years. The resulting liquid is dark reddish-brown and sweet. Balsamic vinegar has a high acid level, but the sweetness covers the tart flavor, making it very mellow. True balsamic is extremely expensive because of the long aging process and the small quantities available. Most of the commercial products imported from Italy are now made by a quick caramelization and flavoring process. Balsamic is excellent as a condiment or seasoning and has a remarkable affinity for tomatoes and strawberries.

## Discussion Questions

1. Define flavor
2. Define tastes
3. Define mouthfeel
4. Define aromas
5. Give an example of something sweet
6. Give an example of something sour
7. Give an example of something bitter
8. Explain briefly umami
9. What is the difference between herbs and spices
10. Give an example of a condiment.

Chapter 2:  
*EGGS & BREAKFAST*





**According to French culinary lore, the hundred folds in a chef's toque (that tall, pleated hat) represent the hundred ways to cook an egg.**

### Learning Objectives

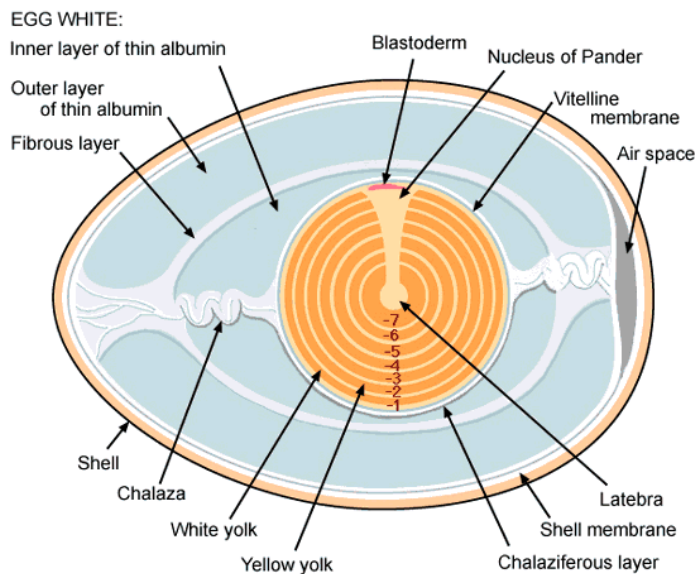
1. understand the composition of eggs
2. purchase and store eggs properly
3. apply various cooking methods to eggs
4. prepare pancakes and other griddlecakes
5. understand and prepare various beverages served at breakfast and other meals
6. offer customers a variety of breakfast foods

Nature designed eggs as the food source for developing chicks. Eggs, particularly chicken eggs, are also an excellent food for humans because of their high protein content, low cost and ready availability. They are extremely versatile and are used throughout the kitchen, either served alone or as ingredients in a prepared dish. Eggs are used to provide texture, flavor, structure, moisture and nutrition in everything from soups and sauces to breads and pastries.

Egg dishes are, of course, most often associated with the meals breakfast and brunch. But food service operations must offer a variety of breakfast options to appeal to a wide range of consumers.

## EGGS

### Composition



Breakfast cookery is often one of the first line positions a new cook will be offered. This important duty requires speed, timing and precision and can help an apprentice or beginning cook develop organized, efficient work habits.

This chapter discusses cooking methods used for eggs as well as breakfast meats, griddlecakes, crepes, cereals and the beverages coffee and tea.

The primary parts of an egg are the **shell**, **yolk** and **albumen**.

The **shell**, composed of calcium carbonate, is the outermost covering of the egg. It prevents microbes from entering and moisture from escaping, and protects the egg during handling and transport. The breed of the hen determines shell color; for chicken s, it can range from bright white to brown. Shell color has no effect on quality, flavor or nutrition:

The **yolk** is the yellow portion of the egg. It constitutes just over one -third of the egg and contains three -fourths of the calories, most of the minerals and vitamins and all the fat. The yolk also contains lecithin, the compound responsible for emulsification in products such as hollandaise sauce and mayonnaise. Egg yolk solidifies (coagulates) at temperatures between 149°F and 158°F (65°C and 70°C). Although the color of a yolk may vary depending on the hen's feed, color does not affect quality or nutritional content.

The **albumen** is the clear portion of the egg and referred to as the **egg white**. It constitutes about two-thirds of the egg and contains more than half of the protein and riboflavin. Egg white coagulates, becoming firm and opaque, at temperatures between 144°F and 149°F (62°C and 65°C).

An often -misunderstood portion of the egg is the **chalazae cords**. These thick, twisted strands of egg white anchor the yolk in place. They are neither imperfections nor embryos. The more prominent the chalazae, the fresher the egg. Chalazae do not interfere with cooking or with whipping egg whites.

Eggs are sold in Jumbo, Extra Large, Large, Medium, Small and Peewee sizes, as determined by weight per dozen. Food service operations generally use Large eggs, which weigh 24 ounces per dozen. Other sizes are based on plus or minus 3 ounces per dozen; Medium eggs weigh 21 ounces per dozen while Extra Large eggs weigh 27 ounces per dozen.

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*Egg Grades*

GRADE AA	GRADE A	GRADE B
Remains compact	Spreads slightly	Spreads over wide area
Clear, thick and firm; prominent chalazae	Clear and reasonably firm; prominent chalazae	Clear; weak or watery
Firm; centered; round and high; free from defects	Firm; stands fairly high; practically free from defects	Enlarged and flattened; may show slight defects
Clean; of normal shape; unbroken		Slight stains permissible; abnormal shape; unbroken
<i>Any use, especially frying, poaching and cooking in shell</i>		Baking; scrambling, used in bulk egg products

\*Spread refers to the appearance of the egg when first broken onto a flat surface

## *GRADING*

Eggs are graded by the United States Department of Agriculture (USDA), or a state agency following USDA guidelines. The grade AA, A, or B is given to an egg based on interior and exterior quality, not size. Grade has no effect on nutritional values.

## *STORAGE*

Improper handling quickly diminishes egg quality. Eggs should be stored at temperatures below 45°F (7°C) and at a relative humidity of 70 to 80 percent. Eggs will age more during one day at room temperature than they will during one week under proper refrigeration. As eggs age, the white becomes thinner and the yolk becomes flatter. Although this will change the appearance of poached or fried eggs, age has little effect on nutrition or behavior during cooking procedures. Older eggs, however, should be used for hard cooking, as the shells are easier to remove than those on fresh eggs are.

Cartons of fresh, uncooked eggs will keep for at least four to five weeks beyond the pack date if properly refrigerated. Hard-cooked eggs left in their shells and refrigerated should be used within one week. Store eggs away from strongly flavored foods to reduce odor absorption. Rotate egg stock to maintain freshness. Do not use dirty, cracked or broken eggs, as they may contain bacteria or other contaminants. Frozen eggs should be thawed in the refrigerator and used only in dishes that will be thoroughly cooked, such as baked products.

## *Other Eggs*

When most people refer to an "egg," they mean a chicken's egg. However, other eggs are sometimes used in the kitchen:

**Bantam egg:** The egg from a breed of small chicken; it is about half the size of a regular chicken egg and has the same characteristics.

**Duck egg:** An egg with an off-white shell and a richer flavor and higher fat content than a chicken's egg; when it is boiled, the white turns bluish and the yolk turns red-orange.

**Goose egg:** A white-shelled egg that is four to five times as large as a chicken egg; it also has a somewhat richer flavor.

**Guinea fowl egg:** An egg with an ivory shell flecked with brown; its flavor is more delicate than that of a chicken egg.

**Gull egg:** An egg whose shell is covered with light to dark brown blotches; it comes in various small sizes and has a slightly fishy flavor.

**Ostrich egg:** An egg that is 20 times as large as a chicken egg and has a thick, ivory-colored shell; its flavor is similar to that of a chicken egg.

**Partridge egg:** A small egg with a white, buff or olive shell; it has a mild flavor.

**Quail egg:** A small egg with a speckled brown shell; it has a rich flavor.

**Turkey egg:** A large egg with a brown shell; it has a delicate flavor.

**Turtle egg:** A reptile's egg with a soft shell that is buff or speckled; it has a mild, rich flavor.

### **SANITATION**

Eggs are a potentially hazardous food. Rich in protein, they are an excellent breeding ground for bacteria. Salmonella is of particular concern with eggs and egg products because the bacteria are commonly found in a chicken's intestinal tract. Although shells are cleaned at packinghouses, some bacteria may remain. Therefore, to prevent contamination, it is best to avoid mixing a shell with the liquid egg.

Inadequately cooking or improperly storing eggs may lead to food-borne illnesses. USDA guidelines indicate that **pasteurization** is achieved when the whole egg stays at a temperature of 140°F (60°C) for Y/2 minutes. Hold egg dishes below 40°F (4°C) or above 140°F (60°C). Never leave an egg dish at room temperature for more than one hour, including preparation and service time. Never reuse a container after it has held raw eggs without thoroughly cleaning and sanitizing it.

### **EGG PRODUCTS**

Food service operations often want the convenience of buying eggs out of the shell in the exact form needed: whole eggs, yolks only or whites only. These processed items are called egg products and are subject to strict pasteurization standards and USDA inspections. Egg products can be frozen, refrigerated or dried. Precooked, pre-portioned, and blended egg products are also available.

### **EGG SUBSTITUTES**

Concerns about the cholesterol content of eggs have increased the popularity of egg substitutes. There are two general types of substitutes. The first is a complete substitute made from soy or milk proteins. It should not be used in recipes in which eggs are required for thickening. The second substitute contains real albumen, but the egg yolk has been replaced with vegetable or milk products. Egg substitutes have a different flavor from real eggs, but may be useful for people on a restricted diet.

### **NUTRITION**

Eggs contain vitamins A, D, E and K, and the B-complex vitamins. They are rich in minerals and contain less cholesterol now than previously. Research indicates that the cholesterol in whole eggs does not affect serum cholesterol as much as was once feared. In fact, the American Heart Association now suggests that it is acceptable to consume up to four egg yolks per week as part of a balanced diet. Egg whites do not contain cholesterol and are often added to egg dishes such as omelets to reduce total fat content.

### ***Whipped White Eggs***

Egg whites are whipped into a foam and then incorporated into cakes, custards, soufflés, pancakes, and other products. The air beaten into the egg foam gives products lightness and assists with leavening.

### **~ Procedure for Whipping Egg Whites ~**

- 1 Use fresh egg whites that are completely free of egg yolk and other impurities. Warm the egg whites to room temperature before whipping; this helps a better foam to form.
- 2 Use a clean bowl and whisk. Even a tiny amount of fat can prevent the egg whites from foaming properly.
- 3 Whip the whites until very foamy, and then add salt or cream of tartar as directed.
- 4 Continue whipping until soft peaks form, and then gradually add granulated sugar as directed.
- 5 Whip until stiff peaks form. Properly whipped egg whites should be moist and shiny; over-whipping will make the egg whites appear dry and spongy or curdled.
- 6 Use the whipped egg whites immediately. If liquid begins to separate from the whipped egg whites, discard them; they cannot be rewhipped successfully.

### **Applying Various Cooking Methods**

No other food is as popular for breakfast, or as versatile, as the egg. Eggs can be cooked by almost any method. Equally, eggs can be served with a wide array of seasonings, accompaniments and garnishes.

Whatever cooking method is selected, be sure to prepare the eggs carefully: Overcooked eggs and those cooked at too high a temperature will be tough and rubbery. Undercooked eggs may transmit pathogenic bacteria and pose a risk of food-borne illness.

The following cooking methods are those most often used for egg-based dishes. They include dry-heat cooking methods (baking, sautéing and pan-frying) and moist-heat cooking methods (in-shell cooking and poaching).

## **Dry Heat Cooking**

### ***BAKING***

#### ***Shirred Eggs***

Baked eggs, also referred to as shirred eggs, are normally prepared in individual ramekins or baking dishes. The ramekins can be lined or partially filled with ingredients such as bread, ham, creamed spinach or artichokes. The eggs are often topped with grated cheese, fresh herbs or a sauce. When properly cooked, the egg whites should be set while the yolks are soft and creamy.



*Preparation*

1. Coat each ramekin with melted butter. Add flavoring ingredients as desired.
2. Break one or two eggs into each ramekin. Do not break the yolks. Season with salt and pepper.
3. Bake the eggs until the white is firm, approximately 12- 15 minutes. Approximately 3- 5 minutes before the eggs are done, add cream or top the eggs with grated cheese , diced ham, fresh herbs or other ingredients as desired.

*SAUTEING**Scrambled Eggs*

Scrambled eggs are eggs whisked with seasonings and then sautéed. They must be stirred nearly constantly during cooking. The finished eggs should be light and fluffy with a tender, creamy texture. A small amount of milk or cream may be added to the eggs to provide a more delicate finished product. Overcooking or cooking at too high a temperature causes the eggs to become tough and rubbery.

Scrambled eggs are often flavored by sautéing other foods (for example), onions, mushrooms or diced ham) in the pan before adding the eggs or by adding other foods (for example, grated cheeses or herbs) to the eggs just before cooking is complete. Suggested additions include finely diced bell peppers, onions, mushrooms, zucchini or tomatoes; cottage cheese or any variety of shredded firm cheese; crumbled bacon; diced ham, turkey or beef; bits of smoked salmon, cooked shrimp or cooked sausage; and fresh herbs.

Scrambled eggs can also be prepared using only egg whites. Because all of an egg's fat is stored in the yolk, no-yolk scrambled egg dishes are lower in fat, cholesterol and calories. Water or nonfat milk can be used in place of whole milk or cream to further reduce the fat and calorie content of the finished dish. Remember that egg whites coagulate at a lower temperature than yolks, so adjust the cooking time and temperature accordingly.

*Preparation*

1. Break the eggs into a mixing bowl. Season lightly with salt and pepper. Add 1 scant tablespoon (12 milliliters) milk or cream per egg and whisk everything together.
2. Heat a sauté pan, add clarified butter or oil and heat until the fat begins to sizzle.
3. Sauté any additional ingredients in the hot fat.

### *Frittatas*

Frittatas are essentially open -faced omelets of Spanish-Italian heritage. They may be cooked in small pans as individual portions, or in large pans, and then cut into wedges for service. A relatively large amount of hearty ingredients is mixed directly into the eggs.

The eggs are first cooked on the stovetop, and then the pan is transferred to an oven or placed under a salamander or broiler to finish cooking.

### *Preparation*

1. Fully cook any meats and blanch or otherwise prepare any vegetables that will be incorporated into the frittata .
2. Heat a sauté pan and add clarified butter.
3. Whisk the eggs, flavorings and any other ingredients together; pour into the pan.
4. Stir gently until the eggs begin to set. Gently lift cooked egg at the edge of the frittata so that raw egg can run underneath. Continue cooking until the eggs are almost set.
5. Place the pan in a hot oven or underneath a salamander or broiler to finish cooking and lightly brown the top.
6. Slide the finished frittata out of the pan onto a serving platter.

### *PAN-FRYING*

Pan-fried eggs are commonly referred to as **sunny side up** or over easy, over medium or over hard. These are visibly different products produced with proper timing and technique. Very fresh eggs are best for pan-frying, as the yolk holds its shape better and the white spreads less.

Sunny-side-up eggs are not turned during cooking; their yellow yolks remain visible. They should be cooked over medium -low heat long enough to firm the whites and partially firm the yolks: approximately 4 minutes if cooked on a 250°F (120°C) cooking surface.

For "**over**" **eggs**, the egg is partially cooked on one side, then gently flipped, and cooked on the other side until done. The egg white should be firm, and its edges should not be brown. The yolk should never be broken regardless of the degree of doneness. Not only is a broken yolk unattractive, but the spilled yolk will coagulate on contact with the hot pan, making it difficult to serve.

For **over-easy eggs**, the yolk should remain very runny; on a 250°F (120°C) cooking surface, the egg should cook for about 3 minutes on the first side and 2 minutes on the other. Over-medium eggs should be cooked slightly longer, until the yolk is partially set. For over -hard eggs, the yolk should be completely cooked.

*Preparation*

1. Select a sauté pan just large enough to accommodate the number of eggs being cooked. An 8-inch in diameter pan is appropriate for up to three eggs.
2. Add a small amount of clarified butter and heat until the fat just begins to sizzle.
3. Carefully break the eggs into the pan.
4. Continue cooking over medium-low heat until the eggs reach the appropriate degree of firmness. Sunny-side-up eggs are not flipped during cooking; "over" eggs are flipped once during cooking.
5. When done, gently flip the "over" eggs once again so that the first side is up, then gently slide the cooked eggs out of the pan onto the serving plate.

**Basted eggs** are a variation of sunny-side-up eggs. Basted eggs are cooked over low heat with the hot butter from the pan spooned over them as they cook. Another version of basted eggs is made by adding 1 to 2 teaspoons (5 to 10 milliliters) water to the sauté pan and then covering the pan. The steam cooks the top of the eggs.

## Moist Heat Cooking

*IN-SHELL COOKING (SIMMERING)*

The difference between soft-cooked eggs (also called soft-boiled) and hard-cooked eggs (also called hard-boiled) is time. Both styles refer to eggs cooked in their shell in hot water. Despite the word boiled in their names, eggs cooked in the shell should never be boiled. Boiling toughens eggs and causes discoloration. Instead, the eggs should be simmered. Soft-cooked eggs are usually simmered for 3 to 5 minutes; hard-cooked eggs may be simmered for as long as 12 to 15 minutes. Sometimes it is difficult to remove the shell from very fresh eggs. Eggs that are a few days old are better for cooking in the shell.

*Preparation*

1. Fill a saucepan or stockpot with sufficient water to cover the eggs. Bring the water to a simmer.
2. Carefully lower each egg into the simmering water.
3. Simmer uncovered for 3 to 5 minutes (soft cooking), depending on the firmness desired.
4. Lift each egg out of the water with a slotted spoon or spider.
5. Crack the large end of the shell carefully and serve immediately.
6. When the eggs are cool enough to handle, peel them and use as desired or cover and refrigerate for up to 5 days.

## ***POACHING***

Eggs that are to be poached should always be very fresh. They should also be kept very cold until used, as cold egg whites stay together better when dropped into hot water. The water for poaching eggs should be held at approximately 200°F (90°C), a gentle simmer. Poached eggs should be soft and moist; the whites should be firm enough to encase the yolk completely, but the yolk should still be runny.

Some chefs add salt to the poaching water for flavor; others believe that the salt causes the egg whites to separate. To help the egg whites cling together, add 2-tablespoons (30 milliliters) white vinegar per quart (liter) of water.

### ***Preparation***

1. Fill a saucepan or stockpot with at least 3 inches (7.5 centimeters) water. Add salt and vinegar if desired.
2. Bring the water to a simmer and hold at a temperature of approximately 200°F (90°C).
3. One at a time, crack the eggs into a small ramekin or cup. If a piece of shell falls into the egg, it should be removed; if the yolk breaks, the egg can be set aside for some other use.
4. Gently slide each egg into the simmering water and cook for 3 to 5 minutes.
5. Lift the poached egg out of the water with a slotted spoon. Trim any ragged edges with a paring knife. Serve immediately.

For quantity service, eggs can be poached in advance and held for up to one day. To do so, cook the eggs as described. As each egg is removed from the hot water, set it in a hotel pan filled with ice water to stop the cooking process. The eggs can then be stored in the ice water until needed. For banquet-style service, all the eggs can be reheated at once by placing the entire pan on the stove top. Alternatively, the eggs can be reheated one or two at a time by placing them in a pan of barely simmering water until they are hot.

## ***BREAKFAST & BRUNCH***

Breakfast is often an on-the-go, rushed experience; hence the popularity of breakfast sandwiches, jumbo muffins and disposable coffee cups. Brunch, on the other hand, is a leisurely experience, combining breakfast and lunch in to a social occasion. Brunch menus include traditional breakfast foods along with almost anything else. Unlike breakfast, brunch is often accompanied by champagne or other alcoholic beverages and concludes with a pastry or dessert.

Food service operations must offer a variety of breakfast options to appeal to a wide range of consumers. Hotels and resorts may offer a complimentary continental-style breakfast of coffee, juice and sweet rolls; a full-service a la carte dining room; a room service menu and a casual snack bar. The grand hotel Sunday and holiday brunch buffet is an American institution for celebrations and special occasions.

Office, retail, and commercial complexes abound with small shops selling coffee, muffins, bagels and sweet rolls. Coffee houses offering a variety of coffee blends and drinks, pastries, breads and quiche are also popular. Even fast-food facilities have expanded their menus and hours of operation to meet the needs of early-morning diners.

The foods served at breakfast include most of the foods served at other times during the day. A diner's perceptions of a 'proper breakfast' depends on his or her cultural, ethnic, economic and geographic background, as well as sleep patterns and work schedule.

**Breakfast menus typically include the following items:**

- Coffee, tea or other hot beverages Fruits or fruit juices
- Eggs
- Breads, including sweet breads Cereals and grains
- Potatoes
- Pancakes, waffles and French toast Meats or fish
- Dairy products, including milk, cheese and yogurt
- Although few people could sit down to a breakfast including all of these components even occasionally, most food service operations find it necessary to offer some items from each category in order to meet their customers' expectations.

**BREAKFAST AROUND THE WORLD**

In the 21st century, North Americans traveling abroad will more than likely be able to order a breakfast similar to that which they would eat at home. However, in many countries residents still consume their traditional breakfast foods.

- **Japan:** tea; *asa-gohan*, morning rice, with side dishes of pickles, dried seaweed, tofu, fish; miso soup
- **China:** tea; congee, rice porridge, topped with meat, seafood and/or vegetables; *you tiao*, a type of fried cruller that is dipped in soy milk
- **France:** cafe au lait; baguette, butter and jam
- **Southern Italy/Sicily:** coffee granita served in brioche bread
- **Australia:** tea; steak and eggs; toast
- **Egypt:** *fulmedames*, slow cooked beans seasoned with olive oil, lemon and garlic
- **India :** tea; khichri, a Hindi dish of rice, lentils and spices; appam, a thin rice pancake with spiced meat and vegetables; *vada pavs*, deep-fried mashed potatoes wrapped in flatbread and seasoned with chutney or chilli powder
- **Costa Rica:** Coffee or aqua dulce, warm water flavored with concentrated sugar cane juice; go/lo pinto, rice and beans with cilantro and onions
- **Spain:** milk, coffee, rolls and jam; chocolatey churros, hot chocolate with a cinnamon-sugar coated donut
- **Greece:** Greek coffee or instant coffee with milk; sesame bread; yogurt with honey and/or fruit

- **Eastern Europe/Germany/Holland:** coffee or tea; cold cuts; a variety of cheeses and breads
- **Argentina:** coffee or hot chocolate; *facturas*, sweet pastries with dulce de leche, a paste made with milk and sugar

## **BREAKFAST MEATS**

At other meals, meat is typically the principal food, but at breakfast, it is usually an accompaniment. Breakfast meats tend to be spicy or highly flavored. A hearty breakfast menu may include a small beefsteak (usually sirloin and often pan-fried) or pork chop. Corned beef, roast beef or roast turkey can be diced or shredded, then sautéed with potatoes and other ingredients for a breakfast hash. Fish, particularly smoked products, are also served at breakfast.

However, the most popular breakfast meats are bacon (including Canadian-style bacon), ham and sausages. Bacon can be cooked on a flat griddle or in a heavy skillet or baked on a sheet pan. Regardless of the method used, the cooked bacon should be drained on absorbent paper towels to remove excess fat. Canadian-style bacon is very lean and requires little cooking, although slices are usually sautéed briefly before serving. The round slices may be served like ham and are essential for eggs Benedict. A ham steak is simply a thick slice ideal for breakfast. Fully cooked ham needs to be heated only briefly on a griddle or in a sauté pan before service. The most popular breakfast sausages are made from uncured, uncooked meats. They can be mild to spicy, slightly sweet or strongly seasoned with sage. Breakfast sausage is available in bulk, links or preformed patties. Link sausage is often partially cooked by steam, and then browned by sautéing at service time. It should be drained on absorbent paper towels to remove excess fat before service.

## **GRIDDLECAKES**

Pancakes and waffles are types of griddlecakes or griddle breads. They are usually leavened with baking soda or baking powder and are quickly cooked on a very hot griddle or waffle iron with very little fat. Griddlecakes should be more than just an excuse for eating butter and maple syrup, however. They should have a rich flavor and a light, tender, moist interior.

Pancake and waffle batters may be flavored with tangy buckwheat flour, fruits, whole grains or nuts. Both pancakes and waffles are usually served with plain or flavored butter and fruit compote or syrup. Waffles must be cooked in a special waffle iron, which gives the cakes a distinctive grid-like pattern and a crisp texture. Electric waffle irons are available with square, round and even heart-shaped grids. The grids should be seasoned well, and then never washed. (Follow the manufacturer's directions for seasoning.) Belgian waffles are especially light and crisp because of the incorporation of whipped egg whites and/or yeast. They are often made in a waffle iron with extra deep grids and are served for breakfast or as a dessert, topped with fresh fruit, whipped cream or ice cream.

## **CREPES**

**Crepes** are thin, delicate, unleavened pancakes. They are made with a very liquid egg batter cooked in a small, very hot sauté pan or crepe pan. Crepe batter can be flavored with buckwheat flour, cornmeal or other grains. Crepes are not eaten plain, but are usually filled and garnished with sautéed fruits, scrambled eggs, cheese or vegetables. Crepes can be prepared in advance, then filled and reheated in the oven.

**Blintzes** are crepes that are cooked only on one side, then filled with cheese, browned in butter, and served with sour cream, fruit compote or preserves.

## **BEVERAGES**

Water, coffee and tea are the staples of most beverage menus. Despite their relatively low price, bottled water

or, a good cup of coffee or tea can be extremely important to a customer's impression of a food service operation.

A cup of coffee is often either the very first or the very last item consumed by a customer. Tea, whether iced or hot, is often consumed throughout the meal. Consequently, it is important to learn to prepare and serve these beverages properly. Many varieties of water are now available and some customers prefer these specialty waters to that from the tap. Not only do these beverages complement a meal, they are important profit centers for restaurant owners. Appreciation of the proper preparation and service of these beverages is an important part of a culinary student's training.

## **WATER**

At one time in the United States a glass of iced water was more than likely the first thing placed in front of the customer as the menu was presented. The origin of this practice is lost to time; perhaps it was thought that sipping water would ease the waiting time until the food was served. There were also those who believed that water aided digestion. Whatever the reasons, water service has evolved as the preference for bottled water has grown. In other countries, because of suspect local water supplies, if a customer orders water it is usually bottled.

Bottled water is the fastest -growing segment of the beverage industry, in part because of increased health consciousness, in part because of a perception that bottled water is safer. Waters are available from all over the globe, from Australia, France, Fiji, Germany, Italy, Wales and many points between. The list is endless and always growing. All waters imported into the United States are subject to federal regulation.

## **TYPES OF WATER**

Bottled water is by definition potable water sold for human consumption and it is subject to FDA regulations. Bottled water comes from a variety of sources such as a municipal water supply, natural spring or well. **Spring water** originate from an underground source that flows naturally to the earth's surface. **Mineral water** can come from a spring, a well, or an artesian bore but by definition must contain not less than 250 parts per million total dissolved solids. This level of trace minerals distinguishes such water and frequently contributes to its unique taste.

Bottled water is sold as either **still or sparkling**, but within these two broad definitions are varieties of subgroups. Many brands offer either a still or sparkling version of their water. The "sparkle" is often achieved by the addition of carbon dioxide, which not only gives the beverage its 'carbonated' taste but also prevents spoilage. The more carbonation, the more acidic the taste. Bottled waters are best served lightly chilled and without ice, unless it is requested.

### *Various types of water*

**fluoridated water** - water, either naturally fluoridated or treated with a fluorine-containing compound, intended to promote healthy teeth by preventing tooth decay

**hard water** - water with relatively high calcium and magnesium concentrations

**mineral water** - drinking water that comes from a protected underground water source and contains at least 250 parts per million of total dissolved solids such as calcium

**natural water** - bottled drinking water not derived from a municipal water supply; it can be mineral, spring, well or artesian-well water

**purified water** - bottled water produced by distillation, reverse osmosis, deionization or suitable processes that meet governmental standards

**seltzer water** - a flavorless natural mineral water with carbonation, originally from the German town of Niederselters

**soda water** - a flavorless water with induced carbonation, consumed plain or used as a mixer for alcoholic drinks or soda fountain confections; also known as club soda and seltzer

**soft water** - water with a relatively high sodium concentration

**spring water** - water obtained from an underground source that flows naturally to the earth's surface



## COFFEE

### History of Coffee

Some anthropologists suggest that coffee was initially consumed by central African warriors in the form of a paste made from mashed coffee beans and animal fat rolled into balls. Eaten before battle, the animal fat and bean protein provided nourishment; the caffeine provided a stimulant.

A hot coffee drink may first have been consumed sometime during the ninth century A.D. in Persia. Made by a decoction of ripe beans, the drink was probably very thick and acrid. Nevertheless, by the year 1000, the elite of the Arab world were regularly drinking a decoction of dried coffee beans. The beans were harvested in Abyssinia (Ethiopia) and brought to market by Egyptian merchants. Within a century or so, *kahwa* became immensely popular with members of all strata of Arab society. Coffeehouses opened throughout the Levant, catering to customers who sipped the thick, brown brew while discussing affairs of heart and state.

Although European travelers to the Ottoman Empire had tasted coffee, and a few Arab or Turkish merchants living in Marseilles offered their guests a chance to sample the rare drink, coffee did not become popular in Europe until the 17th century. Its popularity is due in great part to Suleiman Aga, the Grand Panjandrum of the Ottoman Empire. In 1669, he arrived at the court of King Louis XIV of France as ambassador, bringing with him many exotic treasures, including coffee. Offered at his opulent parties, coffee soon became the drink of choice for the French aristocracy.

Coffee became popular in Vienna as a fortune of war. By 1683, the Turks were at the gates of Vienna. A decisive battle was fought, and the Turks fled, leaving behind stores of gold, equipment, supplies and a barely known provision - green coffee beans. One of the victorious leaders, Franz George Kolschitzky, recognized the treasure, took it as his own and soon opened the first coffeehouse in Vienna, The Blue Bottle.

Despite its growing popularity, coffee was exorbitantly expensive, in part the result of the sultan's monopoly on coffee beans. His agents, principally in Marseilles, controlled the sale of beans. However, the monopoly was not to survive. By the end of the 17th century, the Dutch had stolen coffee plants from Arabia and had begun cultivating them in Java. By the early 18th century, the French had transported seedlings to the West Indies; from there coffee plantations spread throughout the New World.

Coffee begins as the fruit of a small tree grown in tropical and sub-tropical regions throughout the world. The fruit, referred to as a cherry, is bright red with translucent flesh surrounding two flat-sided seeds. These seeds are the coffee beans. When ripe, the cherries are harvested by hand, then cleaned, fermented and hulled, leaving the green coffee beans. The beans are then roasted, blended, ground and brewed. Note that any coffee bean can be roasted to any degree of darkness; ground to any degree of fineness; and brewed by any number of methods

Only two species of coffee bean are routinely used: **Arabica** and **Robusta**. Arabica beans are the most important commercially and the ones from which the finest coffees are produced. Robusta beans do not produce as flavorful a drink as Arabica. Nevertheless, Robusta beans are becoming increasingly significant commercially, in part because Robusta trees are heartier and more fertile than Arabica trees. The conditions in which the beans are grown have almost as much effect on the final product as subsequent roasting, grinding and brewing. Because coffee takes much of its flavor and character from the soil, sunlight and air, the beans' origin is critical to the product's final quality.

Each valley and mountain produces coffee distinct from all others, so geographic names are used to identify the beans whether they are from Arabica or Robusta trees. Thus, purveyors may offer beans known as Colombian, Chanchamayo (from Peru), Kilimanjaro (from Tanzania), Blue Mountain (from Jamaica), Java and Sumatra (from Indonesia) or Kona (from Hawaii), to name a few. Although many so-called gourmet coffees are made from a single type of bean, nearly all coffee sold in the United States is a blend of various qualities and types of bean.

### **ROASTING COFFEE**

Roasting releases and enhances the flavors in coffee. It also darkens the beans and brings natural oils to the surface. Traditionally, almost everyone roasted their own coffee beans because all coffee beans were sold green. Today, however, roasting is left to experts who possess the necessary equipment. It is important to recognize and understand some of the standard descriptions used for various types of roasting. No single international organization controls the naming of roasted coffee, however, so a coffee roaster may refer to products by any name.

In general, roasts fall into four categories based on their color—light, medium, medium-dark or dark. The following descriptions are based on the most common terminology:

**City roast:** Also called American or brown roast, city roast is the most widely used coffee style in this country. City roast, which is medium brown in color, produces a beverage that may lack brilliance or be a bit flat, yet, it is the roast most Americans assume they prefer because it is the roast most often used in grocery store blends.

**Brazilian:** Somewhat darker than a city roast,

Brazilian roast should begin to show a hint of dark-roast flavor. The beans should show a trace of oil.

In this context, the word Brazilian has no relationship to coffee grown in Brazil.

**Viennese:** Also called medium-dark roast, Viennese roast generally falls somewhere between a standard city roast and French roast.

**French roast:** French roast, also called New Orleans or dark roast, approaches espresso in flavor without sacrificing smoothness. The beans should be the color of semisweet chocolate, with apparent oiliness on the surface.

**Espresso roast:** Espresso roast, also called Italian roast, is the darkest of all. The beans are roasted until they are virtually burnt. The beans should be black with a shiny, oily surface.

## *GRINDING COFFEE*

Unlike roasting, which is best when left to the experts, the grinding of coffee beans produces the best results when left to the consumer or food service operation. Whole coffee beans stay fresh longer than ground coffee. Ground coffee kept in an airtight container away from heat and light will stay fresh for three or four days. Whole beans will stay fresh for a few weeks and may be kept frozen for several months, as long as they are dry and protected from other flavors. Frozen coffee beans do not need to be thawed before grinding and brewing. Do not refrigerate coffee.

The fineness of the grind depends entirely on the type of coffee maker being used. The grind determines the length of time it takes to achieve the optimum (19%) extraction from the beans. The proper grind is simply whatever grind allows this to happen in the time it takes a specific coffee maker to complete its brewing cycle. Generally, the finer the grind, the more quickly the coffee should be prepared. Follow the directions for your coffeemaker or ask your specialty coffee purveyor for guidance.

## *BREWING COFFEE*

Coffee is brewed using one of two methods: decoction or infusion. **Decoction** means boiling a substance until its flavor is removed. Boiling is the oldest method of making coffee, but is no longer used except in preparing extremely strong Turkish coffee. **Infusion** refers to the extraction of flavors at temperatures below boiling. Infusion techniques include steeping (mixing hot water with ground coffee), filtering (slowly pouring hot water over ground coffee held in a disposable cloth or paper filter) and dripping (pouring hot water over ground coffee and allowing the liquid to run through a strainer). Percolating is undesirable, as the continuous boiling ruins the coffee's flavor.

The secrets to brewing a good cup of coffee include knowing the exact proportion of coffee to water, as well as the length of time to maintain contact between the two. This varies depending on the type of coffee brewing equipment in use.

### **Drip Brewing**

Drip coffee is commonly made from a machine that operates on the principle of gravity and a filter. Water is placed in a reservoir, heated by an element, and released slowly over the coffee grounds. For drip coffee, the best results are nearly always achieved by using 2-level tablespoons of ground coffee per 3/4-cup (6 fluid ounces) water. (A standard cup of coffee is three-fourths the size of a standard measuring cup; one pound of coffee yields approximately 80 level tablespoons or enough for 40 "cups" of coffee.) An Approved Coffee Measure (ACM) was developed by the Coffee Brewing Institute to measure 2-level tablespoons accurately. ACM scoops are readily available and are often included with retail coffee packages.

Premeasured packages of ground coffee are generally used with commercial brewing equipment. These packages are available in a range of sizes for making single pots or large urns of coffee. If stronger coffee is desired, use more coffee per cup of water, not a longer brewing time. For weaker coffee, prepare regular -strength coffee and dilute it with hot water. Never reuse coffee grounds.

### Espresso Brewing

Espresso is made with a pump-driven machine that forces hot water through compressed, finely ground coffee. Finely ground coffee to be used in espresso coffee machines is sold in bulk or in premeasured packets, or pods, that enable a consistent level of quality. Espresso measures usually come with a 1-ounce scoop on one side and a 2-ounce scoop on the other. A single serving of espresso uses about 1/4 ounce (7 grams) coffee to 1½ fluid ounces (45 milliliters) water. Americans tend to prefer a larger portion, known as *espresso lungo*, made with 2 to 3 fluid ounces (60 to 90 milliliters) water. It is important that the espresso be made quickly: If the machine pumps water through the coffee for too long, too much water will be added to the cup and the intense espresso flavor will be ruined. Because the single or double "shot" of espresso forms the foundation of so many beverages, this is an important consideration.

### Conditions That Affect the Quality of Brewed Coffee

Most coffees are affected by the quality of the water used to brew them. Many commercial establishments have their machines tied into their water supply, so water quality may be beyond the maker's control. Unless equipment is properly cleaned after use, oils from coffee form an invisible film on the inside of the maker and pots, imparting a rancid or stale flavor to each subsequent batch. Coffeepots and carafes should be cleaned well with hot water between each use; coffee makers should be disassembled and cleaned according to the manufacturer's directions. Calcification on heating elements can also reduce their effectiveness.

Finally, all coffee should be served as soon as it is brewed. Oxidation takes a toll on the aroma and flavor, which soon becomes flat and eventually bitter. Drip coffee may be held for a short time on the coffee maker's hot plate at temperatures of 185°F to 190°F (85°C to 88°C). A better holding method, however, is to immediately pour freshly brewed coffee into a thermal carafe. Never attempt to reheat cold coffee, as drastic temperature shifts destroy flavor.

### TASTING COFFEE

Coffee is evaluated on four characteristics: *aroma*, *acidity*, *body* and *flavor*. As a rule, coffee will taste the way it smells. Some coffees, particularly Colombian, are more fragrant than others are, however. **Acidity** refers to the tartness of the coffee. Acidity is a desirable characteristic that indicates snap, life or thinness. Kenyan and Guatemalan are examples of particularly acidic coffees. **Body** refers to the feeling of heaviness or thickness that coffee provides on the palate. Sumatran is generally the heaviest, with Mexican and Venezuelan being the lightest. **Flavor**, of course, is the most ambiguous as well as the most important subjective characteristic.

## SERVING COFFEE

Coffee beverages can be made with specific additions and provide value-added menu alternatives. The most common ways of serving coffee are.

### Drip Coffee or Filtered Coffee

Drip or filter coffee is the most common style of coffee served in the United States. It is served unadorned, unsweetened and black (without milk or cream). The customer then adds the desired amount of sweetener and/or milk.

- ✓ **Black:** A plain cup of unsweetened coffee with no milk or cream added.
- ✓ **Cafe au lait:** The French version of the Italian *caffè latte*, *café au lait* (or *café crème*) is made with strong coffee instead of espresso and hot, not steamed, milk. It is traditionally served in a handle-less bowl.
- ✓ **Demitasse:** A small cup of strong black coffee or espresso; also refers to the small cup in which it is served.
- ✓ **Iced coffee:** Strong coffee served over ice. If desired, it is best to add sweetener before the coffee is poured over ice or shaken. Iced coffee can also be served with milk or cream. In Australia, a dollop of vanilla ice cream is often added. In Vietnam, it is made with a small Vietnamese filter pot using condensed milk as a sweetener. Under no circumstances should leftover coffee be used to make iced coffee.
- ✓ **After-dinner coffee:** Strong coffee with the addition of liquor, liqueurs, or spices, and often sweetened and garnished with whipped cream; examples include **Irish coffee**, made with Irish whisky, or **café brulot**, made with orange, cloves and brandy.

### Espresso

Espresso refers to a unique brewing method in which hot water is forced through finely ground and packed coffee under high pressure. Properly made espresso is strong, rich and smooth, not bitter or acidic. As the coffee drains into the cup it will be golden brown, forming a crema or foam that lies on top of the black coffee underneath. It is important that the small espresso cups be pre-warmed. In Europe, an espresso is often served with a twist of lemon on the saucer and a small glass of water on the side.

### *Types of Espresso Coffee*

- **Espresso:** A single (shot) or double serving, black served in a demitasse.
- **Espresso machiatto:** Espresso "marked" with a tiny portion of **steamed milk**.
- **Cappuccino:** One -third espresso, one-third steamed milk and one -third **foamed milk**; the total serving is still rather small, about 4 to 6 ounces (120 to 180 milliliters).
- **Caffè latte:** One -third espresso and two-thirds steamed milk without foam; usually served in a tall glass.

- **Caffe mocha:** One-third espresso and two-thirds steamed milk flavored with chocolate syrup; usually topped with whipped cream and chocolate shavings or cocoa.
- **Caffe freddo:** A double serving of sweetened espresso served chilled with ice or shaken with crushed ice. Can be served with milk or whipped cream, usually in a tall glass.
- **Espresso con panna:** Espresso with a dollop of whipped cream.
- **Espresso corretto:** A shot of espresso "corrected" with the addition of liquor such as brandy or liqueur.
- **Espresso ristretto:** Espresso made with half the water normally used for a regular espresso.

#### Terms:

- **Barista** - Italian for "bartender"; now used to describe someone who has been professionally trained in the art of preparing espresso and espresso-based beverages
- **Steamed milk** - milk that is heated with steam generated by an espresso machine; it should be approximately 150°F to 170°F (66°C to 77°C)
- **Foamed milk** - milk that is heated and frothed with air and steam generated by an espresso machine; it will be slightly cooler than steamed milk.

Any type of milk can be used to make cappuccino, latte and other espresso beverages. Milk with higher fat content will produce a creamier tasting beverage. To froth the milk for these beverages, pour the milk into a jug, and then position it under the steam spout of the espresso machine. Activate the steam control only when the head of the spout is under the surface of the milk. Moving the jug around while keeping the spout under the surface of the milk helps the steam aerate the milk, giving it a consistency resembling frothed cream.

#### Flavored Coffee

Dried and ground chicory root has long been added to coffee. The French, in particular, enjoy its bitter flavor. Toasted barley, dried figs and spices have also been used by various cultures for years. Coffee s flavored with vanilla, chocolate, liquors, spices and nuts have recently become popular in the United States. These flavors are added to roasted coffee beans by tumbling the beans with special flavoring oils. The results are strongly aromatic flavors such as vanilla, hazelnut, chocolate raspberry or maple walnut.

#### Decaffeinated Coffee

Caffeine is an alkaloid found in coffee beans (as well as in tea leaves and cocoa beans). It is a stimulant that can improve alertness or reduce fatigue. In excess, however, caffeine can cause some people to suffer palpitations or insomnia. Regular filtered coffee contains 85 to 100 milligrams of caffeine per cup. Robusta beans contain more caffeine than the better-quality Arabica beans. Decaffeinated coffee (with 97 percent or more of the caffeine removed) is designed to meet consumer desires for a caffeine-free product

### Coffee – Other Uses

In addition to its use as a beverage, coffee is also used in stews, sauces and pan gravy. It may be added to breads (such as rye and pumpernickel), cakes, custards, ice creams, dessert

sauces and frostings. The flavor of coffee has a strong affinity for chocolate, nuts and rum.

### TEA, TISANES, AND RELATED BEVERAGES

Tea and tisanes are made from dried leaves, herbs, spices, flowers or fruits that are prepared by infusion, which is, steeping in fresh boiling water. Tea is the beverage of choice for more than half the world's population and may be served hot or cold. Eighty-five percent of the tea consumed in the United States is iced, a uniquely American preference. Tisanes, or herbal infusions, have long been popular for their perceived health benefits and healing properties in Europe and Asia. As customers in the United States have become familiar with herbal teas, demand for them is growing.

#### Tea

Tea is the name given to the leaves of *Camellia sinensis*, a tree or shrub that grows at high altitudes in damp tropical regions. Although tea comes from only one species of plant, there are three general types of tea- black, green and oolong. The differences among the three are the result of the manner in which the leaves are treated after picking.

#### Tea Varieties

Black tea is amber-brown and strongly flavored. Its color and flavor result from fermenting the leaves. Black tea leaves are named, or graded, by the size of the leaf.

Because larger leaves brew more slowly than smaller ones, teas are sorted by leaf size for efficient brewing. Souchong denotes large leaves, pekoe denotes medium-sized leaves and orange pekoe denotes the smallest whole leaves. (Note that orange pekoe does not refer to any type of orange flavor.) Broken tea, graded as either broken orange pekoe or broken pekoe, is smaller, resulting in a darker, stronger brew. Broken tea is most often used in tea bags. These grades apply to both Chinese and Indian black teas.

Green tea is yellowish-green in color with a bitter flavor. Leaves used for green tea are not fermented. Chinese green tea leaves are also graded according to leaf size and age. The finest green tea is Gunpowder, followed by Imperial and Hyson.

Oolong tea is partially fermented to combine the characteristics of black and green teas. Oolong is popular in China and Japan, often flavored with jasmine flowers. Oolong tealeaves are also graded by size and age. As with coffee, tea takes much of its flavor from the geographic conditions in which it is grown. Teas are named for their place of origin- for example, Darjeeling, Ceylon (now Sri Lanka) or Assam.

Many popular and commercially available teas are actually blends of leaves from various sources. Blended and unblended teas may also be flavored with oils, dried fruit, spices, flowers or herbs; they are then referred to as flavored teas. Spices such as allspice, cinnamon, nutmeg and black pepper are often used to create teas flavored for cold-weather drinking. Bright herbs such as mint and citrus rind or oil, especially bergamot, which gives Earl Grey tea its flavor, add complexity to brewed teas and are popular additions.

### Tea Flavors

Tea can be described according to three key characteristics: astringency or briskness, body and aroma. Astringency is not bitterness, which is undesirable, but a sharp, dry feeling on the tongue that contributes to the refreshing taste of a tea. Body refers to the feeling of thickness on the tongue. Teas range from light to full-bodied. **Aronia** is the smell and flavors of the tea when brewed.

### BLACK TEAS

**Assam** - A rich black tea from northeastern India with a reddish color. It is valued by connoisseurs, especially for breakfast.

**Ceylon** - A full-flavored black tea with a golden color and delicate fragrance. Ideal for serving iced, it does not become cloudy when cold. Darjeeling the champagne of teas, grown in the foothills of the Himalayas in northeastern India. It is a full-bodied, black tea with a Muscat flavor.

**Earl Grey** - blend of black teas, usually including Darjeeling, flavored with oil of bergamot. A popular choice for afternoon tea.

**English Breakfast**-An English blend of Indian and Sri Lankan black teas; it is full-bodied and robust, with a rich color.

**Keemun**- A mellow black Chinese tea with a strong aroma. It is less astringent than other teas and is delicious iced.

**Lapsang Souchong** - A large-leafed (souchong) tea from the Lapsang district of China. It has a distinctive tarry, smoky flavor and aroma, appropriate for afternoon tea or dinner.

### GREEN TEAS

**Gunpowder** - A green Chinese tea with a tightly curled leaf and gray-green color. It has a pungent flavor and a light straw color. It is often served after the evening meal.

**Sencha (common)** - A delicate Japanese green tea that has a light color with a pronounced aroma and a bright, grassy taste.



**White tea** - A delicate green tea made from new buds picked before they open. Allowed to wither so that natural moisture evaporates, these leaves are lightly dried to a pale silvery color. White tea has a subtle flavor.

### *OOOLONG TEAS*

**Formosa Oolong** - A unique and expensive large -leafed oolong tea with the flavor of ripe peaches. It is appropriate for breakfast or afternoon tea.

Variety of cups of brewed tea (from left): Chinese tea, Japanese tea, Moroccan mint tea and black tea with milk

### *TISANES (HERB TEAS)*

Tisanes are herbal infusions that do not contain any "real" tea. They are commonly made from fresh or dried flowers, herbs, seeds or roots; chamomile, ginseng, linden flowers and lemon balm are among the more popular tisanes. In most countries, there is a tradition of indigenous herbal medicine often administered in an infused form, as a tea. In Europe, a tisane may be served after a meal to aid digestion or taken before bed as an aid to sleep. (Herbal teas usually contain no caffeine, so they do not act as stimulants.) In the United States, herbal teas are gaining in popularity, but not for the first time: During the American Revolution herbal teas became known as "Liberty teas." In a professional food service establishment, herbal teas are prepackaged blends and require no mixing.

## *EGG BASED RECIPES*

### **Shirred Eggs with Ham**

*Makes 1 serving*



**Equipment needed:**

Measuring spoons

Scale

Box grater

Ramekins (white ceramic in dry storage)

Shirred eggs (also known as baked eggs) is a dish in which eggs have been baked in a flat-bottomed dish; the name originates from the type of dish in which it was traditionally baked. It is considered a simple and reliable dish that can be easily varied and expanded upon. An alternative way of cooking is to crack the eggs into individual ramekins and cook them in a water bath, creating the French dish, eggs en cocotte.

**Procedure:**

- 2 tablespoons whole butter, melted
  - 2 thin slices ham (about 1/2 ounce)
  - 2 eggs
  - Salt and freshly ground black pepper
  - 1 tablespoon warm, heavy cream
  - 1 tablespoon grated Swiss cheese
  - Splash of dry sherry
1. Preheat the oven to 325 degrees.
  2. Brush the interior of the ramekin with melted butter. Line the ramekin with the slice of ham. Break the eggs into a cup and slide them carefully into the ramekin on top of the ham. Season with salt and pepper.
  3. Put the ramekins on a half-sheet pan lined with parchment paper. Bake until the eggs begin to set, 8 to 10 minutes. Remove from the oven, then add the warm cream and cheese. Splash with sherry and return to the oven and bake until the eggs are cooked and the cheese is melted.
  4. The yolks should still be "jiggly" and not cooked "hard." Serve hot.

## Quiche Lorraine

Makes 1 quiche to serve 6

Quiche Lorraine is a popular variant that was originally an open pie with a filling of custard with smoked bacon or lardons (pieces of pork fat). It was only later that cheese was added to the quiche Lorraine.

The origin of quiche Lorraine comes from Alsace/Lorraine (a region of France) and the original quiche Lorraine had a rustic style: it was cooked in a cast-iron pan and the pastry edges were not crimped. Today, quiche Lorraine is served throughout France and has a modern look with a crimped pastry crust. In France, the version is unlike that served in the United States; the bacon is cubed, no onions are added and the custard base is thicker.

Baking blind (sometimes called pre-baking) is the process of baking a piecrust or other pastry without the filling. Blind baking a piecrust is necessary when it will be filled with an unbaked filling (such as with pudding or cream pies), in which case the crust must be fully baked.

**Equipment needed:**

Pie or quiche pan

Scale

Box grater

Fork

Measuring cups



- 4 ounces bacon, diced
- 2 ounces Swiss or Gruyere cheese, shredded
- 1 (10-inch) pie crust (prick the pie crust with the tines of a fork)
- (Beans for blind baking-in dry storage)
- 4 eggs
- 1 3/4 cups milk
- 4 fluid ounces heavy cream
- Salt and freshly ground black pepper (to taste)
- Pinch of nutmeg

1. Preheat the oven to 350 degrees.
2. Fry the bacon in a small skillet until crispy. Drain on paper towels and set aside. (Set aside the bacon grease until it cools, and then dispose.)
3. Place the piecrust on a baking sheet and put a piece of parchment paper on top of the piecrust, pressing down lightly. Arrange a layer of dried beans evenly over the paper. Bake until the edges of the crust is lightly browned, about 12 minutes. Remove the crust from the oven and cool for a minute or two. Carefully grasp the corners of the parchment and lift the weights out of the piecrust. Allow the piecrust to cool for about 5 minutes.
4. Arrange the bacon and cheese in the piecrust.
5. To make the custard, combine the eggs, milk, and cream and season with salt, pepper and nutmeg. Pour the custard over the bacon and cheese and bake until the custard sets and is golden brown, about 1 hour. \*The center should be a little "jiggly" but it will set as it cools. (Residual heat)
6. Remove from the oven and cool for about 10 minutes before cutting into wedges to serve.  
\*\*A pizza cutter can be used to cut, then lift out with a small spatula.)

## Ham and Cheese Omelet

*Makes 1 servings*



### Equipment needed:

Scale  
Box grater  
Small mixing bowl  
Non-stick medium-size skillet  
Fork

- 3 eggs
  - Salt and freshly ground black pepper to taste
  - 1 tablespoon butter
  - 1/2 ounce diced ham
  - 1 tablespoon chopped green onions or chives, plus more for garnish
  - 2 tablespoons shredded cheddar
1. In a small bowl, combine the eggs and season with salt and pepper. Whisk the eggs together (use a fork) until frothy--we want to get some air in there).
  2. Melt the butter in a small to medium non-stick skillet over medium-high heat. Add the ham and cook, stirring, until just heated through.
  3. Carefully pour the eggs into the skillet. Stir the eggs gently as they cook. Stop when they begin to set. Lift the edges as the omelet cooks to allow the raw eggs to run underneath.
  4. When the eggs are nearly set, add the green onions (or chives) and cheese, and gently fold the front of the egg over and roll the omelet onto a plate. Serve warm.
  5. Garnish with green onions or chives.



## Chapter 3: *VEGETABLES*





*Long overcooked and underrated, vegetables are enjoying a welcome surge in popularity. Gone are the days when a chef included vegetables as an afterthought to the "meat and potatoes" of the meal. Now properly prepared fresh vegetables are used to add flavor, color and variety to almost any meal.*

*Many restaurants are featuring vegetarian entrees, an extensive selection of vegetable side dishes or an entire vegetarian menu. This trend reflects the demands of more knowledgeable and health-conscious consumers as well as the increased availability of high-quality fresh produce.*

*The term vegetable refers to any herbaceous plant that can be partially or, wholly eaten. An herbaceous plant has little or no woody tissue. The portions we consume include the leaves, stems, roots, tubers, seeds and flowers. Vegetables contain more starch and less sugar than fruits. Therefore, vegetables tend to be savory, not sweet. Also unlike fruits, vegetables are most often eaten cooked, not raw.*

**After studying this chapter, you will be able to:**

- Identify a variety of vegetables
- Purchase vegetables appropriate for your needs
- Store vegetables properly
- Understand how vegetables are preserved
- Prepare vegetables for cooking or service
- Apply various cooking methods to vegetables

## **MASTER CLASSES – VIDEO ON ASPARAGUS**

**Two chefs**

**Two preparations**

**Two cooking methods**

*Thomas Keller and Gordon Ramsey*

<https://www.masterclass.com/homepage>

*Jacques Pepin on artichokes*

[https://www.youtube.com/watch?v=SCCziQg\\_kow](https://www.youtube.com/watch?v=SCCziQg_kow)

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## *VEGETABLE IDENTIFICATION*

### *CABBAGES*

The Brassica or cabbage family includes a wide range of vegetables used for their heads, flowers or leaves. They are generally quick-growing, cool-weather crops. Many are ancient plants with unknown origins. They are inexpensive, readily available and easy to prepare.



*Bok Choy*

Bok choy, also known as ‘pok choy’, is a white-stemmed variety of southern Chinese cabbage. The relatively tightly packed leaves are dark green, with long white ribs attached at a bulbous stem. The stalks are crisp and mild with a flavor similar to romaine lettuce. Although bok choy may be eaten raw, it is most often stir-fried or used in soups.

Select heads with bright white stalks and dark green leaves; avoid those with brown, moist spots. Fresh bok choy is available all year. Jars of pickled and fermented bok choy (known as Korean kimchee) are also available.



*Broccoli*

Broccoli, a type of flower, has a thick central stalk with grayish-green leaves topped with one or more heads of green florets. Broccoli may be eaten raw or steamed, microwaved or sautéed and served warm or cold. Broccoli stalks are extremely firm and benefit from blanching. Stems are often slow-cooked for soups. Generally, broccoli leaves are not eaten.

- ✓ Select firm stalks with compact clusters of tightly closed dark green florets. Avoid stalks with yellow flowers. Broccoli is available all year.



### *Brussel Sprouts*

Brussels sprouts) were first cultivated around 1700. The plant produces numerous small heads arranged in neat rows along a thick stalk. The tender young sprouts are similar to baby cabbages and are usually steamed or roasted. Brussels sprouts have a strong, nutty flavor that blends well with game, ham, duck or rich meats.

- ✓ Select small, firm sprouts that are compact and heavy. The best size is 3/4 to 1 1/2 inches (2 to 4 centimeters) in diameter. They should be bright green and free of blemishes. Their peak season is from September through February.



### *Cauliflower*

Cauliflower is the king of the cabbage family. Each stalk produces one flower or head surrounded by large green leaves. The head, composed of creamy white florets, can be cooked whole or cut into separate florets for steaming, blanching or stir-frying.

- ✓ Select firm, compact heads. Any attached leaves should be bright green and crisp. A yellow color or spreading florets indicate that the vegetable is overly mature. Cauliflower is available all year, especially from the late fall through the spring.

### ***HEAD CABBAGES (GREEN AND RED)***

Cabbage has been a staple of northern European cuisine for centuries. The familiar green cabbage has a large, firm, round head with tightly packed pale green leaves. Flat and cone-shaped heads are also available. Red (or purple) cabbage is a different strain and may be tougher than green cabbage. Cabbage can be eaten raw (as in coleslaw), or used in soups or stews; it can be braised, steamed or stir-fried. The large, waxy leaves can also be steamed until soft, and then wrapped around a filling of seasoned meat.

- ✓ Select firm heads without dried cores. Cabbages are available all year.



### ***Kale***

Kale has large ruffled, curly or bumpy leaves. Its rather bitter flavor goes well with rich meats such as game, pork or ham. Kale is typically prepared boiled, stuffed, or used in soups.

- ✓ Select leaves that are crisp, with a grayish-green color. Kale is available all year; its peak season is during the winter months. Ornamental or flowering kale, sometimes marketed as "savoy," is edible, but its pink, purple, yellow or white -and-green variegated leaves are best used for decoration and garnish.



### ***Kohlrabi***

Although it looks rather like a round root, kohlrabi is actually a bulbous stem vegetable created by crossbreeding cabbages and turnips. Both the leaves (which are attached directly to the bulbous stem) and the roots are generally removed before sale. Depending on the variety, the skin may be light green, purple or green with a hint of red. The interior flesh is white, with a sweet flavor similar to that of turnips. (Kohlrabi can be substituted for turnip in many recipes.) Younger plants are milder and tenderer than large, mature ones. The outer skin must be removed from mature stems; young stems need only to be well scrubbed before cooking. Kohlrabi can be eaten raw, or it can be cooked (whole, sliced or diced) with moist-heat cooking methods such as boiling and steaming. Kohlrabi can be hollowed out and stuffed with meat or vegetable mixtures.

- ✓ Select small, tender stems with fresh, green leaves. Peak season for kohlrabi is from June through September.



### *Napa Cabbage*

Napa cabbage, also known as Chinese cabbage, is widely used in Asian cuisines. It has a stout, elongated head with relatively tightly packed, firm, pale green leaves. It is more moist and more tender than common green and red cabbages, with a milder, more delicate flavor. Napa cabbage may be eaten raw but is particularly well suited for stir-frying or steaming.

- ✓ Select heads with crisp leaves that are free of blemishes. Napa cabbage is available fresh all year.



### *Savoy*



Savoy cabbage has curly or ruffled leaves, often in variegated shades of green and purple. (The term savoy is used to refer to any vegetable with bumpy, wavy or wrinkled leaves.) Savoy cabbage tends to be milder and more tender than regular cabbages and can be substituted for them, cooked or uncooked. Savoy leaves also make an attractive garnish.

- ✓ Select heads that are loose or tight, depending on the variety, with tender, unblemished leaves. Peak season is from August through the spring.

## ***FRUIT-VEGETABLES***

Botanists classify avocados, eggplants, peppers and tomatoes as fruits because they develop from the ovary of flowering plants and contain one or more seeds. Chefs, however, prepare and serve them like vegetables; therefore, they are discussed here.



### ***Avocados***

Avocados include several varieties of pear-shaped fruits with rich, high-fat flesh. This light golden-green flesh surrounds a large, inedible, oval-shaped seed (pit). Some varieties have smooth, green skin; others have pebbly, almost black skin. Avocados should be used at their peak of ripeness, a condition that lasts only briefly. Firm avocados lack the desired flavor and creamy texture. Ripe avocados should be soft to the touch but not mushy. Ripe Haas avocados have almost - black skins; the skins of the other varieties remain green when ripe. Firm avocados can be left at room temperature to ripen and then refrigerated for one or two days. Avocados are generally used raw to garnish salads, mashed or pureed for sauces, sliced for sandwiches or diced for omelets. Avocado halves are popular containers for chilled meat, fish, and shellfish or poultry salads. Because avocado flesh turns brown very quickly once cut, dip avocado halves or slices in lemon juice and keep unused portions tightly covered with plastic wrap.

- ✓ Select avocados that are free of blemishes or moist spots. The flesh should be free of dark spots or streaks. Available all year, the peak season for Haas avocados is April through October; for Fuertes avocados, it is November through April.



### *Eggplants*

Two types of eggplants (Fr. Aubergine) are commonly available: Asian and western. Asian varieties are either round or long and thin, with skin colors ranging from creamy white to deep purple. Western eggplants, which are more common in the United States, tend to be shaped like a plump pear with a shiny lavender to purple-black skin. Both types have a dense, khaki-colored flesh with a rather bland flavor that absorbs other flavors well during cooking. Eggplants can be grilled, baked, steamed, fried or sautéed. They are commonly used in Mediterranean and Indian cuisines (especially in vegetarian dishes), but also appear in European and North American dishes. The skin may remain intact, or removed before or after cooking. Sliced eggplants may be salted and left to drain for 30 minutes to remove moisture and bitterness before cooking.

- ✓ Select plump, heavy eggplants with a smooth, shiny skin that is not blemished or wrinkled. Asian varieties tend to be softer than western. Eggplants are available all year; their peak season is during the late summer.

### *Eggplant – to salt or not salt?*

Eggplants are filled with cells that contain water and are surrounded by tiny air pockets. The presence of heat will squeeze the air out of the pockets. If the eggplant has not been salted, oil is then free to seep into these pockets and the eggplant becomes soggy when fried. But when salt is sprinkled on an eggplant, it draws the water out of the cells. The cells then collapse, which in turn makes the air pockets collapse. As a result, no oil can seep into the tiny pockets during the frying process.

### **PEPPERS**

Members of the Capsicum family are native to the New World. When "discovered" by Christopher Columbus, he called them "peppers" because of their sometimes-fiery flavor. These peppers, which include sweet peppers and hot peppers (chiles), are unrelated to peppercorns, the Asian spice for which Columbus was actually searching. Interestingly, New World peppers were readily accepted in Indian and Asian cuisines, in which they are now considered staples.

One can find fresh peppers in a wide range of colors - green, red, yellow, orange, purple and white - as well as shapes, from tiny teardrops to cones to spheres. They have dense flesh and a hollow central cavity. The flesh is lined with placental ribs (the white internal veins), to which tiny yellowish -white seeds are attached. A core of seeds is also attached to the stem end of each pepper.

Chile peppers get their heat from capsaicin, which is found not in the flesh or seeds, but in the placental ribs. Thus, a pepper's heat can be greatly reduced by carefully removing the ribs and attached seeds. Generally, the smaller the chile, the hotter it is. The amount of heat varies from variety to variety, however, and even from one pepper to another depending on growing conditions. Hot, dry conditions result in hotter peppers than do cool, moist conditions.

When selecting peppers, choose those that are plump and brilliantly colored with smooth, unblemished skins. Avoid wrinkled, pitted or blistered peppers. A bright green stem indicates freshness. The searing heat of a Scotch bonnet or habanero can burn. Wearing gloves is recommended when working with these chile peppers.

### *Pepper Varietals*



#### *Sweet Peppers*

Common sweet peppers, known as bell peppers, are thick -walled fruits available in green, red, yellow, purple, orange and other colors. They are heart- shaped or boxy, with a short stem and crisp flesh. Their flavor is warm, sweet (red peppers tend to be the sweetest) and relatively mild. Raw bell peppers may be sliced or diced and used in salads or sandwiches. Bell peppers can also be stuffed and baked, grilled, fried, sautéed or pureed for soups, sauces or condiments. Green bell peppers are available all year; other colors are more readily available during the summer and fall.





### *Hot Peppers*

Hot peppers, also known as chiles, are also members of the Capsicum family. Although a chile's most characteristic attribute is its pungency, each chile actually has a distinctive flavor, from mild and rich to spicy and sweet to fiery hot. Chiles are commonly used in Asian, Indian, Mexican and Latin American cuisines. The larger (and milder) of the hot peppers, such as Anaheim and poblano, can be stuffed and baked or sautéed as a side dish. Most chiles, however, are used to add flavor and seasoning to sauces and other dishes. Fresh chiles are available all year and are also available canned in a variety of processed forms such as whole or diced, roasted, pickled or marinated.

Dried chiles are widely used in Mexican, Central American and southwestern cuisines. They can be ground to create a powdered spice called chilli, or soaked in a liquid and then pureed for sauces or condiments. Drying radically alters the flavor of chiles, making them stronger and more pungent. Just as one type of fresh chile cannot be substituted for another without altering a dish's flavor, so too dried chiles cannot be substituted without flavor changes.

Choose dried chiles that are clean and unbroken, with some flexibility. Avoid any with white spots or a stale aroma. Drying changes not only the pepper's flavor, but also its name. Regional variations in chile names also add to the confusion. Several of the more frequently encountered chiles are listed here according to the names most commonly used for both their fresh and dried forms.

<b>Fresh (Fresco)</b>	<b>Dried (Seco)</b>
Anaheim	Mild red or California
Ancho	Ancho or pastilla
Chilaca	Pastilla or negro
Jalapeno	Chipotle (smoked)
Mirasol	Guajillo
New Mexico green	New Mexicored
New Mexico red	Chile Colorado
Pimento	Paprika
Poblano	Mulato

### *Tomatillos*



Tomatillos, also known as Mexican or husk tomatoes, grow on small, weedy bushes. They are bright green, about the size of a small tomato, and are covered with a thin, papery husk. They have a tart, lemony flavor and crisp, moist flesh. Although they are an important ingredient in southwestern and northern Mexican cuisines, tomatillos may not be readily available in other areas. Tomatillos can be used raw in salads, pureed for salsa or cooked in soups, stews or vegetable dishes.

- ✓ Select tomatillos whose husks are split, but still look fresh. The skin should be plump, shiny and slightly sticky. They are available all year; their peak season is during the summer and fall.



### *Tomatoes*

Tomatoes (Fr. *Tomate* or *pomme d'amour*; It. *pomodoro*) are available in a wide variety of colors and shapes. They vary from green (unripe) to golden yellow to ruby red; from tiny spheres (currant tomatoes) to huge, squat ovals (beefsteak). Some, such as the plum tomato, have lots of meaty flesh with only a few seeds; others, such as the slicing tomato, have lots of seeds and juice, but only a few meaty membranes. All tomatoes have a similar flavor, but the levels of sweetness and acidity vary depending on the species, growing conditions and ripeness at harvest.

Because tomatoes are highly perishable, they are usually harvested when mature but still green (unripe), then shipped to wholesalers who ripen them in temperature- and humidity-controlled rooms. The effect on flavor and texture is unfortunate. Tomatoes are used widely in salads, soups, sauces and baked dishes. They are generally eaten raw, but can be grilled, pickled, pan-fried, roasted, or sautéed as a side dish.

- ✓ Select fresh tomatoes that are plump with a smooth, shiny skin. The color should be uniform and true for the variety. Tomatoes are available all year; most varieties have a summer peak season. Many canned tomato products are also available such as puree, paste, sauce, or stewed whole). Sun-dried and air-dried tomatoes are available in crumbs, pieces, slivers, or halves, dry or packed in oil. The dry-pack version can be soaked in oil or steeped in hot water to soften before use.

## GOURDS AND SQUASHES

The Cucurbitaceous or gourd family includes almost 750 species; its members are found in warm regions worldwide. Gourds are characterized by large, complex root systems with quick-growing, trailing vines and large leaves. Their flowers are often attractive and edible. Although some members of the gourd family originated in Africa, chayotes and most squashes are native to the Americas.



### *Chayotes*

The chayote, also known as the merlito or vegetable pear, is a food staple throughout Central America. The vine bears slightly lumpy, pear-shaped fruits with a smooth, light green skin and a paler green flesh. There is a single white, edible seed in the center. Chayotes are starchy and very bland and are usually combined with more flavorful ingredients. They may be eaten raw, but their flavor and texture benefit from roasting, steaming, sautéing or grilling.

- ✓ Select chayotes that have well-colored skin with few ridges. Avoid those with very soft spots or bruises. Their peak season is the late fall and winter.



### *Cucumbers*

Cucumbers can be divided into two categories: pickling and slicing. The two types are not interchangeable. Pickling cucumbers include the cornichon, dill and gherkin. They are recognizable by their sharp black or white spines and are quite bitter when raw. Slicing cucumbers include the burpless, the seedless English (or hothouse), the lemon (which is round and yellow) and the common green market cucumber. Most have relatively thin skins and may be marketed with a wax coating to prevent moisture loss and improve appearance. Waxed skins should be peeled. All cucumbers are valued for their refreshing cool taste and astringency. Sliced cucumbers are usually served raw, in salads, or mixed with yogurt and dill, or mint as a side dish, especially for spicy dishes. Pickling cucumbers are generally served pickled, with no further processing.

- ✓ Select cucumbers that are firm but not hard. Avoid those that are limp or yellowed or have soft spots. The common varieties are available all year, although peak season is from April through October.

### **SQUASHES**

Squashes are the fleshy fruits of a large number of plants in the gourd family. Many varieties are available in a range of colors, shapes and sizes. Squashes can be classified as winter or summer based on their peak season and skin type. All squashes have a center cavity filled with many seeds, although in winter varieties the cavity is more pronounced. Squash blossoms are also edible; they may be added to salads raw, dipped in batter and deep-fried or filled with cheese or meat and baked.

- ✓ Select squashes with unbroken skins and good color for the variety. Avoid any squash with soft, moist spots.



### *Winter Squashes*

Winter squashes include the acorn, banana, butternut, Hubbard, pumpkin and spaghetti varieties. They have hard skins (shells) and seeds, neither of which is generally eaten. The flesh, which may be removed from the shell before or after cooking, tends to be sweeter and more strongly flavored than that of summer squash. Winter squashes are rarely used raw; they can be baked, steamed or sautéed. Most winter squashes can also be pureed for soups or pie fillings. Their peak season is October through March.



### *Summer Squashes*

Summer squashes include the patty pan, yellow crookneck and zucchini varieties. They have soft, edible skins and seeds that are generally not removed before cooking. Most summer squashes may be eaten raw, but are also suitable for grilling, sautéing, steaming or baking. Although summer squashes are now available all year, their peak season is April through September.

## **GREENS**

The term greens refers to a variety of leafy green vegetables that may be served raw, but are usually cooked. Greens have long been used in the cuisines of India, Asia and the Mediterranean and are an important part of regional cuisine in the southern United States. Most have strong, spicy flavors. The milder varieties of greens that are usually eaten raw include the lettuces.

Greens have an extremely high water content, which means that cooking causes drastic shrinkage. As a rule, allow 8 ounces (250 grams) per portion before cooking.



- ✓ Select young, tender greens with good color and no limpness. Avoid greens with dry-looking stems or yellow leaves. Most greens are available fresh all year, especially from November through June. The more popular greens are also available canned or frozen.



### *Collards*

Collard greens, often simply referred to as collards, are a type of cabbage with loose, leafy heads of bright green leaves. Collards have a sharp, tangy flavor and look like a cross between mustard greens and kale. Considered a staple ingredient in poverty cooking of the American South, collards are typically slow-simmered with ham hocks or bacon until very tender, then served with their cooking liquid. Collards are high in iron and vitamins A and C and are best if picked young or after the first frost of autumn.



### *Mustard*

Mustard, a member of the cabbage family, was brought to America by early European immigrants. Mustard has large, dark green leaves with frilly edges. It is known for its assertive, bitter flavor. Mustard greens can be served raw in salads or used as garnish. They can also be cooked, often with white wine, vinegar and herbs.

- ✓ Select crisp, bright green leaves without discoloration.



*Sorrel*

Sorrel is an abundant and rather ordinary wild member of the buck- wheat family. Its tartness and sour flavor are used in soups and sauces and to accent other vegetables. It is particularly good with fatty fish or rich meats. Sorrel leaves naturally become the texture of a puree after only a few minutes of moist-heat cooking.

- ✓ Select leaves that are fully formed, with no yellow blemishes.



*Spinach*

Spinach is a versatile green that grows rapidly in cool climates. It has smooth, bright green leaves attached to thin stems. Spinach may be eaten raw in salads, cooked by almost any moist-heat method, microwaved or sautéed. It can be used in stuffing, baked or creamed dishes, soups or stews. Spinach grows in sandy soil and must be rinsed repeatedly in cold water to remove all traces of grit from the leaves. It bruises easily and should be handled gently during washing. Stems and large midribs should be removed.

- ✓ Select bunches with crisp, tender, deep green leaves; avoid yellow leaves or those with blemishes.



*Swiss Chard*

Chard- the reference to "Swiss" is inexplicable- is a type of beet that does not produce a tuberous root. It is used for its wide, flat, dark green leaves. Chard can be steamed, sautéed, or used in soups. Its tart, spinach-like flavor blends well with sweet ingredients such as fruit.

- ✓ Select leaves that are crisp, with some curliness or savoring. Ribs should be an unblemished white or red.



*Turnip Greens*

The leaves of the turnip root have a pleasantly bitter flavor, similar to peppery mustard greens. The dark green leaves are long, slender and deeply indented. Turnip greens are best-eaten steamed, sautéed, baked or microwaved.

## **MUSHROOMS AND TRUFFLES**





### *Mushrooms*

Mushrooms are members of a broad category of plants known as fungi. (Fungi have no seeds, stems, or flowers; they reproduce through spores.) Mushrooms have a stalk with an umbrella-like top. Although not actually a vegetable, mushrooms are used and served in much the same manner as vegetables.

Several types of cultivated mushroom are available. They include the common (or white), shiitake, crimini (also known as the Italian brown), straw, enokidake (also called enoki) and cloud ear (also known as wood ear or Chinese black). Button mushrooms are the smallest, most immature form of the common mushroom. The largest cultivated mushroom is the portabella, which is actually an overgrown crimini; it can grow up to 6 inches (15 centimeters) in diameter.

**Mushroom safety.** Some mushrooms are deadly; others can cause severe illness. Picking edible mushrooms in the wild is not simply a process of comparing specimens with photographs or illustrations in a guidebook. So do not gather mushrooms from the wild unless you are accompanied by a well-trained, experienced mycologist or guide. Always purchase wild mushrooms from reputable purveyors.

Many wild mushrooms are gathered and sold by specialty purveyors. Because wild mushroom spores are spread around the world by air currents, the same item may be found in several areas, each with a different common name. Wild mushrooms have a stronger earthy or nutty flavor than cultivated mushrooms, and should generally be cooked before eating.

Mushrooms, whether cultivated or gathered from the wild, are available fresh, canned or dried. Because mushrooms are composed of up to 80 percent water, dried products are often the most economical, even though they may cost hundreds of dollars per pound. Dried mushrooms can be stored in a cool, dry place for months. When needed, they are rehydrated by soaking in warm water until soft, approximately 10 to 20 minutes.

Choose fresh mushrooms that are clean, without soft or moist spots or blemishes. Fresh cultivated mushrooms are generally available all year; fresh wild mushrooms are available seasonally, usually during the summer and fall. Cultivated mushrooms with exposed gills (the ridges on the underside of the umbrella-like top) are old and should be avoided. Fresh mushrooms can be refrigerated in an open container for up to 5 days. Normally, it is not necessary to peel mushrooms; if they are dirty, they should be quickly rinsed (not soaked) in cool water just before use.



*Truffles*

Truffles are actually tubers that grow near the roots of oak or beech trees. They can be cultivated only to the extent that oak groves are planted to encourage truffle growth. The two principal varieties are the Perigord (black) and the Piedmontese (white). Fresh truffles are gathered in the fall and are rarely marketed outside their locale. Truffles, especially white ones, have a strong aroma and flavor, requiring only a small amount to add their special flavor to soups, sauces, pasta and other items. Black truffles are often used as a garnish or to flavor pates, terrines, or egg dishes. Because fresh imported truffles can cost several hundred dollars per pound, most kitchens purchase truffles canned, dried or processed.



*Olives*

Olives are the fruit of a tree native to the Mediterranean area. Green olives are those harvested unripened; black olives are fully ripened. The raw fruit is inedibly bitter and must be washed, soaked and cured or pickled before eating. Green olives should have a smooth, tight skin. Ripe olives will be glossy but softer, with a slightly wrinkled skin. Many varieties and flavors are available, from the tiny black French Nicoise to the large purplish Greek Kalamata. Ripe black olives are packaged in a range of seven sizes, from small to super-colossal. Unripe green olives are available in eleven sizes, from sub-petite to super-colossal. Both black and green olives are available whole (with the pit), pitted, sliced, halved or in pieces. Pitted green olives are often stuffed with strips of pimento, jalapeno pepper, almonds, or other foods for flavor and appearance.

Olives are used as a finger food for snacks or hors d'oeuvre, or added to salads or pasta. They may even be cooked in breads, soups, sauces, stews and casseroles. A paste made of minced ripe olives, known as tapenade, is used as a dip or condiment.

## ONIONS

Onions are strongly flavored, aromatic members of the lily family. Most have edible grass-like or tubular leaves. Almost every culture incorporates them into its cuisine as a vegetable and for flavoring.



*Bulb Onions*

Onion Varietals

Common or bulb onions may be white, yellow (Bermuda or Spanish) or red (purple). Medium-sized yellow and white onions are the most strongly flavored. Larger onions tend to be sweeter and milder. Widely used as a flavoring ingredient, onions are indispensable in mirepoix. Onions are also prepared as a side dish by deep-frying, roasting, grilling, steaming or boiling. Pearl onions are small, about 1 / 2 inch (1.25 centimeters) in diameter, with yellow or white skins. They have a mild flavor and can be grilled, boiled, roasted or sautéed whole as a side dish, or used in soups or stews.

Sweet onion varieties include the Vidalia, Maui, Walla-Walla, Super Sweet and OSO Sweet. These bulb onions have a higher water content, more sugar and less sulfuric compounds than other onions. They are best for eating raw, making them good choices for sandwiches, salads, hamburgers and the like. Cooking destroys much of their perceived sweetness and special flavor. Each sweet onion variety is available for a brief period from January through August. All have a very short shelf life and should not be stored more than a few weeks.

- ✓ Select onions that are firm and dry and feel heavy. The outer skins should be dry and brittle. Avoid onions that have begun to sprout. Store onions in a cool, dry, well-ventilated area. Do not refrigerate onions until they are cut. With the exception of sweet onions, most varieties are available all year.



*Garlic*

Garlic is also used in almost all the world's cuisines. A head of garlic is composed of many small cloves. Each clove is wrapped in a thin husk or peel; the entire head is encased in several thin layers of papery husk. Of the three hundred or so types of garlic known, only three are commercially significant. The most common is pure white, with a sharp flavor. A Mexican variety is pale pink and more strongly flavored. Elephant garlic is apple-sized and particularly mild. Although whole bulbs can be baked or roasted, garlic is most often separated into cloves, peeled, sliced, minced or crushed and used to flavor a wide variety of dishes. When using garlic, remember that the more finely the cloves are crushed, the stronger the flavor will be. Cooking reduces garlic's pungency; the longer it is cooked, the milder it becomes.

- ✓ Select firm, dry bulbs with tightly closed cloves and smooth skins. Avoid bulbs with green sprouts. Store fresh garlic in a cool, well-ventilated place; do not refrigerate. Fresh garlic is available all year. Jars of processed and pickled garlic products are also available.



### *Leeks*

Leeks look like large, overgrown scallions with a fat white tip and wide green leaves. Their flavor is sweeter and stronger than scallions, but milder than common bulb onions. Leeks must be carefully washed to remove the sandy soil that gets between the leaves. Leeks can be baked, braised or grilled as a side dish, or used to season stock s, soups or sauce s.

- ✓ Select leeks that are firm, with stiff roots and stems. Avoid those with dry leave s, soft spots or browning. Leeks are available all year.



### *Scallions*

Scallions, also known as green onions or bunch onions, are the immature green stalks of bulb onions. The leaves are bright green with either a long and slender or a slightly bulbous white base. Green onions are used in stir-fries and as a flavoring in other dishes. The green tops can also be sliced in small rings and used as a garnish.

- ✓ Select scallions with bright green tops and clean white bulbs. Avoid those with limp or slimy leaves. Scallions are available all year; their peak season is the summer.



### *Shallots*

Shallots are shaped like small bulb onions with one flat side. When peeled, a shallot separates into multiple cloves, similar to garlic. They have a mild, yet rich and complex flavor. Shallots are the basis of many classic sauces and meat preparations; they can also be sautéed or baked as a side dish.

- ✓ Select shallots that are plump and well shaped. Avoid those that appear dry or have sprouted. Store shallots in a cool, dry, unrefrigerated place. Shallots are available all year.

### *PODS AND SEEDS*

Pod and seed vegetables include corn, legumes and okra. They are grouped together here because the parts consumed are all the seeds of their respective plants. In some cases, only the seeds are eaten; in others, the pod containing the seeds are eaten as well. Seeds are generally higher in protein and carbohydrates (starch and fiber) than other vegetables.



### *Corn*



Sweet corn is actually a grain, a type of grass. Corn kernels, like peas, are plant seeds. (Dried corn products are discussed in Chapter 23, Potatoes, Grains and Pasta.) The kernels, which may be white or yellow, are attached to a woody, inedible cob. The cob is encased by strands of hair-like fibers called silks and covered in layers of thin leaves called husks. Shuck the ears (remove the silks and husks) prior to cooking; the husks may be left on for roasting or grilling. Shucked ears can be grilled, boiled, microwaved or steamed. The kernels can be cut off the cob before or after cooking. Corn on the cob is available fresh or frozen; corn kernels are available canned or frozen.

- ✓ Select freshly picked ears with firm, small kernels. Avoid those with mold or decay at the tip of the cob or brownish silks. Summer is the peak season for fresh corn.

## LEGUMES

Beans and peas are members of the legume family, a large group of vegetables with double-seamed pods containing a single row of seeds. Of the hundreds of known varieties of beans, some are used for their edible pods, others for shelling fresh and some only for their dried seeds. Dried beans are actually several varieties of seeds or peas left in the pod until mature, then shelled and dried.



*Fresh Beans*

Beans used for their edible pods, commonly referred to as green beans, string beans, runner beans or snap beans, are picked when immature. Except for the stem, the entire pod can be eaten. This category includes the American green bean, the yellow wax bean and the French haricot vert, a long, slender pod with an intense flavor and tender texture. Any strings along the pod's seams should be pulled off before cooking. Beans may be left whole, cut lengthwise into thin slivers (referred to as French cut), or cut crosswise on the diagonal.

Shelling beans are those grown primarily for the edible seeds inside the pod. Common examples are flageolets, lima beans and fava (broad) beans. Their tough pods are not usually eaten.

All beans can be prepared by steaming, microwaving or sautéing. They can be added to soups or stews, and they blend well with a variety of flavors, from coconut milk to garlic and olive oil. Cooked beans can be chilled and served as a salad or erudite.

- ✓ Select beans that have a bright color without brown or soft spots. Large pods may be tough or bitter. The peak season for fresh beans is from April through December. Most bean varieties are available frozen or canned, including pickled and seasoned products.



### *Dried Beans*

Anthropologists report that for thousands of years, cultures worldwide have preserved some members of the legume family by drying. Common dried beans include kidney beans, pinto beans, chickpeas, lentils, black beans, black-eyed peas and split green peas. Shape is the clearest distinction among these products: Beans are oval or kidney-shaped; lentils are small, flat disks and peas are round.

Beans and peas destined for drying are left on the vine until they are fully matured and just beginning to dry. They are then harvested, shelled, and quickly dried with warm air currents. Some dried legumes are sold split, which means the skin is removed, causing the seed's two halves to separate. Most dried beans need to be soaked in water before cooking. Soaking softens and rehydrates the beans, thus reducing cooking time. Lentils and split peas generally do not require soaking, however, and will cook faster than beans. After soaking, beans are most often simmered or baked in a liquid until soft and tender. One type maybe substituted for another in most recipes, although variations in color, starch content, and flavor should receive consideration.

Dried beans and peas are available in bulk or in 1-pound (450-gram) poly-bags. They should be stored in a cool, dry place, but not refrigerated. Many of these beans are also available fully cooked, then canned or frozen. Some dried beans may be fermented or processed into flour, oil or bean curd.





### *Shelling Peas*

Of the shelling peas that are prepared fresh, the most common are green garden peas (English peas) and the French petit pois. Because they lose flavor rapidly after harvest, most shelling peas are sold frozen or canned. Shelling peas have a delicate, sweet flavor best presented by simply steaming until tender but still al dente. Peas may also be braised with rich meats such as ham, or used in soups. Cooked peas are attractive in salads or as garnish.

Choose small fresh pea pods that are plump and moist. Peak season is April and May. Fresh green soy beans (soya) (Japanese: edamame) are becoming a popular shelling pea in the United States. When picked before maturity, soybeans have a light green, fuzzy pod and a tender, sweet pea. Fresh green soybeans are delicious steamed in the pod, then chilled, popped open and eaten out of hand as a snack. Often served in sushi restaurants or with other Asian cuisines, they are extremely high in protein, fiber and phytochemicals. When allowed to mature and then prepared like other dried beans, however, soybeans become extremely tough, hard to digest and bitter. Mature soybeans are best used for processing into oil, tofu, sauce and other foodstuffs.



### *Edible Pea Pods*

Snow peas, also known as Chinese pea pods, are a common variety of edible pea pod. They are flat and have only a few very small green peas. Snow peas have a string along their seams that can be removed by holding the leafy stem and pulling from end to end. The pods can be eaten raw, lightly blanched or steamed, or stir-fried.

Another variety of edible pea pod is the sugar snap pea, a cross between the garden pea and snow pea, which was developed during the late 1970s. They are plump, juicy pods filled with small, tender peas. The entire pod is eaten; do not shell the peas before cooking.

- ✓ Select pea pods that are firm, bright green and crisp. Avoid those with brown spots or a shriveled appearance. Pea pods are available all year; their peak season is in March and April.



### *Okra*

Okra, a common ingredient in African and Arab cuisines, was brought to the United States by slaves and French settlers. It is now integral to Creole, Cajun, southern and southwestern cuisines. Its mild flavor is similar to that of asparagus. Okra is not eaten raw; it is best pickled, boiled, steamed or deep-fried. Okra develops a gelatinous texture when cooked for long periods, so it is used to thicken gumbos and stews. To avoid the slimy texture some find objectionable, do not wash okra until ready to cook, then trim the stem end only. Cook okra in stainless steel because other metals cause discoloration.

- ✓ Select small to medium pods (1 1/2 to 2 inches [3.75 to 5 centimeters]) that are deep green, without soft spots. Pale spears with stiff tips tend to be tough. Okra's peak season is from June through September. Frozen okra is widely available.

## **ROOTS AND TUBERS**

Taproots (more commonly referred to as roots) are single roots that extend deep into the soil to supply the above-ground plant with nutrients. Tubers are fat underground stems. Most roots and tubers can be used interchangeably. All store well at cool temperatures, without refrigeration.



### *Beets*

Although records suggest that they were first eaten in ancient Greece, beets are most often associated with the colder northern climates, where they grow for most of the year. Beets can be boiled, then peeled and used in salads, soups or baked dishes.

- ✓ Select small to medium -sized beets that are firm, with smooth skins. Avoid those with hairy root tips, as they may be tough. Beets are available all year; their peak season is March to October.



### *Carrots*

Carrots, large taproots, are among the most versatile of vegetables. Although several kinds exist, the Imperator is the most common. It is long and pointed, with a medium to dark orange color and a mild, sweet flavor. Carrots can be cut into a variety of shapes and eaten raw, used for a mirepoix or prepared by moist-heat cooking methods, grilling, microwaving or roasting. They are also grated and used in baked goods, particularly cakes and muffins.

- ✓ Select firm carrots that are smooth and well-shaped, with a bright orange color. If the tops are still attached, they should be fresh-looking and bright green. Carrots are available all year.



### *Celery Root*

Celery root, also known as celeriac, is a large, round root, long popular in northern European cuisines. It is a different plant from stalk celery, and its stalks and leaves are not eaten. Celery root has a knobby brown exterior; a creamy white, crunchy flesh; and a mild, celery-like flavor. Its thick outer skin must be peeled away; the flesh is then cut as desired. Often eaten raw, celery root can be baked, steamed or boiled. It is used in soups, stews or salads and goes well with game and rich meats. Raw celery root may be placed in acidulated water to prevent browning.

- ✓ Select small to medium -sized roots that are firm and relatively clean, with a pungent smell. Their peak season is October through April.



### *Jerusalem artichoke*

Despite their name, Jerusalem artichokes are actually tubers from a variety of sunflower unrelated to artichokes. Consequently, growers are now marketing these vegetables as sun chokes. Their lumpy brown skin is usually peeled away (even though it is edible) to reveal a crisp, white interior with a slightly nutty flavor. While they may be eaten raw, it is preferable to cook them before serving to make them easier to digest. Jerusalem artichokes are eaten chopped or grated into salads, boiled or steamed for a side dish, or a soup.



### *Jicama*

Jicama is actually a legume that grows underground as a tuber. It is becoming increasingly popular because of its sweet, moist flavor; crisp texture; low calorie content; and long shelf life. After its thick brown skin is cut away, the crisp, moist white flesh can be cut as desired. Jicama is often eaten raw in salads, with salsa or as a crudité. It is also used in stir-fried dishes.

- ✓ Select firm, well-shaped jicamas that are free of blemishes. Size is not an indication of quality or maturity. They are available all year; their peak season is January through May.



### *Parsnips*

Parsnips are taproots that look and taste like white carrots and have the texture of sweet potatoes. Parsnips should be 5 to 10 inches (12.5 to 25 centimeters) in length, with smooth skins and tapering tips. Parsnips, peeled like carrots, can be eaten raw or cooked by almost any method. When steamed until very soft, they can be mashed like potatoes.

- ✓ Select small to medium -sized parsnips that are firm, smooth and well-shaped; avoid large, woody ones. Parsnips are available all year; their peak season is December through April.



### *Radishes*

Radishes are used for their peppery flavor and crisp texture. Radishes are available in many colors, including white, black and all shades of red; most have a creamy to pure white interior. Asian radishes, known as daikon, produce roots 2 to 4 inches (5 to 10 centimeters) in diameter and 6 to 20 inches (15 to 20 centimeters) long. Radishes can be steamed or stir-fried, but most often are eaten raw or in salads or used as garnish. Radish leaves can be used in salads or cooked as greens.

- ✓ Select radishes that are firm, not limp. Their interior should be neither dry nor hollow. Radishes are available all year.

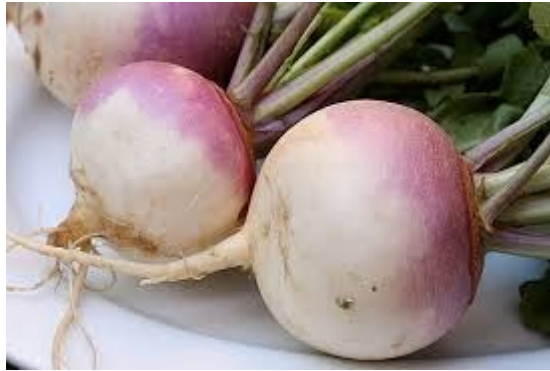


### *Rutabagas*

Rutabagas are a root vegetable and a member of the cabbage family. Their skin is purple to yellow, and they have yellow flesh with a distinctive starchy, cabbage-like flavor. Rutabagas and turnips are similar in flavor and texture when cooked and may be used interchangeably. Rutabaga leaves are not eaten. Rutabagas should be peeled with a vegetable peeler or chef's knife, then cut into quarters, slices or cubes. They are often baked, boiled and then pureed, or sliced and sautéed. They are especially flavorful when seasoned with caraway seeds, dill or lemon juice.



- ✓ Select small to medium-sized rutabagas that are smooth and firm and feel heavy. Their peak season is January through March.



### *Turnips*

A root vegetable from the cabbage family, turnips have white skin with a rosy-red or purple blush and a white interior. Their flavor, similar to that of a radish, can be rather hot. Turnips should be peeled, then diced, sliced or julienned for cooking. They may be baked or cooked with moist-heat cooking methods, and are often pureed like potatoes.

- ✓ Select small to medium-sized turnips that have smooth skin and feel heavy. They should be firm, not rubbery or limp. Any attached leaves should be bright green and tender. Spring is their peak season.



### *Water Chestnuts*

Water chestnuts are the tuber of an Asian plant that thrives in water. The brownish-black skin is peeled away to reveal a moist, crisp, white interior, which can be eaten raw or cooked. When cooked, water chestnuts retain their crunchy texture, making them a popular addition to stir-fried dishes. They are also used in salads and casseroles or wrapped in bacon for rumaki hors d'oeuvre.

## STALKS

Stalk vegetables are plant stems with a high percentage of cellulose fiber. These vegetables should be picked while still young and tender. Tough fibers should be trimmed before cooking.



### *Artichokes*

Artichokes are the immature flowers of a thistle plant introduced to America by Italian and Spanish settlers. Young, tender globe artichokes can be cooked whole, but more mature plants need to have the fuzzy center (known as the choke) removed first. Whole artichokes can be simmered, steamed or microwaved; they are often served with lemon juice, garlic butter or hollandaise sauce. The heart may be cooked separately, then served in salads, pureed as a filling, or served as a side dish. Artichoke hearts and leafless artichoke bottoms are both available canned.

- ✓ Select fresh artichokes with tight, compact heads that feel heavy. Their color should be so lid green to gray-green. Brown spots on the surface caused by frost are harmless. Artichokes' peak season is March through May.



### *Asparagus*

Asparagus, a member of the lily family, has bright green spears with a ruffle of tiny leaves at the tip. Larger spears tend to be tough and woody, but can be used in soups or for puree. Asparagus is eaten raw or steamed briefly, stir-fried, micro-waved or grilled. Fresh spring asparagus is excellent with nothing more than lemon juice or clarified butter; asparagus with hollandaise sauce is a classic preparation.



- ✓ Select firm, plump spears with tightly closed tips and a bright green color running the full length of the spear. Asparagus should be stored refrigerated at 40°F (4°C), upright in 1/2 inch (1.25 centimeters) of water or with the ends wrapped in moist paper toweling. The stalks should not be washed until just before use. Canned and frozen asparagus are also available. Peak season is March through June.

A European variety of white asparagus is sometimes available fresh, or readily available canned. It has a milder flavor and soft, tender texture. It is produced by covering the stalks with soil as they grow; this prevents sunlight from reaching the plant and retards the development of chlorophyll.



***Bamboo Shoots***

Stripped of their tough brown outer skins, the tender young shoots of certain varieties of bamboo are edible. They make excellent additions to stir-fried dishes or can be served like asparagus. Although fresh shoots are available in Asia, canned peeled shoots packed in brine or water are more common in the United States. Canned shoots should be rinsed well before use.



***Celery***

Once a medicinal herb, stalk celery is now a common sight in kitchens worldwide. Stalk celery is pale green with stringy curved stalks. Often eaten raw in salads or as a snack, it can be braised or steamed as a side dish. Celery is also a mirepoix component.

- ✓ Select stalks that are crisp, without any sign of dryness. Celery is available all year.



### *Fennel*

Fennel is a Mediterranean favorite used for thousands of years as a vegetable (the bulb), an herb (the leaves) and a spice (the seeds). The bulb (often incorrectly referred to as sweet anise) has short, tight, over-lapping celery-like stalks with feathery leaves. The flavor is similar to that of anise or licorice, becoming milder when cooked. Fennel bulbs may be eaten raw or grilled, steamed, sautéed baked or microwaved.

- ✓ Select a fairly large, bright white bulb on which the cut edges appear fresh, without dryness or browning. The bulb should be compact, not spreading. Fresh fennel's peak season is September through May.



### *Hearts of Palm*

Hearts of palm are the tender interiors of stems from cabbage palm trees. They are ivory-colored and slender, with a delicate flavor similar to that of asparagus. Fresh hearts of palm are sometimes available in Florida (where they are grown); canned ones are widely available everywhere here. Hearts of palm are generally used uncooked in salads or marinated in herb vinaigrette.



### *Nopales*

The pads of a prickly pear cactus can be prepared as a vegetable known as nopales. Cactus pads have a flavor similar to that of green bell peppers. Their texture tends to be rather gelatinous or mucilaginous, making them good for stews or sauces. To prepare fresh nopales, hold the pad with tongs and cut off the thorns and "eyes" with a sharp knife or vegetable peeler. Trim off the edge all the way around. Slice the pad into julienne strips or cubes. The pieces can be boiled or steamed and served hot, or chilled and added to salads. Nopales can also be sautéed with onions, peppers and seasonings for a side dish or added to southwestern-style casseroles.

Some cultivated varieties have thin, thornless pads. Choose pads that are stiff and heavy without blemishes. They should not be dry or soggy. Fresh cactus pads are available all year, with peak season in the late spring. Canned and pickled nopales are also available.

### **BABY VEGETABLES**

Many fine restaurants serve baby vegetables: tiny turnips, finger-length squash, miniature carrots and petite heads of cauliflower. First cultivated in Europe but now widely available throughout the United States, baby vegetables include both hybrids bred to be true miniatures as well as regular varieties that are picked before maturity. Baby vegetables are often marketed with blossoms or greens still attached. They tend to be easily bruised and are highly perishable. Many baby vegetables can be eaten raw, but they are usually left whole, then steamed or lightly sautéed and attractively presented as an accompaniment to meat, fish or poultry entrees.

### **NUTRITION**

Most vegetables are more than 80 percent water; the remaining portions consist of carbohydrates (primarily starches) and small amounts of protein and fat. The relative lack of protein and fat makes most vegetables especially low in calories.

Much of a vegetable's physical structure is provided by generally indigestible substances such as cellulose and lignin, also known as fiber. This fiber produces the characteristic stringy, crisp or fibrous textures associated with vegetables.

Vegetables are also a good source of vitamins and minerals. Care must be taken during preparation to preserve their nutritional content, however. Once peeled or cut, vegetables lose nutrients to the air or to any liquid in which they are allowed to soak. Vitamins are concentrated just under the skin, so peel vegetables thinly, if at all.

### ***USDA ORGANIC DESIGNATION***

Great strides in agriculture have been made during the past two centuries. Pesticides, fungicides and herbicides now eliminate or control pests that once would have devoured, ruined or choked crops. Chemical fertilizers increase yields of many of the world's staples. However, not everyone has greeted these developments with open arms.

During the past few decades, scientific and medical investigators have documented, or at least suggested, health risks associated with certain synthetic pesticides, fertilizers and other products. These findings have led to a renewed interest in a now multibillion-dollar-a-year back-to-the-basics approach to farming organic farming. Specialty farms, orchards and even wineries now offer organically grown products (or, in the case of wineries, wines made from organically grown grapes). These products come with few, if any, intentional additives and should be free of any incidental additives. Proponents argue that these products are better for you and better for the health of the farm workers.

The U.S. Department of Agriculture regulates the production and labeling of organically grown foods. It requires that any natural food labeled "100 percent organic" must contain only organic ingredients—that is, those grown and manufactured without the use of added hormones, pesticides, synthetic fertilizers, and so on; soil cannot have been treated with unapproved synthetics for three years for a crop to be called organic. To be labeled organic, or to display the USDA organic seal, processed foods must contain at least 95 percent organic ingredients by weight. Processed foods with 70 to 95 percent organic ingredients may be labeled "made with organic ingredients"; processed foods with less than 70 percent organic ingredients may list those ingredients on the information panel but may not use the term organic anywhere on the front of the package.

### ***PURCHASING AND STORING FRESH VEGETABLES***

Fresh vegetables should be selected according to seasonal availability. Using a vegetable at the peak of its season has several advantages: Price is at its lowest, selection is at its greatest and the vegetable's color, flavor and texture are at their best.

### ***GRADING***

The USDA has a voluntary grading system for fresh vegetables traded on wholesale markets. The system is based on appearance, condition and other factors affecting waste or eating quality.

Grades for all vegetables include, in descending order of quality, U.S. Extra Fancy, U.S. Fancy, U.S. Extra No. 1 and U.S. No.1. There are also grades that apply only to specific vegetables, for example, U.S. No. 1 Boilers for onions. Consumer or retail grading is currently required only for potatoes, carrots and onions. It uses alphabetical listings, with Grade A being the finest.

### **PURCHASING**

Fresh vegetables are sold by weight or count. They are packed in cartons referred to as cases, lugs, bushels, flats or crates. The weight or count packed in each of these containers varies depending on the size and type of vegetable as well as the packer. For example, celery is packed in 55-pound cartons containing 18 to 48 heads, depending on the size of each head.

Some of the more common fresh vegetables (for example, onions, carrots, celery and lettuces) can be purchased from wholesalers trimmed, cleaned and cut according to your specifications. Although the unit price will be higher for diced onions than for whole onions, for example, the savings in time, labor, yield-loss and storage space can be substantial. Processed vegetables may suffer a loss of nutrients, moisture and flavor, however.

### **RIPENING**

Although vegetables do not ripen in the same manner as fruits, they do continue to breathe (respire) after harvesting. The faster the respiration rate, the faster the produce ages or decays. This decay results in wilted leaves and dry, tough or woody stems and stalks.

Respiration rates vary according to the vegetable variety, its maturity at harvest and its storage conditions after harvest.

Ripening proceeds more rapidly in the presence of ethylene gas. Ethylene gas is emitted naturally by fruits and vegetables and can be used to encourage further ripening in some produce, especially fruit-vegetables such as tomatoes. Items harvested and shipped when mature but green (unripe) can be exposed to ethylene gas to induce color development (ripening) just before sale.

### **STORING**

Some fresh vegetables are best stored at cool temperatures, between 40°F and 60°F (4°C and 16°C), ideally in a separate produce refrigerator. These include winter squash, potatoes, onions, shallots and garlic. If a produce refrigerator is not available, store these vegetables at room temperature in a dry area with good ventilation. Do not store them in a refrigerator set at conventional temperatures. Colder temperatures convert the starches in these vegetables to sugars, changing their texture and flavor.

Most other vegetables benefit from cold storage at temperatures between 34°F and 40°F (2°C and 4°C) with relatively high levels of humidity. Greens and other delicate vegetables should be stored away from apples, tomatoes, bananas and melons, as the latter give off a great deal of ethylene gas.

Preservation techniques are designed to extend the shelf life of vegetables. These methods include irradiation, canning, freezing and drying. Except for drying, these techniques do not substantially change the vegetable's texture or flavor. Canning and freezing can also be used to preserve cooked vegetables.

### ***IRRADIATED VEGETABLES***

The irradiation process uses ionizing radiation (usually gamma rays of cobalt 60 or cesium 137) to sterilize foods. When foods are subjected to radiation, parasites, insects and bacteria are destroyed, ripening is slowed and sprouting is prevented. Irradiation works without a noticeable increase in temperature; consequently, the flavor and texture of fresh foods are not affected. Some nutrients, however, may be destroyed. Irradiated vegetables do not need to be sprayed with post-harvest pesticides, and they have an extended shelf life.

The FDA classifies irradiation as a food additive. Although irradiation is not yet approved for all foods, grains, fruits and vegetables may be treated with low-dose radiation. Irradiated foods must be labeled "Treated with radiation" or "Treated by irradiation."

### ***HYDROPONICS: WORKING WATER***

Hydroponics is the science of growing plants without soil in water. Plants are grown in an inert medium such as gravel, peat, sand or other sterile material.

Nutrients are distributed in water that is circulated over the plant's roots. In a hydroponic farm, the temperatures and light are controlled to maximize production. Because hydroponic farms are indoors, plants can be grown in any climate; both Canada and Holland are major producers of vegetables grown under these conditions.

### ***CANNED VEGETABLE***

Canned vegetables are the backbone of menu planning for many food service operations. In commercial

canning, raw vegetables are cleaned and placed in a sealed container, then subjected to high temperatures for a specific period. Heating destroys the microorganisms that cause spoilage, and the sealed environment created by the can eliminates oxidation and retards decomposition. However, the heat required by the canning process also softens the texture of most vegetables and alters their nutritional content; many vitamins and minerals may be lost through the canning process. Green vegetables may also suffer color loss, becoming a drab olive hue.

Canned vegetables are graded by the USDA as U.S. Grade A or Fancy, U.S. Grade B or Extra-Select, and U.S. Grade C or Standard. U.S. Grade A vegetables must be top quality, tender and free of blemishes. U.S. Grade C vegetables may lack uniformity or flavor, but can be used in casseroles or soups if cost is a concern.

Combinations of vegetables as well as vegetables with seasonings and sauces are available canned. For example, corn kernels are available canned in water, in seasonings and sauces, combined with other vegetables or creamed. Canned vegetables are easy to serve because they are essentially fully cooked during the canning process.

Canned vegetables are purchased in cases of standard-sized cans. Canned vegetables can be stored almost indefinitely at room temperature. Once a can is opened, any unused contents should be transferred to an appropriate storage container and refrigerated. Cans with bulges should be discarded immediately, without opening.

### ***FROZEN VEGETABLES***

Frozen vegetables are almost as convenient to use as canned. However, they often require some cooking, and expensive freezer space is necessary if an inventory is to be maintained. Regardless, freezing is a highly effective method for preserving vegetables. It severely inhibits the growth of microorganisms that cause spoilage without destroying many nutrients. Generally, green vegetables retain their color, although the appearance and texture of most vegetables may be somewhat altered because of their high water content: Ice crystals form from the water in the cells and burst the cells walls.

Some vegetables are available individually quick-frozen (IQF). This method employs blasts of cold air, refrigerated plates, liquid nitrogen, liquid air or other techniques to chill the vegetables quickly. Speeding the freezing process can greatly reduce the formation of ice crystals.

Combinations of vegetables as well as vegetables with seasonings and sauces are available frozen. Some frozen vegetables are raw when frozen; others are blanched before freezing so that final cooking time is reduced. Many others are fully cooked before freezing and need only to be thawed or heated for service. Frozen vegetables generally do not need to be thawed before being heated. Once thawed or cooked, they should be stored in the refrigerator and reheated in the same manner as fresh vegetables. Do not refreeze previously frozen vegetables.

Frozen vegetables are graded in the same manner as canned vegetables. They are usually packed in cases containing 1- to 2-pound (450- to 900-gram) boxes or bags. All frozen vegetables should be sealed in moisture-proof wrapping and kept at a constant temperature of 0°F (-18°C) or below. Temperature fluctuations can draw moisture from the vegetables, causing poor texture and flavor loss. Adequate packaging also prevents freezer burn, an irreversible change in the color, texture and flavor of frozen foods.





## ***DRIED VEGETABLES***

Except for beans, peas, peppers, mushrooms and tomatoes, few vegetables are commonly preserved by drying. Unlike other preservation methods, drying dramatically alters flavor, texture and appearance. The loss of moisture concentrates flavors and sugars and greatly extends shelf life.

## ***ACID/ALKALI REACTIONS***

The acid or alkali content of the cooking liquid affects the texture and color of many vegetables. This is of greater concern with moist-heat cooking methods, but it is also a consideration with city-heat cooking methods, as they often call for blanched or parboiled vegetables.

## ***TEXTURE***

The acidity or alkalinity of the vegetable's cooking liquid influences the finished product's texture. If an acid such as lemon juice, vinegar or wine is added to the liquid for flavoring, the vegetable will resist softening and will require a longer cooking time. On the other hand, an alkaline cooking medium will quickly soften the vegetable's texture and may cause it to become mushy. Alkalinity also causes nutrient loss (especially thiamin) and may impart a bitter flavor. Alkalinity can be caused by tap water, detergent residue on utensils or the addition of baking soda (a base) to the cooking liquid. (You could add, for example, 1/8 teaspoon [0.6 milliliter] baking soda per cup [225 milliliters] of beans to speed the softening of dried beans.)

## ***COLOR***

The acidity or alkalinity of the liquid also affects the plant's pigments, causing both desirable and undesirable color changes. There are three principal pigment categories: chlorophyll, carotenoid and flavonoid. A plant's unique color is the result of a combination of these pigments. Chlorophyll pigments pre- dominate in green vegetables such as spinach, green beans and broccoli. Carotenoid pigments predominate in orange and yellow vegetables such as carrots, tomatoes, red peppers and winter squashes. Flavonoid pigments predominate in red, purple and white vegetables such as red cabbage, beets and cauliflower.

Initially, as vegetables are cooked, their original colors intensify. Exposure to heat makes pigments, especially chlorophyll, appear brighter. Exposure to acids and bases affects both chlorophyll and flavonoid pigments. Acids will gradually turn green vegetables an olive-drab color, while a slight alkalinity promotes chlorophyll retention. The opposite occurs with vegetables containing flavonoids: They retain desirable colors in a slightly acidic environment while losing colors in an alkaline one. (Carotenoids are not affected by either acidity or alkalinity.) Color changes alone do not affect flavor, but the altered appearance can make the product so visually unappealing as to become inedible.

Colors also change as the naturally occurring acids in vegetables are released during cooking. If the cooking pan is kept covered, the acids can concentrate, creating richer flavonoid pigments but destroying chlorophyll pigments.

Thus, if color is the one and only concern, vegetables with a high amount of chlorophyll should be cooked in an alkaline liquid, and vegetables, with a high amount of flavonoids should be cooked in an acidic liquid. Remember, the improvement in color usually comes at the expense of texture and nutrients.

Acid & Alkali Reactions

		Effects of Acid on:		Effect of Alkali on:		
VEGETABLE	PIGMENT FAMILY	COLOR	TEXTURE	COLOR	TEXTURE	COOK COVERED.
Spinach, broccoli	chlorophyll	drab olive green	firm	bright green	mushy	no
Carrots, rutabagas	carotenoid	no change	firm	no change	mushy	no difference
Cauliflower	flavonoid	white	firm	yellow	mushy	yes
Red cabbage	flavonoid	red	firm	blue	mushy	yes

\*Alkalinity always causes a loss of thiamin and other nutrients.

GUIDELINES FOR VEGETABLE COOKERY

The following general guidelines for vegetable cookery should be considered regardless of the cooking method used:

1. Vegetables should be carefully cut into uniform shapes and sizes to promote even cooking and provide an attractive finished product.
2. Cook vegetables for as short a time as possible to preserve texture, color and nutrients.
3. Cook vegetables as close to service time as possible. Holding vegetables in a steam tab le continues to cook them.
4. When necessary, vegetables may be blanched in advance, refreshed in ice water and refrigerated. They can then be reheated as needed.
5. White and red vegetables (those with flavonoid pigments) may be cooked with a small amount of acid such as lemon juice, vinegar or white wine to help retain their color.
6. When preparing an assortment of vegetables, cook each type separately, and then combine them. Otherwise, some items would become overcooked in the time required to properly cook others.

DONENESS

There are so many types of vegetables, with such varied responses to cooking, that no one standard for doneness is appropriate. Each item should be evaluated on a recipe-by-recipe basis. Generally, however, most cooked vegetables are done when they are just tender when pierced with a fork or the tip of a paring knife. Leafy vegetables should be wilted but still have a bright color.

Avoid overcooking vegetables by remembering that some carryover cooking will occur through the residual heat contained in the foods. Always rely on subjective tests-sight, feel, taste and aroma- rather than the clock.

## *DRY-HEAT COOKING METHODS*

### ***BROILING AND GRILLING***

Broiling and grilling use high heat to cook vegetables quickly. This preserves their nutritional content and natural flavors. The radiant heat of the broiler or grill caramelizes the vegetables, creating a pleasant flavor that is not generally achieved when vegetables are cooked by other methods.

#### **Selecting and Preparing Vegetables to Broil or Grill**

Broiling is often used to cook soft vegetables such as tomatoes or items that might not rest easily on a grill rack. Broiling is also used to warm and brown items just before service. If necessary, the

vegetables can be basted to prevent them from drying out under the broiler's direct heat. Sometimes a cooked vegetable is napped with sauce or clarified butter and placed briefly under the broiler as a finishing touch at service time.

A large range of vegetables can be grilled. Carrots, peppers, squashes, eggplants and similar vegetables should be cut into broad, thin slices. They can then be placed on the grill in the same manner as a portion of meat or fish to create attractive crosshatchings. Smaller vegetables such as mushrooms, cherry tomatoes and pearl onions can be threaded onto skewers for easy handling. (Bamboo or wooden skewers should be soaked in cold water for 15 minutes before using to help prevent them from burning on the grill.)

#### **Seasoning Vegetables to Be Broiled or Grilled**

Vegetables contain little fat and therefore benefit greatly from added fat when being broiled or grilled. The added fat can be a brushing of clarified butter or a marinade such as one made from olive oil and herbs. Some vegetables may be brushed with butter and coated with breadcrumbs or Parmesan before broiling.

## **ROASTING AND BAKING**

The terms **roasting** and **baking** are used interchangeably when referring to vegetables. Roasting or baking is used to bring out the natural sweetness of many vegetables while preserving their nutritional values. The procedures are the same as those for roasting meats.

### **Selecting and Preparing Vegetables to Roast or Bake**

Hearty vegetables such as winter squash and eggplant are especially well suited for roasting or baking. Vegetables such as onions, carrots and turnips are sometimes cooked alongside roasting meats or poultry. The vegetables add flavor to the finished roast and accompanying sauce, and the fats and juices released from the cooking roast add flavor to the vegetables.

### **Seasoning Vegetables to Be Roasted or Baked**

Vegetables may be seasoned with salt and pepper, and rubbed with butter, or oil, before baking, or they may be seasoned afterward with a wide variety of herbs and spices. Some vegetables, such as winter squashes and sweet potatoes, may be seasoned with brown sugar or honey as well.

## **SAUTEING**

Sautéed vegetables should be brightly colored and slightly crisp when done and show little moisture loss. When sautéing vegetables, all preparation must be complete before cooking begins because timing is important and cooking progresses rapidly. Have all vegetables, herbs, spices, seasonings and sauces ready before beginning.

### **Selecting and Preparing Vegetables to Sauté**

A wide variety of vegetables can be sautéed. Whatever vegetables are used, they should be cut into uniform-sized pieces to ensure even cooking. Quick-cooking vegetables such as summer squashes, onions, greens, stalks, fruit-vegetables and mushrooms can be sautéed without any preparation except washing and cutting. Other vegetables such as Brussels sprouts, green beans, winter squashes, broccoli, cauliflower and most root vegetables are usually first.

## **PAN-FRYING**

Pan-frying is not as popular as other techniques for cooking vegetables. Green tomatoes, however, are sometimes seasoned, floured and pan-fried; eggplant slices are seasoned, floured, pan-fried and used for eggplant Parmesan.

## ***DEEP-FRYING***

Deep-frying is a popular method of preparing vegetables such as potatoes, squashes and mushrooms. They can be served as hors d'oeuvre, appetizers or accompaniments to a main dish. Vegetables can also be grated or chopped and incorporated into fritters or croquettes. Any deep-fried item should have a crisp, golden exterior with a tender, non-greasy center.

### **Selecting and Seasoning Vegetables to Be Deep-Fried**

Except for potatoes, most vegetables are breaded or battered before deep -frying. Slow cooking vegetables such as broccoli and cauliflower should be blanched in boiling water before breading or battering. Blanching speeds cooking and allows the interior to cook completely before the surface bums.

Although vegetables that will be deep-fried can be marinated or seasoned directly, it is more common to season the batter or breading that will cover them. Additional flavors come from the sauces and accompaniments served with the deep-fried vegetables. Creamy herb dressings, spicy tomato, or soy-based dipping sauces.

## ***MOIST-HEAT COOKING METHODS***

### ***BLANCHING AND PARBOILING***

Blanching and parboiling are variations on boiling; the difference between them is the length of cooking time. Blanched and parboiled vegetables are often finished by other cooking methods such as sautéing.

Blanching is the partial cooking of foods in a large amount of boiling water for a very short time, usually only a few seconds. Besides preparing vegetables for further cooking, blanching is used to remove strong or bitter flavors, soften firm foods, set colors or loosen skins for peeling. Kale, chard, snow peas and tomatoes are examples of vegetables that are sometimes blanched for purposes other than preparation for further cooking.

Parboiling is the same as blanching, but the cooking time is longer, usually several minutes. Parboiling is used to soften vegetables and shorten final cooking times. Parboiling is commonly used for preparing root vegetables, cauliflower, broccoli and winter squashes.

### ***BOILING***

Vegetables are often boiled. Boiled vegetables can be served as they are, or they can be further prepared by quickly sautéing with other ingredients, pureeing or mashing. Boiled vegetables are also chilled and used in salads.

Starchy root vegetables are generally not boiled but rather simmered slowly so that the heat penetrates to their interiors and cooks them evenly. Green vegetables should be boiled quickly in a large amount of water in order to retain their color and flavor.

### ***REFRESHING***

Unless the boiled, blanched or parboiled vegetables will be eaten immediately, they must be quickly chilled in ice water after they are removed from the cooking liquid. This prevents further cooking, preserves, and maintains their colors. This process is known as refreshing or shocking the vegetables. The vegetables are removed from the ice water as soon as they are cold. Never soak or hold the vegetables in the water longer than necessary, or valuable nutrients and flavor will be leached away.

### **Selecting and Preparing Vegetables to Boil**

Nearly any type of vegetable can be boiled. Carrots, cabbages, green beans, turnips and red beets are just a few of the most common ones. Vegetables can be large or small, but they should be uniform in size to ensure even cooking. Some vegetables are cooked whole and require only washing before boiling. Others must be washed, peeled, and trimmed, or cut into smaller sizes.

### **Seasoning Vegetables to Be Boiled**

Often vegetables are boiled in nothing more than salted water. Lemon juice, citrus zest, wine and other acidic ingredients are sometimes added to white and red vegetables; if so, they should be added to the liquid before the vegetables. Herbs and spices in a sachet or a bouquet garni are often used to add flavor to boiled vegetables and should be added according to the recipe. After boiling, vegetables are sometimes finished with herbs, spices, butter, cream or sauces.

### ***STEAMING***

Vegetables can be steamed in a convection steamer or by placing them in a basket or on a rack and suspending them over boiling liquid in a wok, saucepan, or hotel pan. Vegetables can also be pan-steamed by cooking them in a covered pan with a small amount of liquid; most of the cooking is done by steam because only a small portion of the food is submerged in the liquid. Steamed vegetables can be eaten plain, partially cooked and sautéed lightly to finish, incorporated into casseroles or pureed. If they are not served immediately, they must be refreshed and refrigerated until used.

Properly steamed vegetables should be moist and tender. They generally retain their shape better than boiled vegetables. Vegetables cook very rapidly in steam, and overcooking is a common mistake.

### **Selecting and Preparing Vegetables to Steam**

Nearly any vegetable that can be boiled can also be steamed successfully. All vegetables should be washed, peeled and trimmed if appropriate and cut into uniform-sized pieces. Pan-steaming is appropriate for vegetables that are small or cut into fairly small pieces such as peas and beans or broccoli and cauliflower florets.

### **Seasoning Vegetables to Be Steamed**

Steaming produces vegetables with clean, natural flavors. Foods cooked in convection steamers can be seasoned with herbs and spices; convection steamers use plain water to produce steam, so the foods being cooked do not gain flavor from the cooking liquid. Vegetables steamed over liquids or pan-steamed in small amounts of liquids can be flavored by using stocks or court bouillon as the cooking liquid. Herbs, spices and aromatic vegetables can be added to any liquid for additional flavor.

## *COMBINATION COOKING METHODS*

### ***BRAISING AND STEWING***

Braised and stewed vegetables are cooked slowly in a small amount of liquid. The liquid, including any given off by the vegetables, is reduced to a light sauce, becoming part of the finished product. Generally, a braised dish is prepared, with only one vegetable; a stew is a mixture of several vegetables. The main ingredients are sometimes browned in fat before the liquid is added in order to enhance flavor and color.

Both braises and stews can be exceptionally flavorful because they are served with their entire cooking liquid. (Boiled vegetables lose some of their flavor to the cooking liquid.) Braised and stewed vegetables generally can be held hot for service longer than vegetables prepared by other cooking methods.

### **Selecting and Preparing Vegetables to Braise or Stew**

Various lettuces, especially romaine and Boston, are often braised. Cabbages, Belgium endive, leeks and many other vegetables are also commonly braised. Stews may contain a wide variety of vegetables such as summer squashes, eggplant, onions, peppers, tomatoes, carrots, celery and garlic. Leafy green vegetables and winter squashes are less commonly braised or stewed.

The vegetables should be washed and peeled or trimmed if appropriate. Vegetables to be braised may be left whole, cut into uniform pieces or shredded, as desired. Lettuces are usually cut into halves or quarters; cabbage is usually shredded.

### **Seasoning Vegetables to Be Braised or Stewed**

Both braises and stews usually include flavoring ingredients such as garlic, herbs, bacon or mirepoix. The liquid may consist of water, wine, stock or tomato juice. Vegetables can even be braised in butter and sugar or honey to create a glazed dish. Both braises and stews can be seasoned with a variety of herbs and spices. Acid the seasonings before covering the pot to finish the cooking process. Strongly flavored vegetables such as celery root and turnips are usually parboiled.

### ***MICROWAVING***

Fresh vegetables are among the few foods that can be consistently well prepared in a microwave oven. Often microwave cooking can be accomplished without any additional liquid, thus preserving nutrients. With microwaving, colors and flavors stay true, and textures remain crisp.

Microwave cooking is actually a form of steaming. As explained in Chapter 10, *Principles of Cooking*, microwaves agitate water molecules, thus creating steam. The water may be the moisture found naturally in the food or may be added specifically to create the steam. Cooking time depends on the type or microwave oven as well as on the freshness, moisture content, maturity and quantity of vegetables being prepared.

### **Selecting and Preparing Vegetables to Microwave**

Any vegetable that can be steamed successfully can be microwaved with good results. Because typical microwave ovens are relatively small, they are impractical for producing large quantities of food. They are most useful for reheating small portions of vegetables that have been blanched or partially cooked using another cooking method.

### **Seasoning Vegetables to Be Microwaved**

Microwaving, like steaming, brings out the natural flavors of food. Herbs and spices can be added to the vegetables before they are microwaved. Alternatively, after microwaving, the vegetables can be tossed with butter, herbs and spices or combined with a sauce.

### ***PUREEING***

Pureeing is a technique often used with vegetables. Cooked vegetable purees can be served as is, or they can be used as an ingredient in other preparations such as pumpkin pie, mashed potatoes or vegetable soufflés. Purees can also be bound with eggs or seasoned and used to make vegetable timbales and terrines.

Pureed vegetables are generally first cooked by baking, boiling, steaming or microwaving. White, red and yellow vegetables should be cooked until quite soft. They are more easily pureed when hot or warm; this also helps ensure a smooth finished puree. For most preparations, green vegetables must be refreshed after cooking and pureed while cold, or they will overcook and become discolored.



### **Seasoning Vegetables to Be Pureed**

Vegetables for purees can be seasoned before they are pureed following the guidelines for the cooking procedure used. They can also be seasoned after they are pureed with a wide variety of ingredients such as herbs, spices, cheese, honey or brown sugar.

### ***APPLYING VARIOUS COOKING METHODS***

Vegetables are cooked in order to break down their cellulose and gelatinize their starches. Cooking gives vegetables a pleasant flavor; creates a softer, tenderer texture; and makes them more digestible. Ideally, most vegetables should be cooked as briefly as possible in order to preserve their flavor, nutrients and texture. Unfortunately, sometimes one must choose between emphasizing appearance and maintaining nutrition because cooking methods that preserve color and texture often remove nutrients.

### **Discussion Questions:**

1. List three vegetables that are in season in Fall/Winter
2. Give two examples of Brassica vegetables
3. What two peppers are popular in south Louisiana cuisine?
4. What is another name for mirliton?
5. Why is it important to cut vegetables in uniform shapes?

## RECIPES FOR VEGETABLES PART 1

### Baked Broccoli Custards

Makes 6 individual servings



#### Equipment needed:

Scale

Measuring spoons

Measuring cups (both dry and liquid)

Box grater

- 1 1/2 pounds broccoli, cut into florets (about 8 cups)
- 3 tablespoons extra-virgin olive oil
- Coarse salt and freshly ground pepper
- 3 tablespoons unsalted butter
- 3 tablespoons all-purpose flour
- 3 cups whole milk
- 2 tablespoons coarsely grated Parmigiano-Reggiano
- Pinch of freshly grated nutmeg
- 1 1/2 cups finely grated Gruyere (about 4 ounces)

1. Preheat oven to 425 degrees. On a rimmed baking sheet, toss broccoli with oil. Season with salt and pepper. Spread in a single layer and roast, turning once, until golden and crisp, about 15 minutes. BE CAREFUL not to burn.
2. Reduce oven temperature to 325 degrees. Melt butter in a medium saucepan over medium-high heat. Add flour and cook, stirring, 1 minute. Add milk, whisking until mixture just comes to a simmer. Gently simmer, stirring constantly, until mixture is thickened slightly, about 12 minutes.
3. Remove from heat; stir in Parmigiano-Reggiano, nutmeg, and 1/2 cup Gruyere. Season with salt and pepper.
4. Divide broccoli among six 8-ounce gratin dishes. Pour cream mixture over vegetables. Sprinkle with remaining 1 cup Gruyere.
5. Place gratin dishes on a rimmed baking sheet lined with parchment paper. Bake until bubbly and golden brown in spots, 23 to 25 minutes. Cool slightly before serving.

## Cabbage Casserole

Makes 8 to 10 servings



Martysjahlushyk, Getty Images/iStockphoto, Information extracted from IPTC Photo Metadat

### Equipment needed:

Scale

Measuring spoons

Dry measuring cups

Can opener

Box grater

Casserole dish

- 1 pound sweet Italian sausage (either in bulk or in casings – if using the cased – remove from casing and break into small chunks)
  - 2 tablespoons vegetable oil
  - 1 ½ cups thinly sliced yellow onions
  - 1 (10-ounce) can tomatoes with green chilies (mild)
  - 2 large heads cabbage, cored and coarsely chopped
  - Salt, black pepper and cayenne, to taste
  - ½ pound Gruyere or Fontina cheese, grated
1. Preheat the oven to 350 degrees.
  2. Brown the sausage pork in the oil over medium-high heat in a large saucepan. Add the onions and tomatoes with chilies, and cook, stirring often, for 10 minutes or until tomatoes are soft.
  3. Add the cabbage and season with salt, black pepper and cayenne. Reduce the heat to low and simmer, covered, until the cabbage is tender, about 20 minutes.
  4. Transfer to a casserole dish and top with the cheese. Bake until the cheese is melted and bubbly, about 15 minutes.

## Caramelized Brussels Sprouts with Pancetta

Makes 10 servings

### Equipment needed

Scale

Measuring spoons

Measuring cups

Colander

- 3 pounds Brussels sprouts, trimmed
  - ½ cup extra-virgin olive oil
  - 5 shallots
  - 3 ounces thickly sliced pancetta, cut into 1/4-inch dice
  - Kosher salt
  - Freshly ground black pepper
  - 1/4 cup oil-packed sun-dried tomatoes, drained and chopped
1. Bring a large pot of salted water to a boil.
  2. Add the sprouts and cook until just slightly tender, about 5 minutes.



3. Drain, pat dry with paper towels and cut each in half lengthwise.
4. Heat 2 tablespoons of the oil in a large skillet over medium-low heat.
5. Add the shallots and cook, stirring, until lightly browned, about 10 minutes.
6. Transfer to a bowl.



Petrina Tinslay, Information extracted from IPTC Photo Metadata

7. Add the remaining oil and add the sprouts, cut-side down and the pancetta. Add the remaining 1/4 cup of oil to the skillet.
8. Add the Brussels sprouts, cut side down, and the pancetta.
9. Season with salt and pepper, and cook over medium-high heat, stirring occasionally until the sprouts are lightly browned and tender, about 10 minutes.
10. Add the sun-dried tomatoes and the shallots, and cook, stirring, until warmed through, about 5 minutes. Adjust seasoning and serve warm.

## Cauliflower Cheese and Macaroni

Makes 6 servings



### Equipment needed:

Measuring spoons

Liquid measuring cups

Dry measuring cups

Colander

- 3 tablespoons salted butter, plus more for greasing
- 2 tablespoons all-purpose flour
- 1 tablespoon Dijon mustard
- 2 cups whole milk
- 1 cup shredded sharp cheddar cheese (or smoked Gouda)

- Salt
  - Freshly ground black pepper
  - 1 large head cauliflower (2 1/2 to 3 pounds), cut into small florets
  - 10 ounces penne or large elbow macaroni
  - 1/4 cup fresh bread crumbs
  - Ground paprika for garnishing
1. Preheat the oven to 350 degrees. Butter a large gratin dish.
  2. Heat the 3 tablespoons of butter in a large saucepan over medium heat.
  3. Add the flour and mustard and cook, stirring until smooth, about 1 minute.
  4. Add the milk and cook over medium-low heat, stirring occasionally, until thickened, about 10 minutes.
  5. Add the cheese and stir until melted and completely smooth.
  6. Season the sauce with salt and pepper, and keep it warm over very low heat.
  7. Meanwhile, bring a large saucepan of salted water to a boil.
  8. Add the cauliflower and cook until crisp tender (about 5 minutes).
  9. Check with the tip of your paring knife. Strain and set aside. Add the pasta to the boiling water and cook until al dente. Drain well.
  10. Add the cauliflower and pasta to the cheese sauce and stir to coat completely.
  11. Pour the mixture into the buttered gratin dish and top with the bread crumbs.
  12. Sprinkle some paprika over the dish.
  13. Bake until bubbling and golden, 20 to 25 minutes.

## One-Skillet Hot Sausage and Cabbage Stir-Fry with Chives

Makes 4 servings

### Equipment needed:

Skillet (preferably cast-iron)

Micro-grater

Garlic press

Scale

Measuring spoons

- 1 (1-inch) piece ginger, peeled, finely grated
- 4 garlic cloves, pressed
- 1 pound sweet Italian sausage removed from casing
- 3 tablespoons vegetable oil
- ½ pound shiitake mushrooms, stemmed and thinly sliced
- cups very thinly sliced Napa cabbage
- 2 tablespoons seasoned rice vinegar
- 2 tablespoons soy sauce
- 1/3 cup thinly sliced chives

- 1 teaspoon toasted sesame oil
- 2 teaspoons sesame seeds
- large flour tortillas or mushu wraps, warmed
- Hoisin sauce and Sriracha (for serving)



- 1 Using your hands or a wooden spoon, work ginger and garlic into the sausage in a medium bowl.
- 2 Heat 2 tablespoons vegetable oil in a large skillet, preferably cast iron, over medium-high and cook sausage mixture, breaking up with a wooden spoon, until browned, crisp, and cooked through, 6 to 8 minutes.
- 3 Using a slotted spoon, transfer sausage mixture to a clean bowl.
- 4 Increase the heat to high and cook mushrooms in the fat in the skillet, tossing often, until browned and starting to release their juices, about 4 minutes (if skillet looks dry at any point, add a bit more oil).
- 5 Add half of cabbage and cook, tossing often, until cabbage is wilted and tender, about 4 minutes.
- 6 Drizzle in vinegar and soy sauce and cook, tossing, until liquid is mostly reduced and skillet is dry in spots, about 2 minutes.
- 7 Remove the skillet from the heat and mix chives, sausage, and remaining cabbage into stir-fry.
- 8 Drizzle with sesame oil and sprinkle with sesame seeds.
- 9 Serve stir-fry with tortillas, hoisin sauce, and Sriracha.



**Discussion Questions: Spinach, mushrooms, truffles, pods and seeds**

1. When is the best time to pick collard greens?
2. Name two kinds of greens.
3. What type of mushrooms are most commonly used in cooking?
4. Describe shallots and green onions. Which one is commonly used in south Louisiana dishes?
5. Other than its use in gumbo – how else may okra be prepared/cooked?

**RECIPES FOR VEGETABLES PART 2****Haricots Verts with Toasted Almonds and Caramelized Shallots**

Makes 6 servings



Haricots Verts with Toasted Almonds and Caramelized Shallots

**Equipment needed:**

Scale

Measuring spoons

- 2 pounds haricots verts or regular green beans, trimmed
- 1 tablespoon unsalted butter
- 1 tablespoon plus 2 teaspoons olive oil
- 4 shallots, thinly sliced
- Freshly ground black pepper, to taste
- 1/2 cup sliced almonds, toasted
- Kosher salt, to taste

- 1 **\*Instructions for toasting almonds** - put the almonds in a small skillet and spread out into one layer. Put the skillet over medium heat and shake the pan to allow the almonds to brown evenly.
- 2 Bring a pot of salted water to a boil over high heat. Add the green beans and cook for 2 to 3 minutes.
- 3 Drain and immediately transfer to a bowl of salted ice water to stop the cooking. When the beans are cool, drain, pat dry and set aside.
- 4 In a large sauté pan (or skillet) over medium heat, melt the butter with the 1 tablespoon olive oil.
- 5 Add the shallots and season with salt and pepper. Cook, stirring occasionally, until the shallots begin to brown, about 6 minutes.
- 6 Reduce the heat to medium-low and cook, stirring occasionally, until the shallots are caramelized, about 6 minutes more. Transfer to a paper towel-lined plate.
- 7 In the same pan over medium-high heat, warm 1 teaspoon of the olive oil.
- 8 Add half of the green beans, season with salt and pepper and cook, stirring occasionally, until they are heated through, 3 to 4 minutes.
- 9 Add half each of the shallots and almonds and stir to combine. Transfer to a bowl.
- 10 Repeat with the remaining olive oil, green beans, shallots and almonds.
- 11 Toss all of the beans together, then transfer to a serving bowl and serve immediately.

## Mushroom and Leek Tart

Makes 8 tarts

(What is the difference between a tart, torte? – Research and tell me what you find)

### Equipment needed:

Measuring spoons

Scale

Rolling pin

Saucer or salad plate to use for a template

Sheet pan lined with parchment paper

Pizza cutter

- 2 fluid ounces clarified butter (melted)
- 1 1/2 pounds leeks, white part only, cut crosswise into 1/4-inch slices \*be sure to clean the leeks – demo at lab
- 1 teaspoon minced garlic
- 1 pound white mushrooms, trimmed and sliced
- 1 pound shiitake mushrooms, trimmed and sliced



- 1 tablespoon salt
- 1/2 teaspoon freshly ground black pepper
- ounces Havarti (Danish, semi-soft cows cheese), shredded
- 1 tablespoon chopped fresh thyme
- 1/2 teaspoon dried basil
- ounces heavy cream
- 2 sheets puff pastry (SIZE 10x15-inches)
- 1 egg lightly beaten with 1 teaspoon water (egg wash) to brush (or "wash") onto the pie dough's surface with a pastry brush.
- 4 ounces grated Parmesan cheese

*\*Shredded food is usually thought of as being a larger, coarse thread while grating creates a finer one (that can even be as fine as powder). Shredded cheese will melt much slower than grated cheese by virtue of the difference in surface area between a coarse and fine thread. For a recipe like Philly Cheese Steak, I prefer to use cheese that has been finely grated. For a recipe where the cheese should melt slowly – on top of a casserole for instance – use shredded cheese.*

- 1 Preheat the oven to 400 degrees.
- 2 Heat the butter in a large skillet (over medium heat). Add the leeks, garlic and mushrooms and cook, stirring until tender.
- 3 Add the salt, pepper, Havarti, herbs and cream and bring to a boil. Reduce until the mixture has thickened. Adjust the seasonings.
- 4 Remove from the heat and cool. (To cool quickly, you can put the mixture into a bowl, then sit the bowl in a half hotel pan filled with ice.)
- 5 Roll the puff pastry about 1/4-inch thick and cut eight circles (you can use a saucer to make a templet) about 9 inches in diameter from the pastry.
- 6 Brush a 1-inch band of egg wash around the edge of each circle.
- 7 Fold the edge of the pastry in toward the center to form a 1-inch rim and crimp. (\* Rustic fold)
- 8 Fill each tart shell with 6 ounces of the leek/mushroom filling.
- 9 Spread the filling to the edge of the tart and sprinkle the top with the Parmesan cheese.
- 10 Brush the edge of each tart with the egg wash and bake until the pastry is well browned, 10 to 12 minutes.
- 11 \*The tarts can be cut into four equal slices to serve. \*Use a pizza cutter.

## **Emeril's Wild Mushrooms with Tasso and Angel Hair**

**This is one of Emeril's most popular menu items. Makes 4 servings**



**Equipment needed:**

Measuring cups

Measuring spoons

- 4 cups stemmed and sliced assorted fresh mushrooms such as shitake, white buttons and/or baby Bellas (small portabellas)
- ¼ cup olive oil
- 1 tablespoon (3 teaspoons) or more to taste Chef Paul's Meat Magic or Emeril's Rustic Rub \* do NOT add all at one time
- 1/2 cup chopped tasso (small dice)
- 1/4 cup chopped green onions
- 2 tablespoons minced shallots
- 1 teaspoon minced garlic
- 2 cups heavy cream
- ½ pound angel hair pasta (drain and reserve 1 cup of the pasta water)
- Coarsely grated fresh Parmesan cheese for garnish

- 1 Place the mushrooms in a large bowl and toss with the oil and two teaspoons of the Meat Magic.
- 2 Heat a large heavy dry skillet over high heat until it is very hot. Add the mushrooms, cover and cook for two minutes. Uncover and cook, shaking and tossing the skillet, until the mushrooms throw off some of their liquid, about 2 more minutes. Add the tasso, green onions, shallots and garlic. Cook, stirring, until the garlic is aromatic, 30 to 45 seconds.
- 3 Stir in the cream and simmer until the mixture thickens slightly 3 to 5 minutes. Adjust seasoning. \*Tasso is very well seasoned so you don't want to over-season.

(While someone in your group is tending to the sauce, someone should have the pasta going.) Bring a large pot of salted water to a boil. Break the pasta noodles in half and add to the pot. Turn off the heat, cover the pot and let stand for about 4 minutes. \*Taste test before taking it off the heat.

- 4 Drain (\*RESERVE ½ CUP PASTA WATER) in a colander and toss with tap water.
- 5 Add the pasta, a little at a time, to the sauce in the pot and using food tongs, toss to coat the pasta. Add the pasta in small batches, tossing to coat evenly with the sauce in the skillet.
- 6 \*IF THE SAUCE THICKENS TOO MUCH, ADD A LITTLE OF THE RESERVED PASTA WATER TO THIN IT OUT.
- 7 Again, adjust seasoning if necessary using the Meat Magic or Rustic Rub.
- 8 Heat for about two minutes.
- 9 Transfer the pasta and sauce mixture to a large platter, garnish with grated Parmesan cheese before serving.



## Spinach au Gratin

Makes 8 Servings

**Au gratin means:** Covered with bread crumbs and sometimes butter and grated cheese, and then browned in an oven.



### Equipment needed:

Measuring spoons

Measuring cups

Box grater

Colander

Small gratin dishes

- 2 tablespoons clarified butter
- 2 tablespoons all-purpose flour
- 1 pint half-and-half
- 1 1/2 pounds frozen chopped spinach, thawed
- Salt and black pepper
- Pinch of nutmeg
- ounces grated Gruyere or Fontina
- 1/4 cup dry bread crumbs or panko

*Gruyère is sweet but slightly salty, with a flavor that varies widely with age. It is often described as creamy and nutty when young, becoming with age more assertive, earthy and complex. When fully aged (five months to a year) it tends to have small cracks which impart a slightly grainy texture.*

*The original Fontina cheese from Italy is fairly pungent and has quite an intense flavor, although cheeses labeled Fontina that are produced in other countries can be much milder. The Swedish and Danish versions are often found in US grocery stores, and can be distinguished from Italian Fontina by the red wax rind (Italian Fontina has a natural rind due to aging, which is usually tan to orange-brown); Swedish and Danish Fontina is aged less and therefore semi-soft and much milder than its Italian counterpart.*

- 1 Heat the butter in a medium saucepan over medium heat. Add the flour and cook, stirring, to make a blond roux. (barely brown)
- 2 Add the half-and-half, whisking to dissolve any lumps of the roux. Bring to a simmer and cook, stirring occasionally, for 15 minutes. The mixture should thicken.
- 3 Bring a pot of salted water to a boil. Drop the spinach into the boiling water and cook for 2 minutes. Remove from the heat and drain well in a colander. Remove excess water by mashing the spinach in the colander with the back of a spoon.
- 4 Add the spinach to the cream sauce in the saucepan and mix well. Season with salt and pepper. Add nutmeg and stir to blend.
- 5 Fill eight 10-ounce gratin dishes with the creamed spinach and top each with grated cheese and a sprinkling of breadcrumbs or panko.
- 6 Place under the broiler (salamander) until the cheese is melted and evenly browned. Serve hot.

## RECIPES PART 3: *Roots, tubers, stalks, baby vegetables*

Read the review – follow this link

<http://www.nytimes.com/2006/10/01/books/review/Scott.t.html?mcubz=1>

### Important Chefs in the American Cuisine Evolution:

Julia Child	James Beard	Craig Claiborne
Pierre Franey	Mario Batali	Alice Waters
Bobby Flay	Emeril Lagasse	Daniel Boulud
Rachael Ray	Jacques Pepin	Thomas Keller
Wolfgang Puck	Ruth Reichl (restaurant critic/journalist)	

## Asparagus Alla Milanese

Makes one serving



**Notes:** (**Asperges a la Milanese** - term meaning "in the style of Milan," referring to food (usually meat) dipped in beaten egg, then into a bread crumb-Parmesan mixture and fried in butter. This a la Milanese is a little different – we will be blanching fresh asparagus, and topping them with a sunny-side-up egg.



**Truffle**



**Truffle oil** is a modern culinary ingredient, used to impart the flavor and aroma of truffles (an exotic subterranean mushroom) to a dish. Most truffle oils are not made from actual truffles, but are a synthetic product that combines olive oil and odorants. Truffle oil can be produced using any oil. Common versions use olive oil, or a more neutral flavorless oil such as canola or grapeseed oil.

If the asparagus spears are tough/woody, they should be shaved with a vegetable peeler. If they are thin and young, shaving is not necessary.

**Clarified butter** is milk fat rendered from butter to separate the milk solids and water from the butterfat. Typically, it is produced by melting butter and allowing the components to separate by density. The water evaporates, some solids float to the surface and are skimmed off, and the remainder of the milk solids sink to the bottom and are left behind when the butterfat (which would then be on top) is poured off.

**Difference between shallots and garlic:** Both come from the genus *Allium*. Like garlic, shallots are formed in clusters of offsets with a head composed of multiple cloves. The skin color of shallots can vary from golden brown to gray to rose red, and their off-white flesh is usually tinged with green or magenta.

**Blanching** is a cooking process wherein the food substance, usually a vegetable or fruit, is plunged into boiling water, removed after a brief, timed interval, and finally plunged into iced water or placed under cold running water (to shock) thereby halting the cooking process.

- 5 asparagus, ends trimmed off and peeled (if necessary)
- 2 tablespoons clarified butter
- 1 teaspoon minced garlic
- 1 teaspoon minced shallots
- 1 sunny-side up egg (use a ring mold or do freestyle)
- Finely grated parmesan cheese for garnish
- Salt and freshly ground black pepper
- Drizzle of truffle oil

- 1 Blanch the asparagus in salted boiling water. When just tender, transfer the asparagus to an ice bath to cool. Remove the asparagus from the water bath and lay on paper towels on a plate to drain. Pat dry with paper towels.
- 2 Heat 1-tablespoon of the butter in a small skillet and add the garlic and shallots. Cook, stirring (sauté), just until they become fragrant, about 30 seconds. Add the asparagus and turn several times in the garlic/shallots/butter mixture until warmed through, about one minute. Season with salt and pepper. Set aside and cover loosely with foil to keep warm.
- 3 Heat the remaining tablespoon of clarified butter in another small skillet over medium heat. Place the ring mold in the center of the skillet. Add the egg (season with salt and pepper) and cook sunny-side up.

- 4 To serve, arrange the asparagus on a plate and top with the egg. Garnish with the Parmesan cheese and a drizzle of truffle oil.

## Italian-Stuffed Artichoke

Makes 2 servings



- 2 large artichokes, trimmed
- 1 tablespoon olive oil
- 1/2 teaspoon dried basil leaves
- 1/2 teaspoon dried oregano leaves
- Kosher salt
- Freshly ground black pepper

- 1 Cut the stem off to make artichoke sit level. Then cut about 1 inch off the top of the artichoke. Using kitchen shears, snip off the tips of the outer leaves. Stand the artichokes in a saucepan. Add enough water to come up about 3/4 up the sides of the artichoke.

- 2 Add the olive oil, lemon juice, basil, oregano and season with salt and pepper. Bring to a boil. Then reduce the heat to medium, partially cover and simmer until knife-tender, about 30 minutes - depending on the size of the artichoke.
- 3 Remove and drain upside down on paper towels. Remove the center and carefully scrape out the fuzzy center portions and discard.
- 4 Preheat the oven to 350 degrees.

Stuffing:

- 1/2 cup grated Parmesan cheese
  - 1/4 cup minced fresh parsley
  - 1 tablespoon minced garlic
  - 1 teaspoon grated lemon zest
  - 2 cups Progresso fine dried breadcrumbs
  - Salt and freshly ground black pepper
  - 1 teaspoon dried oregano leaves
  - 1 teaspoon dried basil
  - 1/2 cup olive oil or more as needed
5. Combine all of the filling ingredients in a mixing bowl. You will add olive oil, a little at a time, until the mixture can be squeezed and it holds together.
  6. Gently spread the artichoke leaves apart and fill each leaf (you can use a small spoon or your fingers) with the filling. Place the artichoke in a rimmed pan that has been lightly oiled. Bake, uncovered, until the filling is lightly browned, 15 to 20 minutes.



Baby Artichokes, hard to find at markets

## Mashed Potatoes and Parsnips with Caramelized Onions and Blue Cheese

Makes 8 Servings

- 1 tablespoon olive oil
- 2 medium (or 1 large) white onions, thinly sliced
- 2 tablespoons light brown sugar

- 1 tablespoon kosher salt plus more as needed
- 3 baking potatoes (such as Yukon gold, about 2 pounds), peeled and cubed
- parsnips (about 1 pound), peeled and cut into 1-inch pieces
- 1 1/2 cups low-sodium chicken broth, heated
- 1/4 cup crumbled blue cheese
- 3 tablespoons chopped fresh thyme



- 1 Heat the oil in a large skillet over high heat; reduce to medium. Cook onions with sugar and salt, stirring occasionally, until onions brown, 20 to 25 minutes. Add a few tablespoons water as you cook to keep onions from sticking or burning.
- 2 Fill a large saucepan  $\frac{3}{4}$  full with cold water and add 1-tablespoon kosher salt. Add potatoes and parsnips; bring to a boil over high heat. Reduce heat and simmer until potatoes and parsnips are fork-tender, 20 to 25 minutes, and then drain.
- 3 Beat 1/4 of potato parsnip mixture and 3 ounces broth in a mixing bowl with an electric mixer on medium speed until smooth. Repeat, alternating between potato-parsnip mixture and broth, until you have incorporated all.
- 4 Fold in onions, cheese and thyme, and serve.

## Chapter 4:

# *POTATOES*

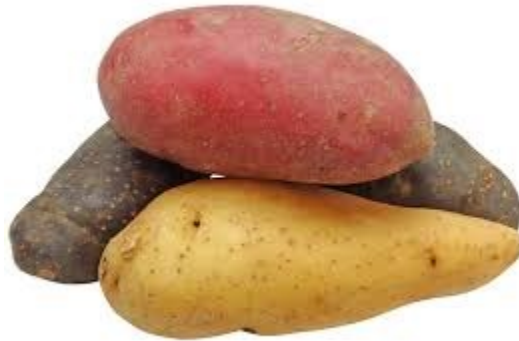


Potatoes are one of the few vegetables native to the New World, probably originating in the South American Andes. Botanically, potatoes are succulent, non-woody annual plants. The portion consumed is the tuber, the swollen fleshy part of the underground stem. Potatoes are hardy and easy to grow, making them inexpensive and widely available. Americans eat nearly 50-pounds of potatoes annually, making potatoes one of the top 20 vegetables in the United States.

## IDENTIFYING POTATOES

Discussed here are some of the more commonly used types of potatoes. Other varieties are regularly being developed or rediscovered and tested in the market place. New potatoes are small, immature potatoes (of any variety) that are harvested before their starches develop. Although red potatoes can be "new," not all new potatoes are necessarily red-skinned. Conversely, not all reel-skinned potatoes are new. True new potatoes are waxy with a high moisture content and a thin, delicate skin.

Select potatoes that are heavy and very firm with clean skin and few eyes. Avoid those with many eyes, sprouts, green streaks, soft spots, cracks or cut edges. Most varieties are available all year. When ordering potatoes, note that size A is larger than size B, which must be between 1 1/2 and 2 1/4 inches (3.75 and 5.5 centimeters) in diameter.



### *Fingerlings*

Fingerling potatoes are typically heirloom varieties, related to the original potato varieties from the Andes. They are generally small, long and finger-shaped or oblong with good flavor. The Russian Banana looks like a small banana and has a firm texture and rich, buttery flavor. The reel-streaked French Fingerling has a nutty flavor while the red Ruby Crescent has a strong, earthy flavor. All fingerling varieties tend to be low in starch and are good for roasting and in potato salads.





*Purple Potatoes*

Purple (or blue) potatoes have a deep purple skin. The flesh is bright purple, becoming lighter when cooked. They are mealy, with a flavor and texture similar to russets. The most common varieties are All Blue and Caribe, which were also quite popular in the mid-19th century.



*Red Potatoes*

Red potatoes have a thin red skin and crisp, white, waxy flesh, best suited to boiling or steaming. They do not have the dry, mealy texture that successful baking requires. Red potatoes are round, instead of long or oblong; popular varieties are Red Pontiac and Norland.



*Russet (Burbank) Potatoes*



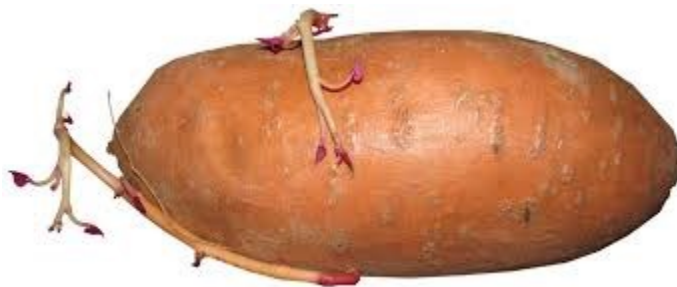
Russet potatoes, commonly referred to as Idaho potatoes, are the standard baking potato. They are long with rough, reddish-brown skin and mealy flesh. Russets are excellent baked and are the best potatoes for frying. They tend to fall apart when boiled. They are marketed in several size categories and should be purchased in the size most appropriate for their intended use.

## WHITE POTATOES

White potatoes are available in round or long varieties. They have a thin, tender skin with a tender, waxy yellow or white flesh. Round white potatoes are also referred to as all-purpose potatoes. White potatoes are usually cooked with moist heat or used for sautéing. White Rose and Finnish Yellow (or Yellow Finn) are popular varieties.



Another variety of white potato known as the Yukon Gold is a medium-sized, slightly flattened, oval potato. They have a delicate pale yellow skin with shallow pink eyes. Their pale yellow flesh has a creamy texture and rich, buttery, nutty flavor. Yukon Gold potatoes are suitable for most cooking methods and will retain their yellow color when baked, boiled or fried. First bred by botanists in Canada, Yukon Golds are now grown throughout the United States. Other lesser-known gold-fleshed varieties include Michigold, Donna, Delta Gold, Banana, and Saginaw Gold.



*Sweet Potatoes*

Sweet potatoes are from a different botanical family than ordinary potatoes, although they are also tubers that originated in the New World. Two types are commonly available. One has yellow flesh and a dry, mealy texture; it is known as a boniato, white or Cuban sweet potato. The other has a darker orange, moister flesh and is high in sugar; it is known as a reel sweet potato. Both types have thick skins ranging in color from light tan to brownish red. (Sometimes dark-skinned sweet potatoes are erroneously labeled yams.) Sweet potatoes should be chosen according to the desired degree of sweetness. They are best suited for boiling, baking and pureeing, although the less sweet varieties can be deep-fried. The cooked flesh can also be used in breads, pies and puddings. Sweet potatoes are available canned, often in a spiced or sugary sauce.



### *Yams*

Yams are a third type of tuber, botanically different from both sweet and common potatoes. Yams are less sweet than sweet potatoes, but they can be used interchangeably. The flesh of yams ranges from creamy white to deep red. Yams are Asian in origin and are now found in Africa, South America and the southern United States.

### NUTRITION

Potatoes contain a high percentage of easily digested complex carbohydrates and little or no fat. They are also a good source for minerals and vitamins, especially vitamin B6, vitamin C and potassium, although much of the vitamin C can be destroyed when potatoes are cooked in liquid such as for boiled or mashed potatoes.

### *PURCHASING AND STORING POTATOES*

#### MEALY VERSUS WAXY

One of the most important considerations in selecting potatoes is choosing between the mealy and waxy varieties. It is important to understand the differences and purchase the type of potatoes best suited to the type of dish being prepared. Mealy potatoes (also known as starchy potatoes) have a high starch content and thick skin. They are best for baking and are often

ordered from suppliers simply as "bakers." Their low sugar content also allows them to be deep-fried long enough to fully cook the interior without burning the exterior. Mealy potatoes tend to fall apart when boiled, making them a good choice for whipped or pureed potatoes.

Waxy potatoes have a low starch content and thin skin. They are best for boiling. They will not develop the desired fluffy texture when baked. They tend to become limp and soggy when deep-fried because of their high moisture content.

## GRADING

Like other vegetables, potatoes are subject to the voluntary USDA grading system. Although U.S. Fancy is the highest grade, most potatoes sold on the whole-sale market are U.S. No. 1. Potatoes sold on the retail market can also be graded as either U.S. Gracie A or U.S. Gracie B.

## PURCHASING

Potatoes are usually packed in 50-pound cartons. Counts vary depending on average potato size. For example, in a 100-count carton, each potato would weigh an average of 8 ounces. Eighty-, 90- and 100-count cartons are the most common. Generally, larger-sized potatoes (that is, smaller counts) are more expensive. Size does not affect quality, however, so the size selected should be determined by intended use.

## STORING

Temperatures between 50°F and 65°F (10°C and 18°C) are best for storing potatoes. Do not store potatoes in the refrigerator. At temperatures below 40°F (4°C), potato starch turns to sugar, making the cooked product too sweet and increasing the risk that the potato will turn gray or streaky when cooked. Potatoes with a high sugar content also burn more easily when fried.

Potatoes should be stored in a dark room, as light promotes chlorophyll production, turning them green and bitter. A green patch indicates the possible presence of solanine; a toxin harmful if eaten in large amounts, and should be peeled away. Solanine is also present in the eyes and sprouts, and they should be removed and discarded before cooking.

Under proper conditions, fresh baking or general-purpose potatoes should last for two months; new potatoes will keep for several weeks. Do not wash potatoes until ready to use, as washing promotes spoilage.

Once peeled, potatoes should be stored covered in water and refrigerated to prevent enzymatic browning.

\*\*\*Cooked potato dishes, especially those with cream, butter or custard, are potentially hazardous foods. They must be held for service at 135°F (57°C) or higher. Be sure to reheat potato dishes to 165°F (74°C) or higher.

## ***APPLYING VARIOUS COOKING METHODS***

Potatoes have a relatively neutral flavor, making them a perfect accompaniment to many savory dishes. They can be prepared with almost any dry- or moist-heat cooking method: baking, sautéing, pan-frying, deep-frying, boiling or steaming. They can be combined with other ingredients in braises and stews. Potatoes are used in soups (vichyssoise), dumplings (gnocchi), breads, pancakes (latkes), puddings, salads and even vodka.

Many potato dishes, both classic and modern, employ more than one cooking method. For example, hash browns require parboiling, then sautéing. Even French fries are best when first blanched in hot oil before final deep-frying.

## ***DETERMINING DONENESS***

Most potatoes are considered done when they are soft and tender or offer little resistance when pierced with a knife tip. Fried potatoes should have a crisp, golden-brown surface; the interior should be moist and tender.

## ***ROASTING AND BAKING***

Potatoes are often roasted with meat or poultry, becoming coated with the fat and drippings released from the main item as it cooks. Either mealy or waxy potatoes, peeled or unpeeled, can be roasted successfully.

Mealy potatoes such as russets are ideal for baking. The skin is left intact, although it may be pierced with a fork to allow steam to escape. A true baked potato should not be wrapped in foil or cooked in a microwave; this changes the cooking method to steaming and prevents a crisp skin from forming. A properly baked potato should be white and fluffy, not yellowish or soggy. Once baked, potatoes can be eaten plain (or with butter, sour cream and other garnishes) or used in other recipes.

### **~ Procedure for Baking Potatoes ~**

1. Scrub the potatoes well.
2. Using a fork, pierce the potato skins.
3. Rub the potatoes with oil and salt if desired. Do not wrap them in foil.
4. Bake the potatoes until done. A paring knife should penetrate them easily.

**Twice-Baked Potatoes** (Yield: 16 Servings) - Cut baked potatoes in half length-wise. Carefully scoop out the flesh, leaving the skins intact. Whip the potato flesh with 8 ounces (240 grams) sour cream, 2 ounces (60 grams) butter and 2 ounces (60 grams) cooked, crumbled bacon and then add salt and pepper to taste. Thin with hot milk if necessary. The mixture should be light and fluffy, not lumpy. Pile the filling back into the skins, mounding the tops. Brush the mounded potatoes with clarified butter and sprinkle with Parmesan. Arrange on a sheet pan and bake at 425°F (220°C) until thoroughly reheated and lightly browned.

### *Baking en Casserole*

Many classic potato dishes require baking either raw or parboiled potatoes with sauce, cheese, meat or other seasonings in a baking dish or casserole. Well-known examples include scalloped potatoes, which are baked in béchamel sauce, and potatoes au gratin, which are topped with cheese and baked. These dishes usually develop a crisp, brown crust, which is part of their appeal. The casserole should hold its shape when cut; the potatoes should be tender, and the sauce should be smooth, not grainy. Potato casseroles can be fully baked then held loosely covered in a steam table for service. Portions can be reheated or browned briefly under a broiler or salamander at service time.

### **~ Procedure for Baking Potatoes En Casserole ~**

1. Prepare the potatoes by washing, peeling, slicing or partially cooking as desired or as directed in the recipe.
2. Add the potatoes to the baking pan in layers, alternating with the sauce, cream, cheese or other ingredients. Alternatively, combine the potatoes with the other ingredients and place in a buttered baking pan.
3. Bake the potatoes until done.

### **SAUTEING AND PAN-FRYING**

**Waxy potatoes**, such as red- and white-skinned varieties, are best for sautéing or pan-frying. Often they are first parboiled or even fully cooked - a convenient way to use leftover boiled potatoes. They are then cooked in fat following the general procedures for sautéing and pan-frying. The fat can be clarified butter, oil, bacon fat or lard, depending on the desired flavor of the finished dish. The fat must be hot before the potatoes are added so that they will develop a crust without absorbing too much fat. Sautéed potatoes should have a crisp, well-browned crust and tender interior. They should be neither soggy nor greasy.

Potatoes can be sautéed or pan-fried by two methods: tossing and still-frying. The tossing method is used to cook relatively small pieces of potatoes in a small amount of fat. The potatoes are tossed using the pan's sloped sides so that they brown evenly on all sides. The still-frying method is used to create a disc-shaped potato product. The shredded or sliced potatoes are added to the pan, usually covering its bottom, and allowed to cook without stirring or flipping until they are well browned on the first side. The entire mass is then turned and cooked on the second side. When the potatoes are done, they can be cut into wedges for service.

### **DEEP-FRYING**

Potato chips and French fries are extremely popular in a variety of shapes, sizes and seasonings. Although a wide range of shapes, sizes and pre-seasoned frozen products are available, fresh fried potatoes can be a delicious, economical menu item.

Top-quality russet potatoes are recommended for deep-frying. The peel may be removed, or left attached. If peeled, the potatoes should be soaked in clear, cold water until ready to cut and cook. This keeps them crisp and white by leaching some of the starch that might otherwise make the potatoes gummy or cause smaller cuts to stick together when cooked.

Deep-fried potatoes are usually blanched in oil ranging in temperature from 250°F to 300°F (120°C to 150°C) until tender and translucent. They are then drained, and held for service, at which time they are finished in hotter oil, usually at a temperature between 350°F and 375°F (180°C and 190°C).

Deep-frying is also used to finish cooking several classic potato dishes such as croquettes and dauphine, in which fully cooked potatoes are pureed, seasoned, shaped and fried. Deep-fried potatoes should be drained on absorbent paper briefly and served immediately.

### **~ Procedure for Deep-frying Potatoes ~**

1. Wash, peel or trim the potatoes as desired.
2. Cut the potatoes into uniform-sized pieces.
3. Using the basket method, blanch the potatoes in deep fat at 250°F (121°C) for 2 to 3 minutes, depending on the size of the pieces.
4. Drain the potatoes and spread them out in a single layer on a baking sheet or in a hotel pan.
5. Just before service, submerge the potatoes in deep fat at 350°F- 375°F (177°C- 191°C), using the basket method.
6. Cook until golden brown. Remove from the fat, drain, salt to taste and serve immediately.

### **MORE THAN A FRENCH FRY**

Thanks to the genius of Careme, Escoffier and others, few vegetables have as extensive a classic repertoire as potatoes. Some of these dishes begin with the duchesse potatoes mixture; in this regard, duchesse potatoes can be considered the mother of many classic potato preparations. For example,

Duchesse + Tomato concassee = **Marquis**

Duchesse + Chopped truffles + Almond coating + Deep-frying = **Berny**

Duchesse + Shaping + Breading + Deep-frying = **Croquettes**

Duchesse + Pate a choux = **Dauphine**

Dauphine + Grated Parmesan + Piped shape + Deep-frying = **Lorette**

**Other classic potato preparations not based on duchesse potatoes include the following:**

**Anna** - Thin potato slices are arranged in several circular layers in a round pan coated with clarified butter; additional butter is brushed on, and the potatoes are baked until crisp, and then cut into wedges for service.

**Boulangere** - Onions and potatoes are sautéed in butter, then transferred to a baking pan or added to a partially cooked roast in a roasting pan; stock is added, and the potatoes are cooked uncovered until done.

**Chateau** - Tournéed potatoes are sautéed in clarified butter until golden and tender.

**Parisienne** - Small spheres are cut from raw, peeled potatoes with a Parisienne scoop; they are seasoned and sautéed in clarified butter then tossed with a meat glaze and garnished with chopped parsley.

**Rosti** - Potatoes are shredded, seasoned and pan-fried in the shape of a pie, then cut into wedges for service.

### **BOILING**

Waxy potatoes are best for all moist-heat cooking methods. Boiled potatoes (which are actually simmered) may be served 'as is', or used in multi-step preparations such as purees, salads, soup s and baked casseroles. Potatoes are usually boiled in water, although stock may be used or milk added for flavor. Always begin cooking potatoes in cold liquid to ensure even cooking. Unlike other vegetables, potatoes should not be refreshed in cold water; it makes them soggy.

#### **~ Procedure for Boiling Potatoes ~**

1. Wash, peel or trim the potatoes as desired.
2. Cut the potatoes into uniform-sized pieces to promote even cooking. The pieces should not be too small, or they will absorb a large amount of water as they cook, making the final product soggy.



3. Add the potatoes to enough cool liquid to cover them by several inches. Bring to a boil, reduce to a simmer and cook until done. If a slightly firm finished product is desired, remove and drain the potatoes when they are slightly underdone and allow carryover cooking to finish cooking them.
4. Drain the potatoes in a colander and serve or use for further preparation.

**Discussion Questions:**

1. What method of cooking is best for red potatoes?
2. Briefly describe Yukon gold potatoes.
3. What is the best use for Russet potatoes?
4. What kind of potatoes does Alton Brown use for his mashed potatoes?
5. How long has sweet potatoes been grown in Louisiana?

## POTATOE RECIPES

### Alton Brown's Mashed Potatoes

Makes 4 to 6 Servings



- 2 pounds Yukon gold potatoes
- 1/2 cup heavy cream
- ounces unsalted butter, cut into pieces
- 1 teaspoon kosher salt
- 1/4 teaspoon freshly ground black pepper

- 1 Peel the potatoes and cut into uniform 1/2-inch pieces.
- 2 Place into a 4-quart saucepan and cover with cold water by at least 1-inch. Cover, set over high heat and bring to a boil. Once boiling, remove the lid, decrease the heat to maintain a simmer and cook until the potatoes can easily be crushed with a pair of tongs, approximately 15 to 20 minutes. Drain in a colander.
- 3 Put the cream, butter, salt and pepper into the now empty 4-quart saucepan and place back over the heat until the butter has melted.
- 4 Remove from the heat and set a food mill fitted with the smallest die, on top of the pot.
- 5 Add 1 cup of potatoes at a time to the mill. Once all of the potatoes have passed through the mill, stir to combine.
- 6 Taste and adjust the seasoning, if necessary. Serve immediately.

## Basic Mashed Potatoes

Makes about 6 servings

**\*fresh herbs, cream cheese, other grated cheese, baby spinach can be added to this basic recipe.**



- 2 ½ pounds mealy potatoes (like russets)
- 2 teaspoons salt (or more to taste)
- 2 ounces (1/4 cup) melted whole butter
- ounces (1/2 cup) whole milk (warmed with the butter)
- Salt and white pepper to taste
- Garnish of minced parsley or chives

Wash and peel the potatoes.

Cut into large dice (uniform size).

Place the potatoes in a pot, cover with water and season the water with two teaspoons of salt. Bring to a boil, reduce the heat to medium-low and simmer until the potatoes are tender. **DO NOT OVER COOK THE POTATOES.** Test for doneness with the tip of your paring knife.

Drain the potatoes well in a colander set in the sink. Transfer the potatoes to a bowl of an electric mixer fitted with wire whip.

Whip the potatoes for 30 to 45 seconds. Scrap the sides and bottom of the bowl and whip for another 15 seconds – or until they are smooth and free of lumps.

Add the butter and milk and season with salt and pepper. Whip on low speed to incorporate, scraping the bottom and sides of the mixing bowl.

Adjust seasonings if necessary before serving.

Garnish the plate.

**\*The secret is to work quickly when whipping the potatoes so that the potato mixture does not get cold.**

**\*Note: after adding the butter and milk, if you think it is too dry, add more milk.**

## Duchesse Potatoes

Makes about 6 servings



Duchesse potatoes are often used to decorate platters for buffets, or for tableside preparation for chateaubriand (a recipe of a particular thick cut from the tenderloin, which according to Larousse Gastronomique, was created by personal Chef Montmireil for Francois Rene Chateaubriand, the author and diplomat who served Napoleon as an ambassador and Louis XVIII as Secretary of State for two years.)

- 2 pounds mealy potatoes (like Russets)
- 1 ounce (2 tablespoons butter)
- Pinch of nutmeg
- Salt and freshly ground black pepper
- 1 egg
- 2 egg yolks
- Clarified butter

The trick to this recipe is to work quickly to get the potato mixture into the piping bags before the mixture gets cold.

- 1 Preheat the oven to 375 degrees.

- 2 Peel and quarter the potatoes. Place them in a pot large enough to accommodate them loosely. Add water to cover and season the water with salt.
- 3 Bring to a boil, then reduce the heat to medium, cover the pot, and cook until fork-tender.
- 4 Drain and immediately turn them out onto a sheet pan lined with parchment paper (spread evenly) to allow the moisture to evaporate.
- 5 While still warm, press the potatoes through a grinder or food mill (ricer).
- 6 Blend in the butter (warmed slightly) and season with nutmeg, salt and pepper.
- 7 Mix in the eggs and egg yolks, blending well.
- 8 Transfer the potato mixture to a piping bag fitted with a large star tip.
- 9 Line a sheet pan with parchment paper and pipe single portion spirals onto the parchment paper.
- 10 Brush with clarified butter and bake until the edges are golden brown, 8 to 10 minutes.

## Gnocchi Al Pesto (Potato Dumplings with Pesto)

PLEASE CHECK OUT THESE VIDEOS (FOR TECHNIQUE – NOT RECIPE) ON MAKING POTATO GNOCCHI

<https://www.youtube.com/watch?v=NCTGmbAnn44>

[https://www.youtube.com/watch?v=\\_47FQRIGy9w](https://www.youtube.com/watch?v=_47FQRIGy9w)



**To make the gnocchi:**

- 3 pounds potatoes Russet (small russets work best)
  - 2 cups all-purpose flour
  - 1 large egg
  - 1/8 teaspoon salt
- 1 Put in a large pot. Add cold water and fill pot so that water fills about 1 inch above potatoes.
  - 2 On medium-high heat, bring to a boil and cook until potatoes are fork-tender.
  - 3 When the potatoes are cooked, remove them from the water but reserve the water. (You will use it to boil gnocchi) and immediately peel and pass through a potato ricer.
  - 4 Place riced potato on a clean counter surface. Sprinkle flour all over potato. Make a well in the center of the potato and flour mixture. Place egg in center of well. Using a fork, scramble the egg and blend into potato and flour mixture. Once egg is mixed it, use your hands to incorporate the rest of the potato and flour mixture until a smooth ball forms.
  - 5 Cut dough in 8 sections. Grabbing one section at a time, roll into a long log, about 2 feet long. Cut log into 1-inch pieces. Roll each piece into an oval to form the dumpling. Repeat with 7 other sections. Add a little flour to surface if the dough gets too sticky.
  - 6 Boil (in the reserved water) gnocchi until it floats to the top (about 1 minute). Do not overcrowd the pot with gnocchi. Only place enough dumplings to make one layer of gnocchi.

*While potatoes boil, you can work on making the pesto (see instructions below).*

**To make the pesto cream sauce:**

- 3/4 cup fresh basil leaves
  - 3/4 cup Parmesan cheese freshly grated
  - 3 tablespoons pine nuts
  - 2 garlic cloves
  - 1/3 cup extra virgin olive oil
  - 1/2 cup heavy cream
  - 2 tablespoons butter
  - Kosher salt and freshly ground black pepper
- 1 Toast the pine nuts and garlic (still in peel) in a small non-stick skillet over medium heat for 1 minute.
  - 2 Remove garlic. Continue toasting pine nuts until they get golden brown, about 2 more minutes. Be careful! Pine nuts toast quickly so you must watch them closely.
  - 3 Remove the garlic from peel and place into food processor with basil leaves, Parmesan cheese, pine nuts, and salt and pepper to taste. Begin processing, drizzling in olive oil while it mixes. Set aside.
  - 4 Add cream and salted butter to small saucepan over medium-low heat and bring to a simmer,



- 5 Add pesto and whisk to blend. Heat through for a minute or so until hot.
- 6 To serve, arrange half of the cooked gnocchi to a medium-size skillet with the pesto sauce.
- 7 Gently stir together and cook until warm, about 2 minutes. Serve warm.

\*\*\*You will have excess gnocchi – we can use it for another dish.

## Gratin Dauphinoise

Makes 8 to 10 servings



- 3 pounds russet potatoes
- 3 to 4 tablespoons butter (softened)
- Salt and white pepper
- Pinch of nutmeg
- ½ pound (8 ounces) grated Gruyere cheese
- 2 cups (24 ounces) half-and-half
- 3 egg yolks

- 1 Preheat the oven to 350 degrees.
- 2 Peel the potatoes and thinly slice using a mandolin. (Put the potatoes in a bowl of water to prevent discoloration.)
- 3 Generously butter a baking dish (ask Chef – these are in her office).
- 4 Arrange the potatoes in the baking dish in a single layer. Season with salt, white pepper and a pinch or two of nutmeg. Sprinkle with a thin layer of cheese.
- 5 Repeat the process with the potatoes, salt, pepper, nutmeg and cheese. **\*Reserve about 1/3 of the cheese and set aside.**

- 6 Heat the half-and-half to a simmer.
- 7 Whisk the egg yolks together in a bowl, then gradually add to the half-and-half, whisking constantly.
- 8 Pour the mixture over the potatoes and sprinkle with the remaining cheese.
- 9 Bake until the potatoes are tender and golden brown, 30 to 45 minutes.

## Potato Onion Upside Down Pie

Makes 4 servings



- 2 1/2 tablespoons butter
  - sprigs thyme, strip the leaves from the stems
  - 1 large onion, sliced somewhat thickly (a tad more than 1/4 inch thick) (keep the onions together – do NOT separate into rings)
  - 1 pound red potatoes, washed and very thinly sliced
  - 2 tablespoons olive oil
  - Sea salt and freshly ground black pepper
  - 2 cup grated gruyere
  - 1/2 cup crumbled feta
  - 1 cup grated mozzarella
- 1 Preheat oven to 400 degrees.
  - 2 Melt the butter in a 9-10 inch cast-iron skillet over medium heat. Add the thyme and onion and cook for 5 minutes, being careful not to break up the onion.
  - 3 Place the potato, oil, cheeses, salt and pepper in a bowl and toss to combine.
  - 4 Arrange the potato mixture gently on top of the onions in the skillet.
  - 5 Transfer the skillet to the oven, and bake for 45 minutes or until golden brown and cooked through.



- 6 Turn upside down on a serving platter to serve.

## Chapter 5:

### *GRAINS*

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Botanically, grains are grasses that bear edible seeds. Corn, rice and wheat are the most significant. Both the fruit (that is, the seed or kernel) and the plant are called a grain.

Most grain kernels are protected by a hull or husk. All kernels are composed of three distinct parts: the bran, endosperm and germ. The bran is the tough outer layer covering the endosperm. Bran is a good source of fiber and B-complex vitamins. The endosperm is the largest part of the kernel and is a source of protein and carbohydrates (starch). It is the part used primarily in milled products such as flour. The germ is the smallest portion of the grain and is the only part that contains fat. It is also rich in thiamin. The bran, endosperm and germ can be separated by milling.

This section presents information on corn, rice and wheat as well as several minor grains that are nutritionally significant and gaining popularity.

Some products are available in a stone-ground form. This means that the grains were ground with a stone mill rather than by the steel blades typically used for cracking, grinding, hulling and pearling. Stone grinders are gentler and more precise, so they are less likely to overgrind the grain. Stone-ground products will always be labeled as such and are usually more expensive than steel-ground ones.

## **CORN**

Corn is the only grain that is also eaten fresh as a vegetable. Its use as a dried grain dates back several thousand years in Central America and long preceded its use as a vegetable.

### **Cornmeal**

Cornmeal is made by drying and grinding a special type of corn known as dent, which may be yellow, white or blue. Cornmeal is most often used in breads, as a coating for fried foods or cooked as polenta or mush. Products made with cornmeal have a gritty texture and a sweet but starchy flavor.

### **Hominy**

Hominy, also known as 'posole' or 'samp' is dried corn that has been soaked in hydrated lime or lye. This causes the kernels to swell, loosening the hulls. The hulls and germs are removed and the kernels dried. These white or yellow kernels resemble popcorn, but with a soft, chewy texture and smoky-sour flavor. Hominy is available dried or cooked and canned. It may be served as a side dish or used in stews or soups. Masa harina, a finely ground flour made from dried hominy, is used for making breads, tortillas, tamales and other Mexican and southwestern dishes.

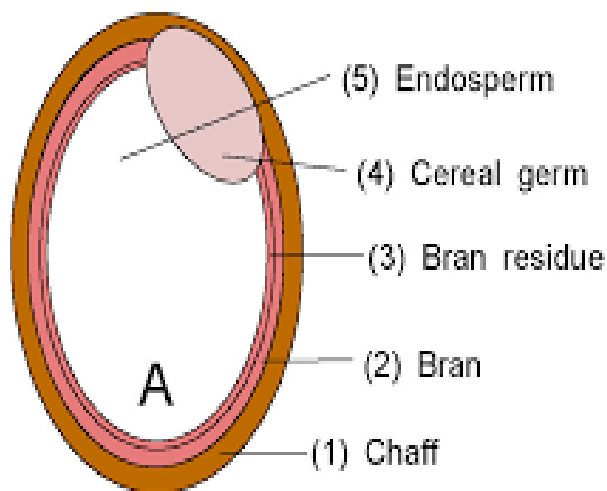
## Grits

Grits are traditionally made by grinding dried hominy. These tiny white granules may be used in baked dishes but are most often served as a hot breakfast cereal, usually topped with butter or cheese. Quick-cooking and instant grits are available.

## RICE

Rice is the starchy seed of a semiaquatic grass. Probably originating on the Indian subcontinent or in Southeast Asia, rice is used as a staple by more than half the world's population.

Rice can be incorporated into almost any cuisine, from Asian to Spanish to classic French. Its flavor adapts to the foods and seasonings with which the rice is cooked or served. Its texture adds an appealing chewiness to meat and poultry dishes, salads, breads and puddings. Rice is not limited to a side dish, but may be used in stews or curries; for stuffing vegetables or game birds; and in puddings, salads, beverages (such as Mexican horchata) and breads.



*Rice*

Rice is divided into three types based on seed size: long-grain, medium grain and short-grain. Long-grain rice is the most versatile and popular worldwide. The grains remain firm, fluffy and separate when cooked. (Long grain rice can, however, become sticky if overcooked or stirred frequently during cooking.) Short-grain rice has more starch and becomes quite tender and sticky when cooked. Italian risotto, Japanese sushi and Spanish paella are all traditionally made with short-grain rice. The appearance and starch content of medium-grain rice falls somewhere in between. Medium-grain rice becomes sticky when cool, so it is best eaten freshly made and piping hot.



*Long Grain Rice*

Long-grain, medium-grain and short-grain rice are available in different processed forms. All rice is originally brown. The grains can be left whole, with the bran attached, for brown rice. On the other hand, they can be pearled for the more familiar polished white rice. Both brown rice and white rice can be processed into converted rice and instant rice.

Converted rice is parboiled to remove the surface starch. This procedure also forces nutrients from the bran into the grain's endosperm. Therefore, converted rice retains more nutrients than regular milled white rice, although the flavor is the same. Converted rice is neither pre-cooked nor instant; in fact, it cooks more slowly than regular milled white rice.

Instant or quick-cooking rice is widely available and useful if time is a concern. Instant rice is created by fully cooking and then flash freezing milled rice. Unfortunately, this processing removes some of the nutrients and flavor.



*Arborio Rice*

Arborio is a round, short-grain rice used primarily in Italian dishes such as risotto. It is very sticky, with a white color and mild flavor.



Basmati Rice

Basmati is one of the finest long-grain rice in the world. It grows in the Himalayan foothills and is preferred in Indian cuisine. It is highly aromatic, with a sweet, delicate flavor and a creamy yellow color. Basmati rice is usually aged to improve its aromatic qualities and should be washed well before cooking. Jasmine rice is another aromatic long-grain rice. Similar to basmati, it is grown in Thailand and used throughout Southeast Asia.



*Brown Rice*



Brown rice is the whole natural grain of rice. Only the husk has been removed. Brown rice has a nutty flavor; its chewy texture is caused by the high-fiber bran. Brown rice absorbs more water and takes longer to cook than white rice.

### Sticky Rice

Sticky rice is a short-grain rice used in many Asian cuisines. The short grains are fat and round with a high starch content and a pearly white color. When cooked, the grains tend to clump together, forming a sticky mass. Sticky rice must be soaked for several hours before being cooked. Also known as glutinous rice or sweet rice, it can be ground into flour and used for dumplings and pastries. Japanese sake and mirin and Chinese 'Shaoxing' are made from fermented sticky rice, as is rice vinegar.



### Wild Rice

Wild rice is prepared in the same manner as traditional rice, although it is actually the seed of an unrelated reed-like aquatic plant. Wild rice has long, slender grains with a dark brown to black color. It has a nuttier flavor and chewier texture than traditional rice. Three grades are available: giant (the best quality, with very long grains); fancy (a medium-sized grain, suitable for most purposes); and select (a short grain, suitable for soups, pancakes or baked goods). Cultivated in California, Idaho and Washington, it is generally served with game, used as a stuffing for poultry, or, combined with regular rice for a side dish. Wild rice is expensive, but small quantities are usually sufficient.

### Guidelines for Cooking Rice

Rice may be rinsed before cooking to remove dirt and debris, but doing so also removes some of its nutrients. It is not necessary to rinse most American-grown rice, which is generally clean and free of insects.

Rice may also be soaked before cooking. Soaking softens the grains, removes some starch and speeds cooking. **The standard ratio** for cooking rice is **two parts liquid to one part rice**. The actual ratio varies, however, depending on the type of rice.

**Note:** Once cooked, rice is highly perishable. Because of its neutral pH and high protein content, cooked rice is a potentially hazardous food. To avoid the risk of food-borne illnesses, be sure to hold hot rice at 135° F (57°C) or higher. Leftover rice must be quickly cooled and stored at 41°F (5°C) or below. Leftover rice must be reheated to 165°F (74°C) or higher.

*Cooking Rice:*

RATIO				
RICE: WATER		PREPARATION	COOKING TIME	YIELD FROM
			(SIMMERING)	1 CUP RAW RICE
Arborio	1: 2.5-3	Do not rinse or soak	15-20 min.	2½-3 c. (560-675 ml)
Basmati	1:1.75	Rinse well; soak	15 min.	3 c. (675 ml)
Brown, long-grain	1:2.5	Do not rinse; may soak	45-50 min.	3-4 c. (675-900 ml)
Converted	1: 2.5	Do not rinse	20-25 min.	3-4 c. (675-900 ml)
White, long-grain (regular milled)	1:2	Do not rinse	15 min.	3 c. (675 ml)
Wild	1:3	Rinse	35-60 min., depending on grade	3-4 c. (675-900 ml)

Wild pecan rice is neither wild nor made with pecans. It is a unique long-grain rice grown only in the bayou country of southern Louisiana. Wild pecan rice has a nutty flavor and exceptionally rich aroma.

*WHEAT*

Wheat is most often milled into the wide range of flours. Wheat and products derived from it are also used as starchy side dishes or ingredients in soups, salads, ground meat dishes and breads. These products include cracked wheat, bulgur and couscous. When cooked, they are slightly chewy with a mild flavor. All should be fluffy; none should be soggy or sticky.



Wheat germ and wheat bran are widely available and highly touted for their nutritional values. Bran and germ are not generally used plain, but may be added to bread or other cooked dishes.



*Cracked Wheat*

Cracked wheat is the whole-wheat kernel (known as a berry) broken into varying degrees of coarseness. It is not precooked, and the kernel's white interior should be visible. The bran and germ are still intact, so cracked wheat has a great deal of fiber but a short shelf life. Whole-wheat berries must be soaked for several hours before cooking. Cracked wheat can be fully cooked by long, gentle simmering.



*Bulgur*

Bulgur is a wheat berry that has had the bran removed; it is then steam cooked, dried and ground into varying degrees of coarseness. Bulgur has a nutlike flavor and texture; it is a uniform golden-brown color (uncooked cracked wheat is not) and requires less cooking time than cracked wheat. Generally, cracked wheat and bulgur cannot be substituted for one another in recipes.

Bulgur needs only to be soaked in water, then drained, for use in salads, or briefly cooked when used in stews or pilafs. Bulgur is good with grilled meats and as an alternative to rice in stuffing and other dishes. The fine grind is most often used in packaged mixes such as tabouli; the medium grind is most often available in bulk.



*Couscous*

Couscous is made by removing the bran and germ from durum wheat berries. The endosperm is then steamed, pressed to form tiny pellets and dried. Couscous is available in varying degrees of coarseness; medium-fine is the most popular. Couscous is prepared by steaming over water or stock in a pot called a couscoussiere. Couscous, traditionally served with North African stews, can be used or served like rice.

Buckwheat/Kasha



*Buckwheat*



*Buckwheat Plant**Buckwheat Groats*

Buckwheat is not a type of wheat; it is not even a grain. Rather, it is the fruit of a plant distantly related to rhubarb. Buckwheat is included here, however, because it is prepared and served in the same manner as grains. The whole buckwheat kernel is known as a groat. The product most often sold as buckwheat is actually kasha, which is a hulled, roasted buckwheat groat.

*Kasha*

Kasha is reddish brown with a strong, nutty, almost scorched flavor. It is available whole or ground to varying degrees of coarseness. Whole kasha remains in separate grains after cooking; the finer grinds become rather sticky. Kasha can be served as a side dish, usually combined with pasta or vegetables, or it can be chilled and used in salads.

Raw buckwheat groats are ground into flour typically used in pasta, blini and other pancakes. Buckwheat flour contains no gluten-forming proteins, and it tends to remain grainy, with a sandy texture. Therefore, it should not be substituted for all the wheat flour in breads or baked goods.



### *Millet*

Millet is a high-protein cereal grain with a bland, slightly nutty flavor and a white color. Used principally as animal fodder in the United States, millet can be cooked and eaten like rice or toasted like buckwheat and cooked like kasha. It can also be ground for flour (when used for baking, it is best combined with wheat flour). Millet is usually sold hulled, as the husk is extremely hard.



### *Oats*

*Rolled*

*Steel Cut*

After rice, oats are probably the most widely accepted whole-grain product in the American diet. Oats are consumed daily as a hot breakfast cereal (oatmeal) and are used in breads, muffins, cookies and other baked goods.

An oat groat is the whole oat kernel with only the husk removed. It contains both the bran and germ. **Steel cut oats**, sometimes known, as Irish oats, are groats that are toasted and then cut into small pieces with steel blades. **Rolled oats**, marketed as "old-fashioned oats," are groats that have been steamed, then rolled into flat flakes. **Quick-cooking oats** are simply rolled oats cut into smaller pieces to reduce cooking time. Instant oats are partially cooked and dried before rolling so that they need only to be rehydrated in boiling water. Rolled oats and quick-cooking oats can be used interchangeably, but instant oats should not be substituted in most recipes. **Oat bran** is the outer covering of a hulled oat. It is available as a separate product, although rolled and cut oats do contain some oat bran.

The term **oatmeal** is commonly used to refer to both processed groats and the cooked porridge made from them. The processed groats known as oatmeal are a gray-white color with a starchy texture and sweet flavor. They cook into the soft, thick porridge with a robust flavor called oatmeal.



*Quinoa*

Quinoa is native to the South American Andes and was a common food of the Incas , who referred to it as the "mother grain." Although not botanically a true grain, quinoa's tiny seeds are treated as such. The grains (seeds) are small, flattened spheres, approximately 1/16 inch (15 millimeters) in diameter, ringed with the germ. They become translucent when cooked and have a slightly smoky or sesame-like flavor. Several varieties of quinoa are available, ranging in color from dark brown to almost white. The larger whiter varieties are most common and are considered superior.

Quinoa seeds have a natural, bitter-tasting coating, which protects them from birds and insects. Consequently, they should be placed in a fine-meshed colander and rinsed well with cool water for several minutes before use. Quinoa can then be cooked like rice, and will absorb about twice its volume of water. For a nuttier taste, toast the grain in a hot dry pan for about 5 minutes before adding the liquid. Quinoa can also be eaten as a hot breakfast cereal served in lieu of rice. It also finds use as a thickener for soups, stews, and in salads, casseroles, breads and desserts. Quinoa flour, ground from whole seeds, has a delicate nutty flavor. A gluten-free product, it is suitable for anyone bothered by wheat allergies. Quinoa is marketed as the world's "super grain" because the seeds form a complete protein (with all of the essential amino acids) and contain important vitamins and minerals as well as carbohydrates and fat. Quinoa should be kept in the refrigerator or freezer for long-term storage. The leaves of the quinoa plant are similar to spinach and can be eaten as a vegetable.

## NUTRITION

Grains are an excellent source of vitamins, minerals, proteins and fiber. The amount of milling or refining and the method of preparation affect their nutritional values, however. Unrefined and less-refined grains are excellent sources of dietary fiber. Rice is also quite nutritious: It is low in sodium and calories and contains all the essential amino acids. Some grains, especially white rice and oats, are usually enriched with calcium, iron and B-complex vitamins.

## *PURCHASING AND STORING GRAINS*

### PURCHASING

When buying grains, look for fresh, plump ones with a bright, even color. Fresh grains should not be shriveled or crumbly; there should be no sour or musty odors. Grains are sold by weight. They come in bags or boxes ranging from one to 100 pounds. Ten-, 25- and 50-pound units are usually available.

### STORING

All grains should be stored in airtight containers placed in a dark, cool, dry place. Airtight containers prevent dust and insects from entering. Airtight containers and darkness also reduce nutrient loss caused by oxidation or light. Coolness inhibits insect infestation; dryness prevents mold. Vacuum-sealed packages will last for extended periods. Whole grains, which contain the oily germ, can be refrigerated to prevent rancidity.

### **Cooking methods**

Three basic cooking methods are used to prepare grains: simmering, risotto and pilaf. Unlike simmered grains, either those cooked by the 'risotto' or the 'pilaf' method are first coated with



hot fat. The primary distinction between the pilaf and risotto methods is the manner in which the liquid is then added to the grains. When grains are used in puddings, breads, stuffings and baked casseroles, they are usually first fully cooked by one of these methods.

## DETERMINING DONENESS

Most grains should be cooked until tender, although some recipes do require a chewier (al dente) product. Doneness can usually be determined by cooking time and the amount of liquid remaining in the pan. Some grains, such as wild rice, are fully cooked when they puff open.

In general, grains will be fully cooked when almost all the cooking liquid has been absorbed. This is indicated by the appearance of tunnel-like holes between the grains. Grains can be cooked until almost all of the liquid is absorbed, then removed from the heat and left to stand, covered, for 5 to 10 minutes. This allows the cooked grains to absorb the remaining moisture without burning.

## SIMMERING

The most commonly used method for preparing grains is simmering. To do so, simply stir the grains into a measured amount of boiling salted water in a saucepan on the stovetop. When the liquid returns to a boil, lower the heat, cover and simmer until the liquid is absorbed and the grains are tender. The grains are not stirred during cooking. The grains can be flavored by using stock as the cooking liquid. Herbs and spices can also be added.

### **~ Procedure for Simmering Grains ~**

1. Bring the cooking liquid to a boil.
2. Stir in the grains. Add herbs or spices as desired or as directed in the recipe.
3. Return the mixture to a boil, cover and reduce to a simmer. Simmer the grains until tender and most of the liquid is absorbed. Remove the grains from the heat.
4. Drain if appropriate or keep covered and allow the excess moisture to evaporate, approximately 5 minutes. Fluff the grains with a fork before service.

## ***RISOTTO METHOD***

Risotto is a classic northern Italian rice dish in which the grains remain firm but merge with the cooking liquid to become a creamy, almost pudding-like dish. True risotto is made with a short-grain starchy rice such as Arborio, but the risotto method can also be used to cook other grains such as barley and oats.

The grains are not rinsed before cooking, as this removes the starches needed to achieve the desired consistency. The grains are coated, but not cooked, in a hot fat such as butter or oil. A hot liquid is then gradually added to the grains so that the mixture is kept at a constant simmer. The cooking liquid should be a rich, flavorful stock. Unlike simmering and the pilaf method, the risotto method requires frequent, sometimes constant, stirring.

When finished, the grains should be creamy and tender, but still 'al dente' in the center. Grated cheese, heavy cream, cooked meat, poultry, fish, shellfish, herbs and vegetables can be added to create a flavorful side dish or a complete meal.

### **~ Risotto Cooking Method Procedure ~**

Bring the cooking liquid (usually a stock) to a simmer.

1. Heat the fat in a heavy saucepan over moderate heat. Add any onions, garlic or other flavoring ingredients and sauté for 1 to 2 minutes without browning.
2. Add the grains to the saucepan. Stir well to make sure the grains are well coated with fat. Do not allow the grains to brown.
3. Add any wine and cook until it is fully absorbed.
4. Begin to add the simmering stock, 4-fluid ounces (120 milliliters) at a time, stirring frequently. Wait until each portion of cooking liquid is almost fully absorbed before adding the next.
5. Test for doneness after the grains have cooked for approximately 18 to 20 minutes.
6. Remove from heat and stir in butter, grated cheese, herbs or other flavoring ingredients as directed. Garnish and serve immediately.

### ***PILAF METHOD***

For the pilaf method, the raw grains are lightly sautéed in oil or butter, usually with onions or seasonings for additional flavor. Hot liquid, often a stock, is then added. The pan is covered and the mixture is left to simmer until the liquid is absorbed.

### **~ Pilaf Cooking Method Procedure ~**

1. Bring the cooking liquid (either water or stock) to a boil.
2. Heat the fat in a heavy saucepan over moderate heat. Add any onions, garlic or other flavorings and sauté for 1 to 2 minutes without browning.
3. Add the grains to the saucepan. Stir well to make sure the grains are well coated with fat. Do not allow the grains to brown.
4. All at once, add the hot cooking liquid to the sautéed grains.
5. Return the liquid to a boil; reduce to a simmer and cover.
6. Allow the mixture to simmer, either in the oven or on the stovetop, until the liquid is absorbed.

**Discussion Questions:**

1. Name three products of corn
2. Name the three types of rice based on seed size.
3. Describe Arborio rice.
4. Name two aromatic forms of rice.
5. Other than rice, what other grain is popular in the American diet?

**RECIPES FOR GRAINS*****How to Cook Rice on the Stove*****Ingredients**

1 cup rice  
2 cups water  
1/2 teaspoon salt  
1 tablespoon butter or oil (optional)

**Equipment**

Small (2-quart or so) saucepan with a lid  
Stirring spoon

**Pre-cooking:** It's good practice to rinse your rice in a strainer before cooking. This is not strictly necessary, but it will rinse off any dusty starch on the surface of the rice along with any leftover chaff or stray particles. (Some forms of rice have a more starchy coating than others do.)

1. **Measure the Rice and Water:** For most rice, use a 1:2 ratio of one cup of rice to two cups of water. Some rice varieties will need a little less or a little more water as it cooks, so check the package for specific instructions.
2. **Combine the water and the rice in the saucepan.** Add the salt and butter or oil. Bring to a boil, then reduce the heat to medium-low, place a lid on the pot (Do not take off the lid while the rice is cooking — this lets the steam out and affects the cooking time.) and cook until all liquid has evaporated, 18 to 20 minutes. Remove from the heat and allow sitting for a few minutes before fluffing it with a fork. Rice expands as it cooks, so use a saucepan large enough to accommodate. A 2-quart saucepan for one to two cups of uncooked rice is a good size.

## Creamy Polenta

Makes 6 servings



**Polenta** is coarsely or finely ground yellow or white cornmeal boiled with water or stock. It can be eaten ‘as is’, or baked, fried, and grilled. *Polenta* is an Italian word, derived from the Latin for hulled and crushed grain, especially barley-meal. **Crème Fraîche** is a soured cream containing about 28% butterfat. It is less sour than U.S. - style sour cream and has a lower viscosity and a higher fat content.

- cups (1 quart) chicken broth (or water)
- 2 teaspoons minced garlic
- 1 cup yellow cornmeal or polenta
- 1 tablespoon Kosher salt
- 1 teaspoon freshly ground black pepper
- 1 cup plus 2 tablespoons grated Parmesan cheese
- ¼ cup crème fraîche
- 2 tablespoons butter

- 1 Heat the chicken stock (or water) in a large saucepan over medium-high heat. Add the garlic and bring the stock to a boil.
- 2 Reduce the heat to medium-low, and very slowly whisk in the cornmeal or polenta and continue whisking to avoid lumps from forming.
- 3 Add the salt and pepper and simmer, stirring constantly with a wooden spoon until the mixture thickens, 8 to 10 minutes. Gently scrape the bottom of the pan while stirring to prevent sticking.

- 4 Remove the saucepan from the heat, stir in the Parmesan, crème fraiche and butter. Adjust seasoning and serve hot with extra Parmesan sprinkled on top.

## Rice Pilaf with Peas and Herbs

Makes 4 to 6 servings



- 3 tablespoons unsalted butter
- 1/3 cup chopped yellow onions
- 1 teaspoon minced garlic
- 1 1/2 cups basmati rice
- 1/4 teaspoon salt
- 1/4 teaspoon ground black pepper
- 2 3/4 cups chicken stock

- 1 cup frozen peas (thawed)
- 2 tablespoons minced flat-leaf parsley
- 1 tablespoon minced fresh mint

- 1 Melt the butter in a medium saucepan over medium-high heat.
- 2 Add the onions and cook, stirring, for 3 minutes. Add the garlic and cook, stirring, for 30 seconds or until aromatic. Add the rice, salt, and pepper, and cook, stirring, until the rice is glassy, about 2 minutes.
- 3 Add the stock and bring to a boil. Reduce the heat to low, cover, and cook until almost all the liquid is absorbed, about 10 minutes.
- 4 Add the peas without stirring. Cover and continue to cook until the liquid is absorbed, about 4 minutes.
- 5 Remove from the heat and let sit covered without stirring for 15 minutes.
- 6 Fluff with a fork. Add the parsley and mint and gently stir to combine.
- 7 Adjust seasoning to taste and serve.

## Tabbouleh My Way

Makes 8 Servings



**This is a salad of Lebanese origin consisting chiefly of cracked wheat, tomatoes, parsley, mint, onions, lemon juice, and olive oil.**

- 1 cup fine bulgur (No. 1)
- 1 1/3 cups fresh lemon juice, 5 to 6 large lemons
- 3 bunches scallions, trimmed and chopped
- 3 cups minced flat-leaf parsley (about 2 bunches)
- 3 large ripe tomatoes, chopped
- 1/3 cup extra virgin olive oil
- Salt and freshly ground black pepper

- 1 Put the bulgur into a large glass or ceramic dish and stir in 1 cup of the lemon juice and 2 cups water. Cover the bowl and set aside at room temperature until most of the liquid has been absorbed and the bulgur is tender, about 45 minutes.
- 2 Drain the bulgur in a sieve, gently pressing to remove excess liquid.
- 3 Transfer to a clean glass bowl and add the scallions, parsley, tomatoes, olive oil and the remaining 1/3 cup lemon juice.
- 4 Season to taste and stir to blend. Can be served at room temperature or chilled.





## Chapter 6:

### *PASTA*



Pasta is made from an unleavened dough of wheat flour mixed with a liquid. The liquid is usually egg and / or water. The flour can be from almost any grain: wheat, buckwheat, rice or a combination of grains. The dough can be colored and flavored with pureed vegetables, herbs or other ingredients, and it can be cut or extruded into a wide variety of shapes and sizes.

Pasta can be cooked fresh while the dough is still moist and pliable, or the dough can be allowed to dry completely before cooking. Pasta can be filled or sauced in an endless variety of ways. It can stand alone, or used in salads, desserts, soups, or casseroles.

Pasta is widely used in the cuisines of Asia, North America and Europe. In Italy, pasta dishes are usually served as a separate course, often referred to as the *minestre*; in other European countries, Asia and the United States, pasta dishes may be served as an appetizer, entree or side dish.

### IDENTIFYING PASTAS

The better-known pastas are based on the Italian tradition of kneading wheat flour with water and eggs to form a smooth, resilient dough. This dough is then rolled very thin, and cut into various shapes before boiling in water, or dried for longer storage.

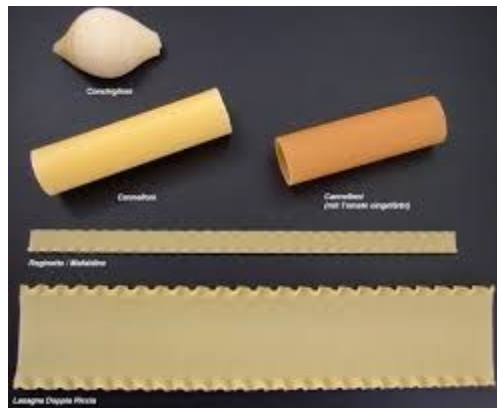
Commercially prepared dried pasta products are usually made with semolina flour. Semolina flour, ground from hard durum wheat and available from specialty purveyors, has a rich cream color and produces a very smooth, durable dough. Semolina dough requires a great deal of kneading, however, and bread flour is an acceptable substitute when preparing fresh pasta by hand.

Asian pasta, generally known as noodles, is made from wheat, rice, bean, or buckwheat flour. It is available fresh or dried from commercial purveyors and at specialty markets.

### ITALIAN-STYLE PASTA

Although all Italian-style pasta is made from the same type of dough, the finest commercial pastas are those made with pure semolina flour, which gives the dough a rich, yellow color. Gray or streaked dough probably contains softer flours. Dried pasta should be very hard and break with a clean snap. The surface should be lightly pitted or dull. (A smooth or glossy surface will not hold or absorb sauces as well.)

Dried pasta, both domestic and imported, is available in a wide range of flavors and shapes. In addition to the traditional white (plain), green (spinach) and red (tomato) pastas, manufacturers are now offering flavor combinations such as lemon-peppercorn, whole wheat-basil and carrot-ginger. Small pieces of herbs or other flavorings are often visible in these products.



There are hundreds of recognized shapes of pasta, but only two or three dozen are generally available in the United States. When experimenting with unusual flavors and shapes, be sure to consider the taste and appearance of the final dish after the sauce and any garnishes are added.

Italian-style pasta can be divided into three groups based on the shape of the final product: ribbons, tubes and shapes. There is no consistent English nomenclature for these pastas; the Italian names are recognized and applied virtually worldwide. (A specific shape or size may be given different names in different regions of Italy, however. These distinctions are beyond the scope of this text.)

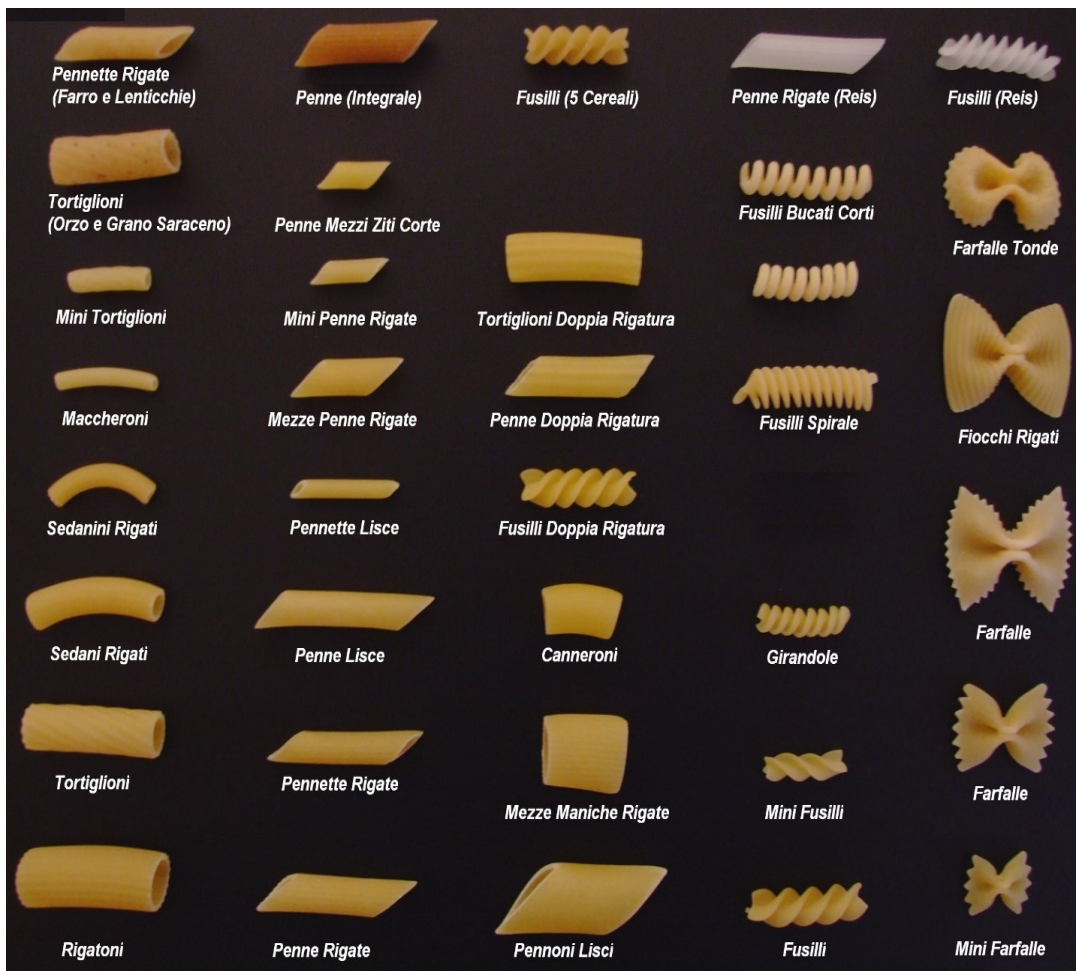


### *Ribbons*

Pasta dough can be rolled very thin and cut into strips, or ribbons, of various widths. All ribbon shapes work well with tomato, fish and shellfish sauces. Thicker ribbons, such as spaghetti and fettuccine, are preferred with cream or cheese sauces. Sheets of fresh pasta dough can be filled and shaped to create ravioli, cappelletti and tortellini. Filled pasta is usually served with a light cream- or tomato-based sauce that complements the filling's flavors.

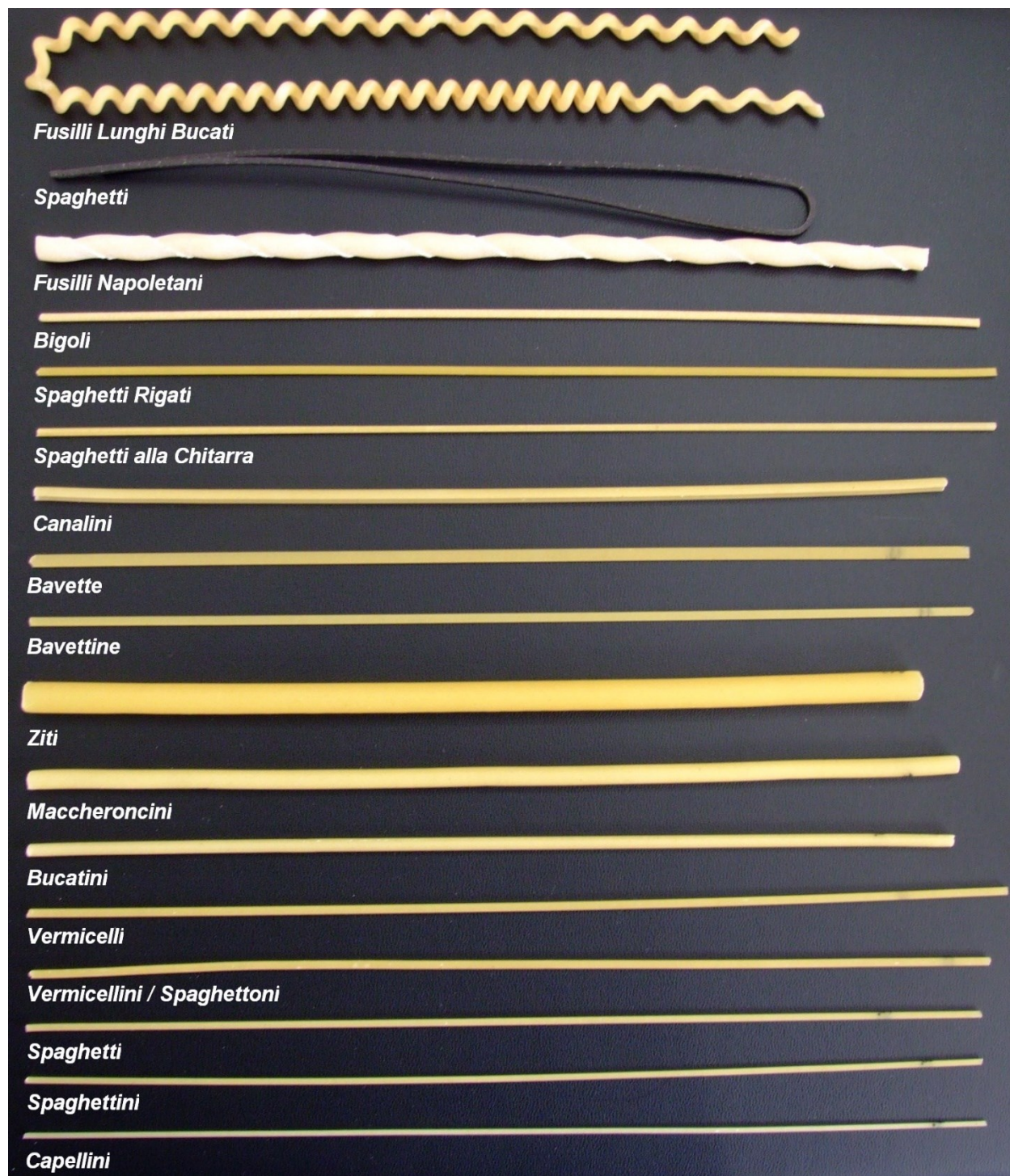
## Tubes

Cylindrical forms or tubes are made by extrusion. The hollow tubes can be curved or straight, fluted or smooth. Tubes are preferred for meat and vegetable sauces and are often used in baked casseroles.



## Shapes – Additional Ribbons














The extrusion process can also be used to shape pasta dough into forms. The curves and textures produced provide nooks and crevices that hold sauces well. Shaped pastas, such as conchiglie, farfalle and fusilli, are preferred with meat sauces and oil-based sauces such as pesto. Larger shaped pastas can be cooked, then stuffed with meat or cheese fillings and baked or served as a casserole.

### ASIAN NOODLES

Asian noodles are not cut into the same wealth of shapes and sizes as Italian-style pasta, nor are they flavored or colored with vegetable purees, herbs or other ingredients.

the difference between Ramen, Udon and Soba



	Ramen	Udon	Soba
thin	✓		✓
thick		✓	
wheat flour	✓	✓	
buckwheat flour			✓
noodles	straight  curly 	wet  dry 	wet  dry 

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Virtually all Asian noodles are ribbons - some thin, some thick-folded into bundles and packaged. Differences arise because of the flours used for the dough. Most dried Asian noodles benefit by soaking in hot water for several minutes before further preparation. The water softens the noodle strands; the bundles separate and the noodles cook more evenly.

### Wheat Noodles

Wheat noodles, also known as egg noodles, are the most popular and most widely available of the Asian noodles. They are thin, flat noodles with a springy texture; they are available fresh or dried. Dried egg noodles can be deep-fried after boiling to create crisp golden noodles (chow mein) used primarily as a garnish. Japanese wheat noodles, known as somen (if thin) and udon (if thick), may be round, square or flat. They are eaten in broth or with a dipping sauce.

### **Rice Noodles**

Rice noodles are thin dried noodles made with rice flour. They should be soaked in hot water before cooking and rinsed in cool running water after boiling to remove excess starch and prevent sticking. Rice noodles are often served in soups or sautéed.

Rice vermicelli, which has very fine strands, can be fried in hot oil without presoaking. In only a few seconds, the strands will turn white, puff up and become crunchy. Mounds of crunchy rice noodles can be used as a base for sautéed dishes or for presenting hors d'oeuvre.

### **Bean Starch Noodles**

Bean starch noodles are also known as spring rain noodles, bean threads, bean noodles or cellophane noodles. They are thin, transparent noodles made from mung beans. Dried bean noodles can be fried in the same manner as rice vermicelli. Otherwise, they must be soaked in hot water before using in soups, stir-fries or braised dishes.

### **Buckwheat Noodles**

Buckwheat flour is used in the noodles of northern Japan and the Tokyo region, known as soba noodles. Soba noodles are available fresh or dried and do not need soaking before cooking. They are traditionally served in broth or with a dipping sauce, but may be substituted for Italian-style pasta if desired.

### **Dumplings**

A **dumpling** is a small mound of dough cooked by steaming or simmering in a flavorful liquid. Dumplings are found in many cuisines: Italian gnocchi, Jewish matzo balls, German spaetzle, Chinese wontons, Belorussian pelmeni and Polish pierogi. Dumplings can be sweet or savory, plain or filled.

**Plain** or **drop** dumplings are made with a bread-like dough, often leavened with yeast or chemical leavening agents. They should be light and tender, but firm enough to hold their shape when cooked. Drop dumplings may be served with stews or broths, or coated with butter or sauce as an appetizer or side dish. **Filled dumplings** are made by wrapping noodle dough around seasoned meat, vegetables, cheese or fruit. These parcels are then steamed, fried or baked and served as a snack food, appetizer or side dish.

*Gnocchi*

Batter (potato) rolled and cut



Cooking Gnocchi

*Spaetzle*

Cooked Spaetzle



Batter passes through device

### **Nutrition**

Pastas are very low in fat and are an excellent source of vitamins, minerals, proteins and carbohydrates. In addition, the processed products are sometimes enriched with additional nutrients.

### **Purchasing and Storing Pasta Products**

Pasta products are purchased by weight, either fresh or dried. Tubes and shapes are not generally available fresh. Dried products, by far the most common, are available in boxes or bags, usually in 1-, 10- and 20-pound units. They can be stored in a cool, dry place for several months. Fresh pasta can be stored in an air-tight wrapping in the refrigerator for a few days or in the freezer for a few weeks.

## ***PREPARING FRESH PASTA***

### **MAKING FRESH PASTA**

Fresh pasta is easy to make, requiring almost no special equipment and only a few staples. The basic form is the sfoglia, a thin, flat sheet of dough that is cut into ribbons, circles or squares.

Although pasta dough can be kneaded by hand, stretched and rolled with a rolling pin and cut with a chef's knife, pasta machines make these tasks easier. Pasta machines are either electric or manual. Some electric models mix and knead the dough, then extrude it through a cutting disk. An extrusion machine is most practical in a food service operation that regularly serves large quantities of pasta. The pasta machine more often encountered is operated manually with a hand crank. It has two rollers that knead, press and push the dough into a thin, uniform sheet. Adjacent cutting rollers slice the thin dough into various widths for fettuccine, spaghetti, capellini and the like.

### **FILLING PASTA**

Sheets of raw pasta dough can be filled or folded to create ravioli (squares), tortellini (round "hats" with a brim of dough), lunettes (circles of dough folded into half-moons), agnolotti (squares of dough folded into rectangles), cappelletti (squares of dough folded and shaped into rings) and other shapes. The filled pieces of dough are then cooked in boiling water using the procedure for cooking pasta ribbons discussed later. The filling can include almost anything - cheese, herbs, vegetables, fish, shellfish, meat or poultry. It can be uncooked or precooked. Nevertheless, any meat filling should be fully cooked before the pasta is assembled, as the time it takes for the dough to cook may not be sufficient to cook the filling.

Cannelloni is a different type of filled pasta: A large square of cooked dough is wrapped around a meat or cheese filling and baked. Popular lasagna dishes are similar. Lasagna are wide, flat sheets of pasta that are cooked and then layered with cheese, tomato sauce and meat or vegetables as desired. The finished casserole is baked and cut into portions.

Some of the larger, commercially prepared pasta shapes such as large shells (*conchiglioni* or *rigate*) or large tubes (manicotti) can be partially cooked in boiling water, then filled, sauced and baked as a casserole.

Asian noodle dough is also made into filled items such as dumplings, wontons, egg rolls (made with egg noodle dough) and spring rolls (made with rice paper). These items are usually steamed, pan-fried or deep-fried. When making filled pasta, consider the flavors and textures of the filling, dough and sauce. Each should complement the others.

### **~ Procedure for Preparing Ravioli ~**

1. Prepare a basic pasta dough of the desired flavor.
2. Prepare and chill the desired filling.
3. Roll out two thin sheets of dough between the rollers of a pasta machine. Gently lay the dough flat on the work surface.
4. Using a piping bag or a small portion scoop, place small mounds of filling on one of the dough pieces. Space the filling evenly, allowing approximately 2 inches (5 centimeters) between each mound.
5. Brush the exposed areas of dough with water.

6. Gently place the second sheet of dough over the mounds and press firmly around each mound to remove air pockets and seal the dough.
7. Cut between the mounds with a chef's knife, pastry wheel or circular cutter.

## **COOKING METHOD**

### **Determining Doneness**

Italian - style pastas are properly cooked when they are al dente, firm but tender. Cooking times vary depending on the shape and quantity of pasta, the amount of water used, the hardness of the water and even the altitude. Fresh pasta cooks rapidly, sometimes in seconds. Noodles and dried pasta may require several minutes.

Although package or recipe directions offer some guidance, the only way to accurately test doneness is to bite into a piece. When the pasta is slightly firmer than desired, remove it from the stove and drain. It will continue to cook through residual heat.

Unlike Italian pasta, Asian noodles are not served al dente. Rather, they are either boiled until very soft or stir-fried until very crisp.

## **BOILING**

All Italian-style pasta and most Asian noodles are cooked by just one method: boiling. The secret to boiling pasta successfully is to use ample water. Allow 1 gallon (4 liters) of water for each pound (450 grams) of pasta.

Use a saucepan or stockpot large enough to allow the pasta to move freely in the boiling water; otherwise, the starch released by the dough will make the pasta gummy and sticky. The water should be brought to a rapid boil, then all the pasta should be added at once.

Salt should be added to the water. Pasta absorbs water and salt during cooking. Adding salt to the pasta after it is cooked will not provide the same seasoning effect.

Chefs disagree on whether to add oil to the cooking water. Purists argue against adding oil, on the theory that it makes the dough absorb water unevenly. Others think oil should be added to reduce surface foam. Another theory is that oil keeps the pasta from sticking, although this works only when added to cooked, drained pasta.

Asian noodles may be prepared by boiling until fully cooked, or they may be parboiled and then stir-fried with other ingredients to finish cooking.

### **~ Procedure for Cooking Pasta to Order ~**

1. Bring the appropriate amount of water to a boil over high heat.

2. Add oil to the water if desired.
3. Add the pasta and salt to the rapidly boiling water.
4. Stir the pasta to prevent it from sticking together. Bring the water back to a boil and cook until the pasta is done.
5. When the pasta is properly cooked, immediately drain it through a colander. A small amount of oil may be gently tossed into the pasta if desired to prevent it from sticking together.
6. Serve hot pasta immediately, or refresh it in cold water for later use in salads or other dishes. (Do not rinse pasta that is to be served hot.)

### **~ Procedure for Cooking Dried Pasta in Advance**

1. Fresh pasta is so delicate and cooks so rapidly (sometimes in as little as 15 seconds) that it should be cooked to order. Dried pasta, however, can be cooked in advance for quantity service.
2. Follow the preceding directions for cooking pasta, but stop the cooking process when the pasta is about two-thirds done.
3. Drain the pasta, rinse it lightly and toss it in a small amount of oil.
4. Divide the pasta into appropriate-sized portions. Individual portions can be wrapped in plastic or laid on a sheet pan and covered. Refrigerate until needed.
5. When needed, place a portion in a china cap and immerse in boiling water to reheat. Drain, add sauce and serve immediately.

### **Accompaniments to Pasta**

Pasta is widely accepted by consumers and easily incorporated in a variety of cuisines—from Italian and Chinese to Eastern European and Spanish. It is used in broths; as a bed for stews, fish, shellfish, poultry or meat; or tossed with sauce. Today's creative chefs are constantly developing nontraditional but delicious ways of serving pasta.

### **Pasta and Broths**

Small shapes can be cooked in the broth with which they are served, or cooked separately, then added to the hot liquid at service time. Soups such as *cappelletti in brodo* and chicken noodle are examples of these techniques.

### **Pasta Sauces**

There are hundreds of Italian pasta sauces as well as sauces for Italian-style pasta, but most can be divided into six categories: ragus, seafood sauces, vegetable sauces, cream sauces, garlic-oil sauces and uncooked sauces.

SAUCE	DESCRIPTION	PASTA SHAPE	GARNISH
Ragu	Braised dishes used as sauce; flavorings, meat or poultry are browned, then a tomato product and stock, wine, water, milk or cream are added	Ribbons, tubes, shapes, filled	Grated cheese
Seafood	White seafood sauces are flavored with herbs and made with white wine or stock; red seafood sauces are tomato-based	Ribbons (fettuccine and capellini)	Fish or shellfish
Vegetable	Includes both traditional sauces made with tomatoes and stock, flavored with garlic and red pepper, and modern sauces such as primavera	Ribbons, tubes, filled	Meatballs, sausage, grated cheese
Cream	Uses milk or cream and sometimes roux; usually cheese is added	Thick ribbons (spaghetti and fettuccine), filled	Ham, peas, sausage, mushrooms, smoked salmon, nuts, grated cheese
Garlic-oil	Olive oil flavored with garlic and herbs; can be hot or cold, cooked or uncooked (pesto is an uncooked, cold sauce)	Ribbons, shapes, filled	Grated cheese (if uncooked or cold), herbs
Uncooked	A variety of dressings and garnishes such as fresh tomatoes, basil and olive oil; or olive oil, lemon juice, parsley, basil and hot red pepper flakes; capers, anchovies, olives, fresh herbs, fresh vegetables, flavored oils and cubed cheeses can also be used	Ribbons, shapes	Cubed or grated cheese, fresh vegetables, herbs

### Terms:

**cracking** a milling process in which grains are broken open

**grinding** a milling process in which grains are reduced to a powder; the powder can be of differing degrees of fineness or coarseness

**hulling** a milling process in which the hull or husk is removed from grains

**pearling** a milling process in which all or part of the hull, bran and germ are removed from grains



**extrusion** the process of forcing pasta dough through perforated plates to create various shapes; pasta dough that is not extruded must be rolled and cut

**macaroni** any dried pasta made with wheat flour and water; only in the United States does the term refer to elbow-shaped tubes

**al dente** Italian for "to the tooth"; used to describe a food, usually pasta, that is cooked only until it gives a slight resistance when one bites into it.

## Creamed Orzo and Leeks

Makes 6 to 8 Servings

**Orzo** is shaped like a large grain of rice. Orzo can be served alone, as a soup accompaniment, as part of a salad, or baked in a casserole or tossed with vegetables and sauce.



- tablespoons butter
- 2 large leeks, cleaned and sliced thinly (both green and white parts)
- 1 cup chicken stock
- 1 cup orzo
- 1/2 cup heavy cream
- Salt and white to taste
- Ground nutmeg to taste
- 4 tablespoons grated Parmesan cheese

- 1 Bring a large pot of salted water to a boil. Add the orzo and cook until al dente, about 10 minutes.
- 2 In the meantime, melt the butter in large skillet over medium heat. Add the leeks and cook, stirring until slightly wilted. Add the chicken stock and simmer until the stock almost disappears.
- 3 Drain the orzo and set aside.
- 4 Add the cream to the pan with the leeks and reduce the heat to medium-low. Add the orzo and stir gently to mix. Season with salt, pepper and nutmeg. Just before serving, add the Parmesan and stir until it melts. Serve immediately.

## Creamy One-Pot Spaghetti with Leeks

Makes 4 servings



- 1 tablespoon extra-virgin olive oil
- 1 tablespoon minced garlic
- 2 tablespoons minced green onions (scallions)
- 2 leeks, cleaned, trimmed and cut crosswise into ¼-inch slices
- 1 tablespoon minced shallots
- 1 anchovy fillet, mashed

- 1 pound thin spaghetti
- 3 3/4 cups chicken stock
- 3/4 cup heavy cream
- 1/2 teaspoon kosher salt
- Freshly ground black pepper to taste
- 2 tablespoons snipped chives
- 1/2 cup plus 2 tablespoons grated Parmigiano-Reggiano cheese

- 1 Heat the oil in a large saucepan over medium heat. Add the garlic, scallions, leeks, and shallots and cook, stirring occasionally, until the leeks are softened, about 6 minutes.
- 2 Add the anchovy, spaghetti, stock, cream, and the 1/2 teaspoon of salt and bring to a boil. Reduce the heat to low and cook, stirring, until the pasta is tender and a sauce forms.
- 3 Stir in the chives and 1 cup of the grated cheese, season with salt and pepper. Serve the pasta with extra cheese on the side.

## Fettuccini Alfredo

Makes 4 Servings



Fettuccine Alfredo is a pasta dish made from fettuccine tossed with Parmesan cheese and butter. As the cheese melts, it emulsifies the liquids to form a smooth and rich coating on the pasta. It was named by an Italian restaurateur at his restaurant *Alfredo* on the Via della Scrofa in Rome in 1914.

- ounces fresh pasta
- 2 tablespoons butter
- ounces heavy cream

- 2 ounces grated Parmesan cheese
  - Salt and white pepper
1. Boil the pasta, keeping it slightly undercooked. Refresh with cool water and drain. Reserve 1 cup of the pasta water.
  2. To make the sauce, combine the butter, cream and Parmesan in a skillet over medium heat. Bring to a boil and reduce the sauce slightly – it should thicken a bit.
  3. Add the pasta to the pan and boil the sauce and pasta until the sauce is thick and the pasta is cooked. Adjust the seasonings and serve.

## Greek Pasta Salad

Makes 8 Servings



- Kosher salt
  - 1 pound farfalle
  - 1/4 cup extra-virgin olive oil
  - tablespoons red wine vinegar
  - 2 teaspoons chopped fresh oregano (get from the garden)
  - 1 cup halved cherry tomatoes
  - 1/3 cup pitted and chopped Kalamata olives
  - 1/2 cup thinly sliced red onions
  - Freshly ground black pepper
  - 2 tablespoons minced fresh dill
  - 1/2 cup crumbled feta
- 1 Fill a large pot with water and generously salt the water. Bring to a boil, add the farfalle and cook until al dente, 12 – 15 minutes. Drain (reserving 1 cup of the pasta liquid) and transfer to a large serving bowl.
  - 2 To make the dressing, whisk the olive oil, red wine vinegar, and oregano in a small bowl.



- 3 Add the tomatoes, olives and onions to the bowl of pasta. Add dressing and toss until evenly coated.
- 4 Season with salt and pepper and add dill, then top with feta.
- 5 COVER THE BOWL AND CHILL FOR 20 MINUTES BEFORE DOING A PRESENTATION PLATE.

## Linguine with Onion, Bacon, and Parmesan

Makes 4 Servings



- 1/2 pound sliced bacon, cut crosswise into 1/2-inch strips
- 2 onions, sliced thin

- 1/2 teaspoon dried thyme (or fresh thyme from the garden)
- 1/8 teaspoon dried red-pepper flakes
- 1 teaspoon salt
- 3/4 pound linguine
- 1/2 cup grated Parmesan cheese, plus more for serving
- 2 tablespoons minced flat-leaf parsley
- 1/2 teaspoon fresh-ground black pepper

- 1 Fry the bacon in a large skillet until crispy. Transfer the bacon to paper towels to drain.
- 2 Pour off all but 2 tablespoons of the bacon fat. Put the pan over medium heat, add the onions, thyme, red-pepper flakes, and 1/4 teaspoon of the salt. Cook, stirring occasionally, until the onions are golden, about 10 minutes. Remove from the heat.
- 3 In a large pot of boiling, salted water, cook the linguine until just done, about 12 minutes. Reserve 1 cup of the pasta water. Drain the linguine and toss with the bacon, onions, 3/4 cup of the reserved pasta water, the Parmesan, parsley, the remaining 3/4 teaspoon salt, and the pepper. If the sauce seems too thick, add more of the pasta water. Serve with additional **Parmesan cheese**.

## Puttanesca Sauce

Makes 6 to 8 Servings

**Spaghetti alla puttanesca** (pronounced [spa'getti alla putta'neska]; literally "spaghetti in the style of a whore" in Italian) is an Italian pasta dish invented in Naples in the mid-20th century. Its ingredients typically include tomatoes, olive oil, anchovies, olives, capers and garlic.

Prostitution has different connotations around the world, but there is only one place where it has inspired a sauce. That place is Italy and the stuff is puttanesca, which translates roughly to "lady of the night." Some sources call the sauce 'Roman' (The Oxford Companion to Italian Food), but it's more commonly associated with Naples, the country's third-largest city, the birthplace of pizza, and home of sirens so seductive that the only way to resist them is to **'fill your ears with beeswax and be tied to the mast of a ship'**. It is made by combining anchovies, capers, olives, and optional ingredients like garlic, red pepper flakes, chile peppers, and tomatoes into a truly tasty gravy.



### From Chef Amelie's Stocks, Sauces & Soups class

- tablespoons olive oil
- anchovy filets
- ¼ teaspoon red chili flakes
- 1 tablespoon minced garlic
- 2 cups diced tomatoes
- cups of tomato sauce \*\*\*See note below
- 1 cup pitted Kalamata olives
- 1 tablespoon capers, rinsed
- 2 tablespoons finely chopped Italian parsley
- Salt and freshly ground black pepper, to taste

- 1 Heat the olive oil in a medium-size saucepan over medium-low heat. Add the anchovies, garlic and red pepper flakes, and stir until almost toasted DO NOT BURN
- 2 Add tomatoes and tomato sauce and simmer for 15 minutes or until sauce has thickened enough to coat the back of a wooden spoon.
- 3 Add olives, capers, and parsley and simmer for 5 minutes longer.
- 4 Season with salt and pepper to taste



## Spaghetti alla Carbonara (Mario Batali)

Makes 6 servings



- tablespoons extra-virgin olive oil
- ounces pancetta or bacon, cut into small dice
- ½ pound spaghetti (thin)
- 1 1/4 cups grated Pecorino Romano
- eggs
- Freshly ground black pepper

- 1 Bring 6 quarts of water to boil in a large pot, and add 2 tablespoons salt.
- 2 Meanwhile, combine the olive oil and pancetta or bacon in a large skillet over medium heat. Cook until the pancetta (or bacon) has rendered its fat and is crispy and golden.
- 3 Remove from the heat and set the pancetta aside (do not drain the fat from the skillet).
- 4 Cook the spaghetti in the boiling water until just al dente. Scoop out ¼ cup of the pasta cooking water and set aside. Drain the pasta.
- 5 Add the reserved pasta water to the pan with the pancetta, and then toss in the pasta and heat, shaking the pan, for 1 minute.
- 6 Remove from the heat, add 1 cup of the Parmigiano, the egg whites, and pepper to taste, and toss until thoroughly mixed.

- 7 Divide the pasta among four warmed serving bowls. Make a nest in the center of each one, and gently drop an egg yolk into each nest.
- 8 Season the egg yolks with more pepper and sprinkle the remaining  $\frac{1}{4}$ -cup Parmigiano over the top. Serve immediately.

## Chapter 7

# *VEGETARIANISM*



Vegetarianism is growing trend with more than six million in the United States choosing to forgo some or all animal products in their diets. A chef needs to understand that it is not necessarily enough to simply remove the meat from the center of the plate. Nor is it always sufficient to offer a plate composed of several starch and vegetable side dishes as if it were a balanced and inviting meal.

## VARIATIONS ON VEGETARIANISM

Although the term ‘vegetarian’ was not widely used until 1847, when England's Vegetarian Society first adopted it to describe people who excluded all animal products from their diets, millions of people have, for thousands of years, eaten little to no meat. Some have done so for religious or philosophical beliefs, others for environmental or health concerns. Still others have done so simply because they did not have regular access to meat.

One of the earliest known proponents of a vegetarian diet was the Greek mathematician and philosopher Pythagoras. He believed that there was a kinship among all living creatures and therefore chose not to eat the flesh of slaughtered animals. Over the next two centuries or so, his beliefs were refined and his followers eventually adopted an ethical code that included vows not to kill living creatures (including animals traditionally sacrificed to the gods) and not eat meat. His teachings and those of his followers have been widespread for centuries.

Other than for small groups of Pythagoreans and some devout, ascetic religious (especially monastic) communities and sects, vegetarianism as a diet of choice never really caught hold in Europe or North America until the 19th and 20th centuries. And even then, until the 1970s, vegetarianism was more often than not chosen as part of a puritanical or spiritual lifestyle devoted to moderation and abstinence from liquor, caffeine and other stimulants.

Today there are many variations on the vegetarian diet. Some vegetarian diets (and lifestyles) exclude the consumption and use of all animal products (and even some plant products), while others allow the adherent to consume some animal or animal-based products. A person who follows a vegetarian diet can be any of the following:

**Vegan** - A person who eats no meat, fish or poultry or any products derived from animals such as milk, cheese, eggs, honey or gelatin; also referred to as a strict or pure vegetarian.

**Raw foodist** - Typically, a vegan who eats only raw or slightly warmed plant products (adherents believe that cooking foods to a temperature of 116°F [47°C] or above destroys enzymes and nutrients). A person on a raw foods diet, also referred to as a living foodist, may soak certain foods such as nuts and sprouts to soften them and increase nutrient absorption.

**Fructarian or fruitarian** - A person who eats only fruits, nuts, seeds and other plant products that can be gathered without harming the plant (so meat only plant matter that has already fallen off the plant).

**Ovo – vegetarian** - A vegetarian who eats eggs but not dairy products.

**Ovo – lacto-vegetarian or lacto-ovo-vegetarian** - A person who eats plant products as well as dairy products and eggs (although some may not eat cheeses made with animal-based enzymes such as rennet, or eggs produced by factory farms) This diet is one of the most typical of vegetarian diets and these terms are often used interchangeably with the term vegetarian.

**Lacto-vegetarian** - A vegetarian who eats dairy products but not eggs.

**Demi-vegetarian** - A vegetarian or ovo-lacto-vegetarian who eats fish.

**Macrobioticist** - A person who follows a diet devised in the 1920s by a Japanese teacher who adhered to a simple meal plan of brown rice, miso soup and sea vegetables (seaweed). Derived from an ancient style of eating common in Asia, this dietary philosophy is based on Chinese concepts of balancing the opposite forces called yin and yang. Brown rice, whole grains, and vegetables form the basis of the diet. Fruits, nuts, refined sugars and refined foods are avoided, although fish is occasionally eaten.

## THE VEGETARIAN DIET

Vegetarianism has become more mainstream over the last century, evolving from a diet followed mainly due to religious or philosophical beliefs to people who now choose a plant-based diet for health reasons. The Dietary Guidelines for Americans 2005, as well as recommendations from the major health groups (American Cancer Society, American Heart Association, and American Dietetic Association), stress the importance of fruits, vegetables, legumes and whole grains - the foundation of a plant-based diet. Studies have shown that the incidence of chronic diseases such as obesity, cardiovascular disease, cancer and Type 2 diabetes are lower for vegetarians than for non-vegetarians. It is important to note that other healthy lifestyle factors (not smoking, moderate use or abstinence from alcohol, and exercise) that vegetarians typically follow might also be responsible for the lower disease rates. All of these factors together probably account for the decreased incidence of disease among vegetarians.

Many people who believe that a plant-based diet is associated with a reduced incidence of disease find it difficult to give up all animal foods. They adapt the principles of vegetarianism to their lifestyles by choosing a diet plan loosely based on vegetarianism - the "flexitarian" plan. Although it is not recognized as a conventional vegetarian diet, people who follow this eating pattern choose a plant-based diet augmented with lean fish and occasional servings of poultry.

Although plant-based diets offer many healthful qualities, careful planning is vital to ensure that the vegetarian is consuming adequate protein, minerals, vitamins and calories. The American Dietetic Association has determined that eating an assortment of plant foods over the course of a day can provide all the essential amino acids required for good nutrition. However, the quality of plant protein and the ability of the body to absorb it may vary. Vegetarian protein needs can be met by consuming soy foods whose protein has been determined to be as effective a source as animal protein.

A vegetarian diet can meet calcium requirements when plant foods that are good sources of calcium such as greens and cruciferous vegetables are eaten. Vegetarians who elect to consume dairy and eggs do not need to be concerned with meeting adequate calcium intake requirements. Soy products that are fortified with calcium and other vitamins are also readily available. The type of iron found in plant foods may not be as readily absorbed as iron from animal sources; therefore, supplements are recommended.

There are no natural plant sources of Vitamin B12, which is crucial for good nutrition, especially for pregnant women and infants. Consumption of dietary supplements, fortified foods or dairy foods is necessary to provide an adequate amount of Vitamin B12 for vegetarians. Vegans have to be particularly mindful of their food choices, because they avoid all animal-based foods. Vegans usually supplement their diet with multivitamin mineral supplements and include fortified and enriched foods. Another area in which a vegetarian diet may be lacking are the fatty acids naturally occurring in fish such as salmon and mackerel. To compensate, dietitians advise that vegetarians consume a good quantity of linoleic acid in their diet. A diet rich in nuts, canola oil, flax and other seeds and soy products are recommended.

Vegetarians who consume dairy and/ or eggs generally have an easier time meeting their nutrient needs. All vegetarians must choose carefully to be certain to meet their calorie needs, however, if they are also attempting to eat a low-fat diet. High-fiber foods such as vegetables, whole grains, legumes, and fruits can reduce calorie intake because these foods tend to make people feel full sooner. Protein intake is not usually a concern for vegetarians who eat a variety of foods. Overall, a carefully planned plant-based diet is a healthy, satisfying way to eat.

## INGREDIENTS FOR VEGETARIAN COOKING

A diet rich in a variety of fruits, vegetables, starches and grains, well prepared and properly seasoned, will satisfy even those adhering to the more strict vegetarian diets. Chefs can prepare flavorful, visually stimulating dishes with a traditional range of ingredients available in most restaurant kitchens.

While the professional kitchen offers hundreds of foods appropriate for all vegetarian diets, chefs can use a number of ingredients to enhance the complexity of their vegetarian cooking. Some foods that replace the protein found in animal products are featured here, as well as other ingredients that may mimic more traditional animal-based foods.



## SOYBEAN-BASED INGREDIENTS

The versatile and protein-rich soybean forms the basis for a wide range of products used in vegetarian and traditional ethnic cuisines worldwide. Soy-based foods have been favorites in Asian cooking for centuries. While there are brown, black and green varieties, most soybeans are yellow. Fresh green soybeans, called 'edamame', are steamed and eaten as a snack. According to the United Soybean Board, soy protein is the only plant protein that is equivalent to animal protein; it is a rich source of phytochemicals, making soy an ideal ingredient for vegetarian cooking. Soy can be made into a diverse range of foods including flour, "milk," cheese and oil.

Soymilk is made from dried soybeans that are soaked and then finely ground and pressed to extract a milky liquid. (Soymilk can be made in any kitchen by soaking, then cooking dried soybeans in hot water before grinding, straining and simmering the liquid.) Soy milk is believed to have originated in China, where it is traditionally served as a sweet or savory breakfast beverage or soup base with a distinct beany flavor. Soymilk comes in liquid or powdered form. Liquid soymilk resembles skim milk and has a slight nutty flavor. Most liquid soymilk is sold in aseptic packaging, giving it a one-year shelf life if unopened. Like other dairy products, once opened, liquid soymilk requires refrigeration and lasts from 5 to 7 days or according to recommendations of the manufacturer. Powdered soymilk is shelf-stable and lasts for a year at room temperature. Many dairy substitutes are made from soymilk, such as soy cheese, soy yogurt and flavored soy beverages.

Soymilk can be used measure-for-measure in all recipes that call for dairy milk. Manufacturing technologies have evolved to produce soymilk products with a richer texture and flavor, more suitable for enriching sauces. When cooking with soymilk, be aware that it can separate at high temperatures. Simmer foods with soymilk gently and acid the soymilk near the end of the cooking time to prevent it from separating.

Tofu, or bean curd is a staple of Japanese and Chinese cuisines and is gaining acceptance in American kitchens because of its high nutritional value, low cost and flavor adaptability. Tofu is made by processing soybeans into soymilk, which is then coagulated, or cultured and formed into a cake. The result is a soft, creamy-white substance similar to cheese. Tofu is easy to digest and is a good source of protein, low in fat and sodium with no cholesterol.

Tofu is an ancient foodstuff, probably created in China during the second century A.D. It was introduced to Japan by Buddhist priests during the eighth century and was "discovered" by Western travelers during the 17th century. Today, Japanese tofu is said to be the finest, perhaps because of the superiority of the soybeans grown in the Yamato region, near the city of Kyoto. Japanese cuisine values the natural flavor and texture of tofu and uses it in a tremendous variety of ways. Chinese cuisine uses it as an additive, not as a principal ingredient.

Tofu may be eaten fresh; added to soup, broth or noodle dishes; tossed in cold salads; grilled, deep-fried or sautéed; or pureed to make a creamy spread. Its flavor is bland, but it readily absorbs flavors from other ingredients.

Two types of tofu are widely available: cotton (or traditional) and silken. **Cotton tofu** is the most common. The soymilk is coagulated (nowadays with calcium sulfate). The curds are then placed in a perforated mold lined with cloth and pressed with a weight to remove the liquid. Cotton tofu is solid, with an irregular surface caused by the weave of the cotton fabric in which it is wrapped for pressing this traditional tofu comes in three styles: soft, firm and extra firm, each style being progressively drier and firmer. Select the style of tofu suited to the preparation. Firmer tofu is solid enough to be grilled, or sautéed. It absorbs the favors of rubs and marinades. Softer tofu may be scrambled like eggs, or processed to form a smooth spread.

**Silken tofu** has a silky-smooth appearance and texture and a somewhat more delicate flavor than cotton tofu. Silken tofu is made in a process similar to the way yogurt is cultured. No curds are formed, nor is whey produced. This makes a tofu with a custard like texture suitable for processing into a creamy substance, good to use as a base for dips or in spreads or smoothies. Because the water has not been pressed out of silken tofu, it should not be cooked at high temperatures or for a long time, as it falls apart easily. Silken tofu can also be drained to make a thicker spread with a consistency similar to mascarpone or cream cheese.

Fresh tofu is usually packaged in water. It should be refrigerated and kept in water until used. If the water is drained and changed daily, the tofu should last for 1 week. Tofu can be frozen for several months, though its texture may be slightly altered after thawing. Weight down the firm tofu while it is thawing to create a denser, firmer product, suitable for grilling. Place a sheet pan on top of the tofu, then place a heavy object such as a #10 can on top of the sheet pan. Drain the liquid from the tofu before using.

**Miso** (MEE-so) is a thick paste made by salting and fermenting soybeans and rice or barley. After soaking, the soybeans are steamed, then crushed. The mixture is blended with water. Rice or barley is added along with salt before the mixture is inoculated with a living culture, *koji* or aspergillus mold. After fermenting and aging, often in large wooden barrels for as long as a year, the paste is ready to use. In Japan, where the manufacture of miso is a fine art akin to cheese making in France, there are countless styles of miso ranging in color from pale to rust and in taste from sweet to salty. In the United States, two types of miso are commonly available: sweet **white miso** (*shiro miso*) and dark or **red miso**. Creamy-colored white miso contains a high percentage of rice and has a mild, somewhat sweet flavor. Dark or red miso, which contains a higher percentage of soybeans, is aged longer and has a stronger, saltier flavor.

Miso can be used in cold and warm preparations but should never be boiled; it contains beneficial enzymes and bacteria that can be killed at high temperatures. A pungent seasoning, miso should be used judiciously so as not to overpower a dish. As little as 1-teaspoon (5 milliliters) per portion can be adequate to flavor a simple broth. With its high salt content, miso will keep indefinitely under refrigeration.

Tempeh is a type of bean cake made from fermented whole soybeans mixed with a grain such as rice or millet. The mixture is inoculated with rhizopus mold, which binds the grains into a firm cake. The traditional food of Indonesia, tempeh has a chewy consistency and a yeasty, nutty flavor. With its chunky texture, tempeh makes a pleasant meat substitute. It lends itself to being marinated for grilling or sautéing. When crumbled, tempeh can be added to soup soy stews to replace ground beef, poultry or pork. A firm cake, tempeh is easily sliced or cut into cubes. Because of the type of live culture used to make it, tempeh should be cooked prior to eating. Proper cooking also tempers its pronounced flavor. Tempeh is sold both fresh and frozen. It lasts for approximately 1 week in the refrigerator or several months when frozen.

Textured soy protein, also known as textured soy flour or TSP, a proprietary name, is a defatted soy protein that is dried and then compressed into granules or chunks or extruded into shapes. Food manufacturers use it as a meat extender and in commercially produced meat replacements. Granulated texturized soy protein must be rehydrated before cooking which causes it to take on a texture similar to that of meat. Larger forms of texturized soy protein benefit from simmering after rehydration. Adding some vinegar or lemon juice to the simmering liquid helps speed rehydration. A shelf-stable dry product, texturized soy protein can be stored for up to a year when tightly sealed at room temperature. Once it has been rehydrated, texturized soy protein must be refrigerated and should be used within a few days.

### ***OTHER POPULAR INGREDIENTS IN VEGETARIAN COOKING***

Seitan (SAY-tan), often referred to as "wheat meat", is a form of wheat gluten, the insoluble protein in wheat. A staple in the diets of Buddhist monks for centuries, seitan has a firm, chewy texture and a bland flavor. Seitan is made by preparing a dough from wheat gluten or wheat flour and water. The dough is repeatedly rinsed to remove any remaining starch or bran. The spongy pieces of seitan are then simmered in a broth of soy sauce or tamari with ginger, garlic and kombu (seaweed). Cooking tenderizes seitan and imbues it with the flavors of the cooking liquid. As it absorbs flavors, seitan can be flavored to mimic many foods. Using seasonings associated with poultry such as thyme and sage brings out a more chicken-like flavor in the seitan, whereas using dark soy sauce and meaty mushrooms can give it a meat-like flavor. Seitan should be added to a dish near the end of cooking, as it is already fully cooked. Fully cooked fresh seitan is sold refrigerated in irregularly sized chunks. Once opened it should be consumed within a few days. Powdered seitan mix is also available.

### ***Grain Beverages***

Many grains and nuts can be used to produce beverages that can be used in place of stock or dairy products when making soups, sauces and custards. Almond, hazelnut, oat and rice milks are commercially available. These ingredients tend to be lower in fat but higher in carbohydrates than their counterparts and they are cholesterol-free.

## *Analogous Foods*

Numerous products made from soy, wheat, grains, or other plant materials are designed to mimic the appearance and texture of popular animal-based products. These commercially prepared products offer a texture and appearance similar to that of their animal-protein-based counterparts. While their flavors are less successful in imitating the actual flavor of their fish, meat or poultry counterparts, many offer consumers the pleasure of eating familiar foods in traditional dishes.

Plant-based products are available in the form of "nuggets," "burgers," "sausage," "hot dogs," "ground meat," "bacon," "cold cuts" and even "pastrami." Soy protein extract and judicious use of appropriate seasonings, such as sage in a turkey-stuffing analogue, help mimic the flavor of their meat counterparts.

In most cases, these analogous food products may be prepared in the same way as their meat, poultry or fish counterparts. Steaming, sautéing, simmering, grilling and baking work well. Follow the manufacturer's directions, keeping in mind that these products are usually fully cooked, requiring only crisping and heating, and could suffer in overcooking.

## ***VEGETARIAN CUISINE: REBALANCING THE CENTER OF THE PLATE***

The principles of vegetarian cuisine are no different from those of the classic kitchen. When creating an appetizing and satisfying vegetarian dish, chefs use the same professional judgment as when preparing a roast or steak. Flavors must be in balance. Ingredients must be thoughtfully selected and skillfully prepared. Only the ingredients themselves vary. Chefs need to understand the basic principles of cooking and work with the textures and flavors offered by plant-based ingredients. Chefs also need to understand the unique role played by animal products in specific recipes they are considering adapting for a vegetarian diner. The muscle fibers in different cuts of meat, poultry and game yield foods with a chewy texture not easily mimicked by vegetable or soy analogues.

Well-marbled meat has fat throughout. When cooked, this fat melts, adding tenderness and flavor to the finished dish. It may be necessary to add fat to enhance flavor and acid moisture to dishes cooked without meats. Replacing animal protein in a main dish with an equal amount of tofu, texturized soy protein, grain, bean puree or plant food may not result in a dish with the same appearance and depth of flavor as the original made with meat. Chefs must carefully choose the ingredients they use. Vegetables should be chosen for their flavor and texture. The mouthfeel each ingredient contributes to a finished dish should also be considered. Ripe avocados, for example, have a rich, creamy texture that can mimic the mouth feel of a soft cream cheese.

Baking without eggs poses a number of challenges because of the function eggs perform in many baked goods. Quick-bread formulas using chemical leavening may be better suited to adapting to vegetarian preparation than cream-style cakes. With these considerations in mind, here are some suggestions on how to plan and prepare to add vegetarian dishes to a restaurant menu.

**Use or adapt items from the regular menu.** Many items on existing menus may be vegetarian or can easily be adapted for a vegetarian diner. Soups, salads, stir-fried vegetables and pasta dishes lend themselves to vegetarian ingredients.

**Grains and beans add texture and satiation.** Think about these versatile starches as the center-of-the-plate offerings when planning a vegetarian menu. Chewy grains such as cooked bulgur, barley and millet offer a good textural appeal that can be lacking in plant-based cuisine. Ensuring that a customer feels sufficiently full is another consideration, something that a plate of steamed vegetables might not offer.

**Take advantage of meaty vegetables and soy products as main attractions in a vegetarian dish.** Eggplant, mushrooms (especially portabellas), okra, sweet potatoes and parsnips have flavor and body that mimics that of meat. Pan-fried breaded eggplant slices or grilled whole portabella mushroom caps offer hearty vegetable alternatives to a slice of chicken or beef.

**Compose dishes with an eye to balancing color.** We eat with our eyes as well as our taste buds. When combining grains and beans on a plate, consider using different colors, such as black beans and red rice or yellow lentils and black-eyed peas.

**Balance textures on the same plate.** Look for complementary and contrasting textures in a vegetarian plate. When serving a creamy puree, such as mashed sweet potatoes, for example, balance the texture with something crunchy or crisp such as fried zucchini or a risotto cake.

**Layer flavors for complexity of taste.** A dish prepared with few ingredients need not be bland or boring. Combine cooking methods in one dish to bring out a complex taste. Sun-dried tomatoes added to a fresh tomato sauce add a rich dimension of taste that might otherwise be lacking.

**Create a vegetarian pantry stocked with ingredients that help enhance plant-based cooking.** Without base flavor notes created from rich meat stocks, vegetarian dishes can lack depth of flavor. Varieties of fresh and dried mushrooms help enrich flavorful stocks, soups and stews. Dried seaweed such as kombu (sea kelp) adds a briny flavor mimicking seafood stock. Soy sauce and miso can give a vegetable broth a savory taste and appealing dark color, as can wine reductions. Richly flavored nut oils such as sesame oil, hazelnut oil and walnut oil can add complex tastes to dishes prepared without rich meat stocks or butter. Olives and dried fruit have intense flavors and pleasing textures that can add variety to a vegetarian dish. Toasted sesame and other seeds and nuts add bursts of flavor and a textural contrast to a dish.

*Seek inspiration from ethnic cuisines in which vegetarian food is traditional.* Asian, Indian, Mexican, Middle Eastern and South American cuisines offer many exciting vegetarian options.

*See Substitution Chart*

**SUBSTITUTES**

<b>Butter</b>	Sautéing	Vegetable oil or vegetable oil spray	
	Flavoring	Nut oil: hazelnut, pecan or walnut; nut butter: almond, cashew, peanut or sesame butter	Additional oil or liquid may be needed; thin nut butters with oil, fruit juices or nut, rice or soy milks
	Spreading	Ground nut spread: almond, Cashew, peanut or sesame butter; vegetable purees: bean, roasted eggplant, red pepper	
	Baking	Dried fruit or cooked vegetable purees	Quick breads, cookies and general baking; may affect color, taste and texture
<b>Cream</b>	Hot soups, sauces	Soy or rice milk; pureed silken tofu	Add at last moment, heating gently to prevent separation
	Cold creams or spreads	Enriched soy milk	Oil may be needed to improve mouthfeel
<b>Sour cream, yogurt</b>	Beverage or custard	Soy coffee creamer	
<b>Eggs</b>	Cold creams or spreads	Pureed silken tofu	
	Leavening	Chemical leavening	Consider loss of color from lack of egg yolk; texture will be denser than product containing eggs
	Emulsifier in sauces such as mayonnaise	Form a temporary emulsion; form emulsion using ground nuts or soaked bread	
<b>Beef, fish or poultry stock</b>	Sauces, soups, stews	Vegetable stock; broth made from miso or seaweed	
<b>Demi-glace</b>	Sauces, stews	Rich vegetable stock made with a larger proportion of vegetables, reduced and thickened with starch	
<b>Gelatin</b>	Thickening, gelling	Agar	Gels more firmly than gelatin

Prepared sauces made  
with fish such as  
nuoc mam, oyster or  
Worcestershire

Flavoring

Soy sauce, balsamic or red  
wine vinegar

## *Vegetarian Recipes*

### **CHIPOTLE AND BLACK BEAN BURRITO**

Makes 6 burritos

1 tablespoon olive oil

- 1 garlic clove, minced
- 1/2 teaspoon chile powder
- 1/4 teaspoon salt
- 1/3 cup water
- 1 (15-ounce) can black beans, drained
- 1 (15-ounce) can kidney beans, drained
- 3 tablespoons salsa (recipe follows)
- (10-inch) reduced-fat flour tortillas (such as Mission)
- 1 cup (4 ounces) pre-shredded Mexican blend cheese
- 1 1/2 cups chopped plum tomato (about 3)
- 1 1/2 cups shredded romaine lettuce
- tablespoons thinly sliced green onions
- tablespoons sour cream

- 1 Heat the oil in a large nonstick skillet over medium heat. Add the garlic and cook, stirring frequently, until fragrant, about 30 seconds.
- 2 Add the chile powder and salt, and cook, stirring, for 30 seconds.
- 3 Add the water and beans, and stir to mix. Bring to a boil, and then reduce the heat to medium-low and simmer, stirring occasionally, for 10 minutes.
- 4 Remove from heat and stir in the \*\*salsa. Partially mash bean mixture with a fork.
- 5 Warm the tortillas (in a non-stick skillet).
- 6 Spoon about 1/3 cup of the bean mixture into the center of each tortilla.
- 7 Top each serving with about 2 1/2 tablespoons cheese, 1/4 cup tomatoes, 1/4 cup lettuce, 1 tablespoon onions, and 1 tablespoon sour cream.
- 8 Roll up and serve immediately.

\*\*MAKE SALSA AND CHILL IN FRIDG.



## PICO DE GALLO SALSA

Makes about 2 1/2 cups

- 2 tablespoons finely chopped green onions, both white and green parts
- ripe plum tomatoes, finely chopped
- 2 teaspoons chopped pickled jalapenos
- 2 tablespoons finely chopped fresh cilantro leaves
- 1 teaspoon salt, or more to taste
- 1/4 teaspoon freshly ground black pepper
- 1/4 teaspoon hot sauce
- tablespoons fresh lime juice

**Combine all of the ingredients in a mixing bowl and toss to mix. Cover and refrigerate for at least one hour before serving.**

## Epicurious Vegetable Burgers

Makes 4 Servings

- 1 ½ tablespoons olive oil
- (1/2-inch-thick) eggplant rounds
- (3- to 4-ounce) meatless patties
- tablespoons mayonnaise
- 2 tablespoons chopped fresh basil
- (3- to 4-inch square) hamburger buns or ciabatta bread, toasted
- large 1/2-inch-thick tomato slices
- Mixed baby greens

- 1 Heat oil in heavy large skillet over medium heat.
- 2 Sprinkle eggplant with salt and pepper.
- 3 Add eggplant to skillet; sauté until brown, about 3 minutes per side.
- 4 Add patties to same skillet. Sauté until patties and eggplant are cooked through, about 3 minutes per side.
- 5 Blend mayonnaise and basil in small bowl, and season with salt and pepper.
- 6 Spread the mayonnaise mixture on bottom half of each bread piece.
- 7 Top with patty, eggplant, tomato, greens and bread.

## HBO Veggie Burger (From True Blood: Eats, Drinks and Bites From Bon Ton)

Makes 8 servings



- 2/3 cup fine grind bulgur wheat
- ¾ teaspoon salt
- 1 cup boiling water
- teaspoons olive oil
- ounces white button mushrooms, wiped clean, stemmed and chopped
- 1 ½ cups chopped yellow onions
- 1 ½ tablespoons balsamic vinegar
- ¾ cup chopped pecans, toasted
- 1 egg, lightly beaten
- ½ cup fine dried breadcrumbs
- Cayenne pepper and Tabasco brand pepper sauce
- whole-wheat buns, warmed

- 1 Put the bulgur and the salt in a small bowl. Pour in the boiling water, cover and set aside until the water is absorbed, about 20 minutes. Drain in a sieve, pressing out any excess liquid.
- 2 Heat 2 teaspoons of the oil in a large non-stick skillet over medium heat.
- 3 Add the mushrooms, onions, balsamic vinegar, and the remaining ½ teaspoon salt.
- 4 Cook, stirring, until the vegetables are soft, 8 to 10 minutes.
- 5 Combine the vegetable mixture and the pecans in a food processor and pulse two or three times to blend.
- 6 Add the egg and the bulgur, and pulse again to blend.
- 7 Transfer the mixture to a large mixing bowl and add the breadcrumbs. Season with cayenne and Tabasco. Mix well.
- 8 With slightly damp hands, form the mixture into 8 patties.
- 9 Heat 2 teaspoons of oil in a large non-stick skillet over medium heat. Cook the patties, in batches of 4, for about 4 minutes on each side, using more oil for each batch.
- 10 Serve the burgers on the buns.

## Portabella Burgers

Makes 4 servings



- medium portabella mushrooms, stems removed and wiped clean
- 1 medium onion, cut into ¼-inch slices
- tablespoons olive oil
- ¾ teaspoon salt
- ½ teaspoon ground black pepper
- 1 avocado, peeled and sliced
- 2 tablespoons low-fat yogurt
- ½ teaspoon minced garlic

- hamburger buns, lightly toasted
  - 1 large red bell pepper (roasted, seeded and sliced)
- 1 Brush the mushrooms and the onions with oil and season with  $\frac{1}{2}$  teaspoon salt and  $\frac{1}{4}$  teaspoon black pepper.
  - 2 Heat a large non-stick or cast-iron skillet over medium heat. Add the mushrooms (do not crowd – cook in two batches if necessary) and cook until just tender, about 4 minutes. Transfer the mushrooms to a plate, cavity side up, and cover to keep warm.
  - 3 In the same skillet, cook the onion slices until golden, 6 to 8 minutes, turning occasionally.
  - 4 Meanwhile, combine  $\frac{1}{2}$  of the sliced avocados with the yogurt, garlic and remaining  $\frac{1}{4}$  teaspoon salt and  $\frac{1}{4}$  teaspoon black pepper. Mash well with a fork until fairly smooth.
  - 5 Spoon equal amounts of the onions and roasted peppers into the mushroom caps.
  - 6 Spread equal amounts of the avocado mixture on the bottom of each bun top each with the stuffed mushrooms.
  - 7 Top with the remaining sliced avocados. Cover with the tops of the buns.

## Tofu Stir-Fry with Fried Rice

Makes 6 servings





### For the Tofu Marinade

Combine the tofu with a pinch of red chili flakes, a tablespoon or two of soy sauce and a sprinkle of rice wine vinegar. Toss to make sure tofu is coated – let marinate for 10 minutes or longer.

### For the Rice

- 1 cup rice
- 2 cups water
- 1 teaspoon salt
- 2 teaspoons olive or vegetable oil

- 1 In a medium saucepan, combine the rice, water, salt and oil.
- 2 Bring to a boil, reduce heat and cover the pot. Simmer until the rice is tender and the water is absorbed, about 20 minutes.
- 3 Remove from the heat and fluff the rice with a fork before serving.

### For the Stir-Fry

- 2 tablespoons sesame oil
- 1 package firm tofu, cut into 1-inch cubes, marinated
- ½ cup quartered white button mushrooms
- 1 medium carrot, julienned
- 1 cup chiffonade of Napa cabbage
- ½ yellow bell pepper, julienned
- scallions (green onions), julienned
- 3 tablespoons soy sauce
- 3 teaspoons oyster sauce
- 2 eggs, lightly beaten
- \*Splash of soy sauce for garnish of each serving

- 1 Place a wok over medium heat. Add 2 tablespoons sesame oil. Once it's hot, add the mushrooms, carrots, Napa cabbage, yellow bell pepper and scallions. Stir-fry quickly.
- 2 Add the tofu, the soy sauce and oyster sauce. \*Try not to break up the cubes of tofu. Toss to mix. Within 5 minutes, stir-fry should be cooked.
- 3 Transfer the mixture to a platter and keep warm.
- 4 In the same wok, add the remaining tablespoon sesame oil and add the lightly beaten eggs.
- 5 Scramble the eggs, then add the cooked rice and fry.

\*Note that this recipe makes 6 servings – so for plate up – put 1 serving of the egg and rice mixture on a warm dinner plate and arrange a portion of the stir-fried vegetables and tofu on top. Splash with a little soy sauce before serving.

## Golden Quinoa Salad with Radish, Dill & Avocado

Serves 4 to 6 as a side dish

- 1 cup organic quinoa
- 1 3/4 cups vegetable stock
- small red radishes, well-cleaned and tops removed, brunoise
- 1/3 seedless English cucumber, about 4 oz, unpeeled, brunoise
- 1 large shallot, minced
- ½ cup chopped dill fronds
- 1/2 lemon, zested and juiced, about 1 1/2 tablespoons
- tablespoons extra-virgin olive oil
- 1/2 tablespoon balsamic vinegar
- 1/8 teaspoon smoked paprika
- 1/2 cup sliced raw almonds
- 1/2 cup pitted dates, roughly chopped
- 1/2 cup grated Parmesan cheese (omit for a vegan adaptation)
- Kosher salt and freshly ground black pepper
- 1 ripe avocado, for garnish



- 1 Rinse the quinoa for 2 to 3 minutes in a fine mesh strainer, rubbing vigorously. Drain.
- 2 Heat a 2-quart saucepan over medium-high heat and add a drizzle of olive oil. When the oil is hot, add the quinoa and cook, stirring, for 1 minute.
- 3 Pour in the stock, bring to a boil, cover, and turn the heat down to low. Cook for 15 minutes. Turn off heat and let sit, covered, for 5 minutes.

- 4 Line a large baking sheet with parchment and spread the cooked quinoa over it in an even layer and cool.
- 5 Combine the radishes, cucumber, shallots and dill, and toss in a bowl with the cooled quinoa.
- 6 Zest the lemon right into the bowl and fold in the zest. Juice the lemon half and whisk the juice together with the olive oil, balsamic vinegar, and smoked paprika until emulsified and thick. Toss this with the quinoa.
- 7 Fold in the almonds, chopped dates, and Parmesan. Taste and season to taste with salt and pepper. CHILL FOR AT LEAST 15 MINUTES BEFORE SERVING. When ready to serve, top with chopped avocado.





Chapter 8:  
*OILS, VINEGARS, & SALADS*



## OILS

Oils are a type of fat that remains liquid at room temperature. Cooking oils are refined from various seeds, plants and vegetables. When purchasing oils, consider their use, smoke point, flavor and cost. Fats, including oils and shortenings, are manufactured for specific purposes such as deep-frying, cake baking, salad dressings and sautéing. Most food service operations purchase different ones for each of these needs. Fats break down at different temperatures. When fats break down, their chemical structure is altered - the triglyceride molecules that make up fat are converted into individual fatty acids. These acids add undesirable flavors to the fat and can ruin the flavor of the food being cooked. The temperature at which a given fat begins to break down and smoke is known as its smoke point. Select fats with higher smoke points for high-temperature cooking such as deep-frying and sautéing.

The flavor and cost of each oil must be considerations. For example, both corn oil and walnut oil can be used in a salad dressing. Their selection may depend on balancing cost (corn oil is less expensive) against flavor (walnut oil has a stronger, more distinctive flavor).

*Terms:*

**smoke point** the temperature at which a fat begins to break down and smoke.

**flash point** the temperature at which a fat ignites and small flames appear on the surface of the fat.

**shortening** (1) a white, flavorless, solid fat formulated for baking or deep-frying; (2) any fat used in baking to tenderize the product by shortening gluten strands.

When fats spoil, they go **rancid**. Rancidity is a chemical change caused by exposure to air, light or heat. It results in objectionable flavors and odors. Different fats turn rancid at different rates, but all fats benefit from refrigerated storage away from moisture, light and air. (Some oils are packaged in colored glass containers because certain tints of green and yellow block the damaging light rays that can cause an oil to go rancid.) Although oils may become thick and cloudy under refrigeration, this is not a cause for concern. The oils will return to their clear, liquid states at room temperature. Stored fats should also be covered to prevent them from absorbing odors.

**Vegetable oils** are extracted from a variety of plants, including corn, cottonseed, peanuts, grape seeds, sesame seeds and soybeans, by pressure or chemical solvents. The oil is then refined and cleaned to remove unwanted colors, odors or flavors. Vegetable oils are virtually odorless and have a neutral flavor. Because they contain no animal products, they are cholesterol-free. If a commercial product contains only one type of oil, it is labeled "pure" (as in "pure corn oil") Products labeled "vegetable oil" are blended from several sources. Products labeled "salad oil" are highly refined blends of vegetable oil.

**Canola oil** is processed from rapeseeds. Its popularity is growing rapidly because it contains no cholesterol and has a high percentage of monounsaturated fat. Canola oil is useful for frying and general cooking because it has no flavor and a high smoke point.

**Nut oils** are extracted from a variety of nuts and are usually packaged as a "pure" product, never blended. A nut oil should have the strong flavor and aroma of the nut from which it was processed. Popular examples are walnut and hazelnut oils. These oils are used to give flavor to salad dressings, marinades and other dishes. Heat diminishes their flavor, so nut oils are not recommended for frying or baking. Nut oils tend to go rancid quickly and therefore are usually packaged in small containers.

**Olive oil** is the only oil that is extracted from a fruit rather than a seed, nut or grain. Olive oil is produced primarily in Spain, Italy, France, Greece and North Africa; California produces a relatively minor amount of olive oil. Like wine, olive oils vary in color and flavor according to the variety of tree, the ripeness of the olives, the type of soil, the climate and the producer's preferences. Colors range from dark green to almost clear, depending on the ripeness of the olives at the time of pressing and the amount of subsequent refining. Color is not a good indication of flavor, however. Flavor is ultimately a matter of personal preference. A stronger-flavored oil may be desired for some foods, while a milder oil is better for others. Good olive oil should be thicker than refined vegetable oils, but not so thick that it has a fatty texture.

The label designations - **extra virgin**, **virgin** and **pure** refer to the acidity of the oil (a low acid content is preferable) and the extent of processing used to extract the oil. The first cold pressing of the olives results in virgin oil. (The designation "virgin" is used only when the oil is 100% unadulterated olive oil, unheated and without any chemical processing.) Virgin oil may still vary in quality depending on the level of free acidity, expressed as oleic acid. Extra virgin oil is virgin oil with not more than 1% free acidity (oleic acid); virgin oil may have up to 3%. Pure olive oil is processed from the pulp left after the first pressing using heat and chemicals. Pure oil is lighter in flavor and less expensive than virgin oil.

**Flavored oils**, also known as infused oils, are an interesting and increasingly popular condiment. These oils may be used as a dip for breads, a cooking medium or a flavoring accent in marinades, dressings, sauces or other dishes. Flavors include basil and other herbs, garlic, citrus and spice. Flavored oils are generally prepared with olive oil for additional flavor or canola oil, both considered more healthful than other fats.

Top-quality commercially flavored oils are prepared by extracting aromatic oils from the flavoring ingredients and then emulsifying them with a high-grade oil; any impurities are then removed by placing the oil in a centrifuge. Using the aromatic oils of the flavoring ingredients yields a more intense flavor than merely steeping the same ingredients in the oil. Flavored oils should be stored as you would any other high-quality oil.

## Condiments

Strictly speaking, a condiment is any food added to a dish for flavor, including herbs, spices and vinegars. Today, however, condiments more often refer to cooked or prepared flavorings, such as prepared mustards, relishes, bottled sauces and pickles served to accompany foods. We discuss several frequently used condiments here. These staples may be used to alter or enhance the flavor of a dish during cooking, or added to a completed dish at the table.

**Chutney** (from the Hindi word for catnip) is a pungent relish made from fruits, spices and herbs and is frequently used in Indian cooking.

**Fermented black bean sauce** is a Chinese condiment and flavoring ingredient made from black soybeans that have been heavily salted, then fermented and either slightly mashed (whole bean sauce) or pureed (paste). Both versions are usually mixed with hoisin, chile sauce or minced garlic to produce a sauce that has an intense, pungent, salty flavor. Yellow bean sauces are similar, but milder and sweeter.

**Fish sauce** is the liquid drained from fermenting salted anchovy-like fish. It is a thin, golden to light brown liquid with a very pungent odor and salty flavor. There is no substitute for the savory richness that it adds to food and it is considered an essential flavoring and condiment throughout South east Asia, where it is used in and served with most every sort of dish.

**Ketchup** (also known as catsup or catchup) originally referred to any salty extract from fish, fruits or vegetables. Prepared tomato ketchup is really a sauce, created in America and used worldwide as a flavoring ingredient or condiment. It is bright red and thick, with a tangy, sweet-sour flavor. Ketchup can be stored either in the refrigerator or at room temperature; it should keep well for up to four months after opening. Ketchup does not turn rancid or develop mold, but it will darken and lose flavor as it ages.

**Prepared mustard** is a mixture of crushed mustard seeds, vinegar or wine and salt or spices. It can be flavored in many ways- with herbs, onions, peppers and even citrus zest. It can be a smooth paste or coarse and chunky, depending on how finely the seeds are ground and whether the skins are strained out. Prepared mustard gets its tangy flavor from an essential oil that forms only when the seeds are crushed and mixed with water. Prepared mustard can be used as a condiment, particularly with meat and charcuterie items, or as a flavoring ingredient in sauces, stews and marinades.

Dijon mustard takes its name from a town and the surrounding region in France that produces about half of the world's mustard. French mustard labeled as "Dijon" must by law, be produced 'only' in that region. Dijon and Dijon-style mustards are smooth with a rich, complex flavor.

English and Chinese mustards are made from mustard flour and cool water. They are extremely hot and powerful. American or "ballpark" mustard is mild and vinegary with a bright yellow color. Unless it contains a high percentage of oil, mustard never really spoils; its flavor just fades away.

## VINEGARS

**Vinegar** is a thin, sour liquid used for thousands of years as a preservative, cooking ingredient, condiment and cleaning solution. Vinegar is obtained through the fermentation of wine or other alcoholic liquid. Bacteria attack the alcohol in the solution, turning it into acetic acid. No alcohol remains when the transformation is complete. The quality of vinegar depends on the quality of the wine or other liquid on which it is based. Vinegar flavors are as varied as the liquids from which they are made.

Vinegars should be clear and clean looking, never cloudy or muddy. Commercial vinegars are pasteurized, so an unopened bottle should last indefinitely in a cool, dark place. Once opened, vinegars should last about three months if tightly capped. Any sediment that develops can be strained out; if mold develops, discard the vinegar.

**Wine vinegars** are as old as wine itself. They may be made from white or red wine, sherry or even Champagne, and should bear the color and flavor hallmarks of the wine used. Wine vinegars are preferred in French and Mediterranean cuisines.

**Malt vinegar** is produced from malted barley. Its slightly sweet, mild flavor is used as a condiment, especially with fried foods.

**Distilled vinegar**, made from grain alcohol, is completely clear with a stronger vinegary flavor and higher acid content than other vinegars. It is preferred for pickling and preserving.

**Cider vinegar** is produced from unpasteurized apple juice or cider. It is pale brown in color with a mild acidity and fruity aroma. Cider vinegar is particularly popular in the United States.

**Rice vinegar** is a clear, slightly sweet product brewed from rice wine. Its flavor is clean and elegant, making it useful in a variety of dishes, especially those of Japanese or Asian origin.

**Flavored vinegars** are simply traditional vinegars in which herbs, spices, fruits or other foods are steeped to infuse their flavors. They are easily produced from commercial wine or distilled vinegars, using any herb, spice or fruit desired. Inferior flavored vinegars are made by adding the desired flavoring to low-grade vinegar. The use of flavored vinegars is extremely popular but definitely not new. Clove, raspberry and fennel vinegars were sold on the streets of Paris during the 13th century. Making fruit-flavored vinegars was also one of the responsibilities of American homemakers during the 18th and 19th centuries.



**Balsamic vinegar** is newly popular in the United States, though it has been produced in Italy for more than 800 years. To produce traditional balsamic vinegar, red or white wine made from specially cultivated grapes (white Trebbiano and red Lambrusco grapes among others), is reduced, then aged in a succession of wooden barrels made from a variety of woods—oak, cherry, locust, ash, mulberry and juniper—for at least 4, but sometimes up to 50, years. The resulting liquid is dark reddish-brown and sweet. Balsamic vinegar has a high acid level, but the sweetness covers the tart flavor, making it very mellow. True balsamic is extremely expensive because of the long aging process and the small quantities available. Most of the commercial products imported from Italy are now made by a quick caramelization and flavoring process. Balsamic is excellent as a condiment or seasoning and has a remarkable affinity for tomatoes and strawberries.

## SALADS

There are all types of salads:

- ✓ the small plate of crisp iceberg lettuce with tomato wedges,
- ✓ cucumber slices and ranch dressing;
- ✓ the dinner plate of sautéed duck breast fanned across bright red grilled radicchio and toothy green arugula, sprayed with a vinaigrette dressing;
- ✓ the scoop of shredded chicken, mango chutney and seasonings, bound with mayonnaise; and the bowl of artichokes and mushrooms marinated in olive oil and lemon juice.

Each of these dishes fits the definition of a salad: a single food or a mix of different foods accompanied or bound by a dressing. A salad can contain meat, grains, fruits, nuts or cheese and absolutely no lettuce. It can be an appetizer, a second course served after the appetizer, an entree (especially at lunch), and a course following the entree in the European manner or even dessert.

The color, texture and flavor of each salad ingredient should complement those of the others, and the dressing should complement all the ingredients. Harmony is critical to a salad's success—no matter what type of salad is being prepared.

## SALAD GREENS

### *Identifying Salad Greens*

Salad greens are not necessarily green: Some are red, yellow, white, or brown. They are all, however, leafy vegetables. Many are members of the lettuce or chicory family.

## LETTUCE

Lettuce has been consumed for nearly as long as people have kept records of what they and others ate. Archaeologists found that Persian royalty were served lettuce at their banquets more than 2500 years ago. Now grown and served worldwide, lettuces are members of the genus *Lactuca*. The most common types of lettuce are butter head, crisp head, leaf, and romaine.



***Boston Bibb***

Boston and bibb are two of the most popular butter head lettuces. Their soft, pliable, pale green leaves have a buttery texture and flavor. Boston is larger and paler than bibb. Both Boston and bibb lettuce leaves form cups when separated from the heads; these cups make convenient bases for holding other foods on cold plates.



***Iceberg***

Iceberg lettuce is the most common of all lettuce varieties in the United States; it outsells all other varieties combined. Its tightly packed spherical head is composed of crisp, pale green leaves with a very mild flavor. Iceberg lettuce remains crisp for a relatively long time after being cut or prepared. Select heads that are firm but not hard and leaves that are free of burnt or rusty tips.



*Leaf*

Leaf lettuce grows in bunches. It has separate, ruffle-edged leaves branching from a stalk. Because it does not grow into a firm head, it is easily damaged during harvest and transport. Both red and green leaf lettuce have bright colors, mild flavors and tender leaves. Good quality leaf lettuce should have nicely shaped leaves free of bruises, breaks, or brown spots.



*Romaine*

Romaine lettuce, also known as 'cos', is a loosely packed head lettuce with elongated leaves and thick midribs. Its outer leaves are dark green and although they look coarse, they are crisp, tender and tasty without being bitter. The core leaves are paler and tenderer but still crisp. Romaine has enough flavor to stand up to strongly flavored dressings such as the garlic and Parmesan cheese used in a Caesar salad. A good-quality head of romaine has dark green outer leaves that are free of blemishes or yellowing.



*Baby Lettuces*

Innovative chefs are always looking for new and different foods to add a twist or flair to their dishes.

This has led to the popularity of baby lettuces and other specialty greens. Baby greens have similar but more subtle flavors than their mature versions. They are often less bitter and are always more tender and delicate. Because of their size and variety, they are perfect for composed salads. **Mesclun** is a mixture of several kinds of baby lettuces.

**Micro greens** are even smaller than baby lettuces. They are the first true leaves of virtually any edible greens, such as lettuce, spinach, kale and so on. Micro greens are very fragile and must be handpicked and carefully packaged for delivery. Chefs enjoy using them as garnish, especially on entree and appetizer plates.

## CHICORY

Chicories come in a variety of colors, shapes and sizes; most are slightly bitter. Chicories are quite hearty and can also be cooked, usually grilled or braised.



*Belgian Endive*

Belgian endive grows in small, tight heads with pointed leaves. It is actually the shoot of a chicory root. The small sturdy leaves are white at the base with yellow fringes and tips. (A purple-tipped variety is sometimes available.) Whole leaves can be separated, trimmed and filled with soft butters, cheeses or spreads and served as an hors d'oeuvre, or they can be used for composed salads. The leaves cut or whole can also be added to cold salads. Heads of Belgian endive are often braised or grilled and served with meat or poultry. As the name suggests, Belgian endive is imported from Belgium but a commercial crop is now produced in California as well.



*Curly Endive*

In the United States, curly endive is often called by its family name, chicory, or its French name, frisée. The dark green outer leaves are pointed, sturdy and slightly bitter. The yellow inner leaves are more tender and less bitter. Curly endive has a strong flavor that goes well with strong cheeses, game and citrus. It is often mixed with other greens to add texture and flavor.



*Escarole*

Escarole, sometimes called broadleaf endive, has thick leaves and a slightly bitter flavor. It has green outer leaves and pale green or yellow center leaves. Escarole is very sturdy and is often mixed with other greens for added texture. Its strong flavor stands up to full-flavored dressings and is a good accompaniment to grilled meats and poultry.



### *Radicchio*

Radicchio resembles a small reel cabbage. It retains its bright reddish color when cooked and is popular braised or grilled and served as a vegetable side dish. Because of its attractive color, radicchio is popular in cold salads, but it has a very bitter flavor and should be used sparingly and mixed with other greens in a tossed salad. The leaves form cups when separated and can be used to hold other ingredients when preparing composed salads. Radicchio is quite expensive and availability is sometimes limited.

### OTHER SALAD GREENS AND INGREDIENTS

Leafy vegetables besides lettuce and chicory, as well as other ingredients, are used to add texture, flavor and color to salads. A partial listing follows.



### *Arugula*

Arugula, also known as 'rocket', is a member of the cabbage family. Arugula leaves are somewhat similar to broad dandelion leaves in size and shape. The best are 2 to 4 inches (5 to 10 centimeters) long. Arugula has a very strong, spicy, peppery flavor so strong, in fact, that it is rarely served by itself. It is best when used to acid zip to salads by combining it with other greens.



### *Dandelion*

Dandelion grows as a weed throughout most of the United States. It has long, thin, toothed leaves with a prominent midrib. When purchasing dandelion for salads, look for small leaves; they are tenderer and less bitter. Older, tougher leaves can be cooked and served as a vegetable.



*Mache*

Mache or lamb's lettuce is very tender and very delicately flavored. Its small, curved, pale to dark green leaves have a slightly nutty flavor. Because its flavor is so delicate, Mache should be combined only with other delicately flavored greens such as Boston or Bibb lettuce and dressed sparingly with a light vinaigrette dressing.



*Sorrel*

Sorrel, sometimes called sour grass, has leaves similar to spinach in color and shape. Sorrel has a very tart, lemony flavor that goes well with fish and shellfish. It should be used sparingly and combined with other greens in a salad. Sorrel can also be made into soups, sauces and purees.



*Spinach*

Like sorrel, spinach can be cooked or used as a salad green. As a salad green, it is popularly served tossed with hot bacon dressing. Spinach is deep green with a rich flavor and tender texture. Good-quality spinach should be fairly crisp. Avoid wilted or yellowed bunches.



*Sprouts*

Sprouts are not salad greens but are often used as such in salads and sandwiches. Sprouts are very young alfalfa, daikon or mustard plants. Alfalfa sprouts are very mild and sweet. Daikon and mustard sprouts are quite peppery.



*Watercress*



Watercress has tiny, dime-sized leaves and substantial stems. It has a peppery flavor and adds spice to a salad. Good-quality fresh watercress is dark green with no yellowing. To preserve its freshness, watercress must be kept very cold and moist. It is normally packed topped with ice. Individual leaves are plucked from the stems and rinsed just before service.

### *Edible Flowers*



*Nasturtium*



*Pansies*

Many specialty produce growers offer edible, pesticide-free blossoms. They are used for salads and as garnishes wherever a splash of color would be appreciated. Some flowers such as nasturtiums, calenclulas and pansies are grown and picked specifically for eating. Others, such as yellow cucumber flowers and squash blossoms, are by-products of the vegetable industry.

Squash blossoms and other very large flowers should be cut in julienne strips before being added to salads. Pick petals from large and medium-sized flowers. Smaller whole flowers can be tossed in a salad or used as a garnish when composing a salad. Very small flowers or petals should be sprinkled on top of a salad so that they are not hidden by the greens.

**Note:** Many flowers and blossoms are toxic, especially those grown from bulbs. Even flowers that would otherwise be edible may contain pesticides that can be harmful if ingested. Use only flowers grown specifically for use as food; purchase edible flowers only from reputable purveyors.

### *Fresh Herbs*

Basil, thyme, tarragon, oregano, dill, cilantro, marjoram, mint, sage, savory and even rosemary are used to add interesting flavors to otherwise ordinary salads. Because many herbs have strong flavors, use them sparingly so that the delicate flavors of the greens are not overpowered. Leafy herbs such as basil and sage can be cut chiffonade. Other herbs can be picked from their stems or chopped before being tossed with the salad greens. Flowering herbs such as chive blossoms are used like other edible flowers to add color, flavor and aroma.

## NUTRITION

Salad greens are an especially healthful food. Greens contain virtually no fat and few calories and are high in vitamins A and C, iron and fiber. But when greens are garnished with meat and cheese and tossed with a dressing (many of which are oil based) , fat and calories are added. In an attempt to maintain the healthful nature of greens, low-fat or fat-free dressings should be available to customers.

## PURCHASING AND STORING SALAD GREENS

### Purchasing

Lettuces are grown in nearly every part of the United States; nearly all types are available year-round. Other important salad greens such as spinach are available all year; many of the specialty greens are seasonal.

Lettuce is generally packed in cases of 24 heads with varying weights. Other salad greens are packed in trays or boxes of various sizes and weights. Because salad greens are simply washed and eaten, it is extremely important that they be as fresh and blemish-free as possible. Try to purchase salad greens daily. All greens should be fresh looking, with no yellowing. Heads should be heavy, with little or no damage to the outer leaves.

Many types of salad greens are available pre-cut and prewashed. These greens are often vacuum packed to increase shelf life, although delicate greens are sometimes loosely packaged in 5- to 10-pound (2-to 5-kilogram) boxes. Pre-cut and prewashed greens are relatively expensive, but can reduce labor costs dramatically.

### Storing

Although some types of salad greens are hearty enough to keep for a week or more under proper conditions, all salad greens are highly perishable. Generally, softer-leaved varieties such as Boston and bibb tend to perish more quickly than the crisper-leaved varieties such as iceberg and romaine. Frequently, greens that have wilted slightly can be revived by soaking them in chilled water for up to an hour. The greens should then be drained and refrigerated until crisp.

Greens should be stored in their original protective cartons in a specifically designated refrigerator. Ideally, greens should be stored at temperatures between 34°F and 38°F (1 °C and 3°C). (Most other vegetables should be stored at warmer temperatures of 40°F to 50°F [4°C to 10°C].) Greens should not be stored with tomatoes, apples or other fruits that emit ethylene gas, which causes greens to wilt and accelerates spoilage.

*Do not wash greens until needed as excess water causes them to deteriorate quickly.*

## Preparing Salad Greens

Unless salad greens are purchased precut and prewashed, they will need to undergo some preparation before service, principally tearing, cutting, washing and drying.

### Tearing and Cutting

Some chefs want all salad greens torn by hand. Delicate greens such as butter head and baby lettuces look nicer, and it is less likely they will be bruised if hand-torn. Nevertheless, often it is not practical to hand-tear all greens. It is perfectly acceptable to cut hardy greens with a knife. In addition, it can be more practical to snip small lettuce leaves and fresh herbs with kitchen scissors.

### Washing

All lettuces and other salad greens should be washed before use. Even though they may look clean, greens may harbor hidden insects, sand, soil and pesticides. All greens should be washed after they are torn or cut. Whole heads can be washed by repeatedly clipping them in cold water and allowing them to drain. However, washing whole heads is not recommended because it will not remove anything trapped near the head's center, and water trapped in the leaves can accelerate spoilage.

### Drying

Salad greens should be dried after washing. Wet greens do not stay as crisp as thoroughly dried ones. In addition, wet greens tend to repel oil-based dressings and dilute their flavors. Greens may be dried by draining them well in a colander and blotting them with absorbent cloth or paper towels, or, preferably, they can be dried in a salad spinner, which uses centrifugal force to remove the water.

## *SALAD DRESSINGS*

A dressing is a sauce for a salad. Just as sauces for hot foods should complement rather than mask the flavor of the principal food, the sauce (dressing) for a salad should complement rather than mask the flavors of the other ingredients. Although a great many ingredients can be used to make salad dressings, most are based on either a mixture of oil and vinegar, called a vinaigrette, or a mayonnaise or other emulsified product.

Vinaigrette-style dressings can be made without oil; creamy dressings similar to mayonnaise-based dressings can be made with sour cream, yogurt or buttermilk instead of mayonnaise. Nevertheless, for all practical purposes these dressings are still prepared like vinaigrettes and mayonnaise-based dressings and they are treated that way here.

## ***VINAIGRETTE DRESSINGS***

The simple vinaigrette also known as basic French dressing is a temporary emulsion of oil and vinegar seasoned with salt and pepper. The standard ratio is three parts oil to one part vinegar. The ratio can vary, however. When using strongly flavored oils, less than three parts oil to one part vinegar generally suffices. In some recipes, all or part of the vinegar is replaced with citrus juice, in which case it may take more than one part vinegar and citrus juice to three parts oil to achieve the proper acidity level. Mild or sweet vinegars such as balsamic may require less oil to balance the flavors in the dressing. The best way to determine the correct ratio of oil to vinegar is to taste the dressing, preferably on the food it will dress.

Oils and vinegars have unique flavors that can be mixed and matched to achieve the correct balance for a particular salad. Olive oil goes well with red wine vinegar; nut oils go well with white wine or sherry vinegars. Neutral-flavored oils such as canola, corn or safflower can be mixed with a flavored vinegar.

**Oil and vinegar repel each other and will separate almost immediately when mixed. They should be whisked together immediately before use.**

## **OILS**

Many types of oil can be used to make salad dressings. Light, neutral-flavored oils such as canola, corn, cottonseed, soybean and safflower are relatively low-priced and used extensively for this purpose. Other oils can be used to add flavor. Olive oil is very popular; both mild -flavored pure olive oil and full- flavored extra virgin olive oil are used. Nut oils such as hazelnut and walnut are expensive, but they add unique and interesting flavors. Infused oils are also popular.

## **VINEGARS**

Many different vinegars can be used to make salad dressings. Red wine vinegar is the most common because it is inexpensive and its flavor blends well with many foods. However, other vinegars such as cider, balsamic and white wine are also used. Fruit-flavored vinegars (particularly raspberry) are extremely popular and widely available, as are herb- and garlic-flavored ones.

Flavored vinegars are easy to make. Fruit, herbs or garlic are added to a wine vinegar (either red or white) and left for several days for the flavors to blend. The vinegar is then strained and used as desired. Acidic juices such as lemon, orange, and lime are sometimes substituted for all or part of the vinegar in a salad dressing.

## ***OTHER FLAVORING INGREDIENTS***

Herbs, spices, shallots, garlic, mustard and sugar are only a few of the many flavoring ingredients used to enhance a vinaigrette dressing. Items such as herbs, shallots and garlic should

be minced or chopped before being added to the dressing. If dried herbs are used, the dressing should rest for at least 1 hour to allow the flavors to develop. Other ingredients may be added at any time.

## MAYONNAISE

Although most food service operations buy commercially made mayonnaise, every chef should know how it is made to more fully understand how to use it and why it reacts the way it does when used. Knowing how to make mayonnaise also allows the chef to create a mayonnaise with the exact flavorings desired.

Mayonnaise is an emulsion. An emulsion, or emulsified sauce, is formed when two liquids that would not ordinarily form a stable mixture are forced together and held in suspension. To make mayonnaise, oil is whisked together with a very small amount of vinegar. (It is the water in the vinegar that does not normally mix with oil.) As the oil and vinegar are whisked together, the oil breaks into microscopic droplets that are separated from each other by a thin barrier of vinegar. If left alone, the droplets would quickly regroup, forming a large puddle of oil and a small puddle of vinegar. To prevent the oil droplets from regrouping, an emulsifier is added. For mayonnaise, the emulsifier is lecithin, a protein found in egg yolks. (The acid in the vinegar also helps form the emulsion.) Lecithin has the unique ability to combine with both oil and water. It surrounds the oil droplets, preventing them from coming in contact with each other and regrouping.

The balance of vinegar, oil, lecithin and agitation (whipping) is crucial to achieve a proper emulsion. The higher the proportion of oil to vinegar, the thicker the sauce will be. The higher the proportion of vinegar to oil, the thinner the sauce will be. (For example, the Emulsified Vinaigrette Dressing on page 882 is a thin emulsion.) Some chefs add 1/2 fluid ounce (15 milliliters) boiling water to each 7 ounces (200 milliliter) finished mayonnaise to help maintain the emulsion.

There is a limit to how much oil each egg yolk can emulsify, however. One yolk contains enough lecithin to emulsify approximately 7 ounces (200 milliliters) of oil. If more than that amount of oil per egg yolk is added, the sauce will break; that is, the oil and vinegar will separate, and the mayonnaise will become very thin. Often mayonnaise that has broken can be repaired by beating the broken mayonnaise into additional egg yolks or prepared mayonnaise until the emulsion reforms. To repair a broken mayonnaise, slowly beat 7 fluid ounces (210 milliliters) broken mayonnaise into one egg yolk or 4-fluid ounces (120 milliliters) prepared mayonnaise. Adjust the amount of egg yolk or prepared mayonnaise to be used according to the batch that has broken.

### Mayonnaise Ingredients

1. A neutral-flavored vegetable oil is most often used for a standard mayonnaise. Other oils are used to contribute their special flavors. For example, olive oil is used to make a strong garlic mayonnaise called aioli.

2. Wine vinegar is used for a standard mayonnaise. Flavored vinegars such as tarragon vinegar are often used to create unique flavors.
3. Seasonings vary according to the intended use but typically include dry mustard, salt, pepper and lemon juice.

#### **~ Procedure for Preparing Mayonnaise ~**

1. Gather all ingredients and hold at room temperature. Room-temperature ingredients emulsify more easily than cold ones.
2. By hand or in an electric mixer or food processor, whip the egg yolks on high speed until frothy.
3. Add the seasonings to the yolks and whip to combine. Salt and other seasonings will dissolve or blend more easily when added at this point rather than to the finished mayonnaise.
4. Add a small amount of the liquid (for example, vinegar) from the recipe and whip to combine.
5. With the mixer on high or whisking vigorously by hand, begin to add the oil very slowly until an emulsion forms.
6. After the emulsion forms, the oil can be added a little more quickly but still in a slow, steady stream. The mayonnaise can now be whipped at a slightly slower speed.
7. The mayonnaise will become very thick as more oil is added. A small amount of liquid can be added if it becomes too thick. Alternate between oil and liquid two or three times until all the oil is added and the correct consistency is reached. Important: A large egg yolk can emulsify up to 7- fluid ounces (200 milliliters) of oil; adding more oil may cause the mayonnaise to break.
8. Adjust the seasonings and refrigerate immediately.

#### **Mayonnaise-Based Dressings**

Mayonnaise-based salad dressings are salad dressings that use mayonnaise as a base, with other ingredients added for flavor, color and texture. These ingredients include dairy products (especially buttermilk and sour cream), vinegar, fruit juice, vegetables (either pureed or minced), tomato paste, garlic, onions, herbs, spices, condiments, capers, anchovies and boiled eggs.

#### ***EMULSIFIED VINAIGRETTE DRESSINGS***

An emulsified vinaigrette is a standard vinaigrette dressing emulsified with whole eggs. An emulsified vinaigrette dressing is thinner and lighter than a mayonnaise based dressing and heavier than a basic vinaigrette. Its flavor is similar to a basic vinaigrette, but it will not separate and it clings to greens quite easily.

### ~ Procedure for Preparing an Emulsified Vinaigrette Dressing ~

1. Gather all ingredients and hold at room temperature. Room-temperature ingredients emulsify more easily than cold ones.
2. Whip the eggs until frothy.
3. Add the dry ingredients and any flavorings such as garlic, shallots and herbs.
4. Add a small amount of the liquid from the recipe and whip to incorporate the ingredients.
5. With the mixer on high or whisking vigorously by hand, begin adding the oil very slowly until the emulsion forms.
6. After the emulsion is formed, add the oil a little more quickly, but still in a slow, steady stream.
7. Alternate between oil and liquid two or three times until all the oil is added. The dressing should be much thinner than mayonnaise. If it is too thick, it can be thinned with a little water, vinegar or lemon juice. Determine which to use by first tasting the dressing.

## GREEN SALADS

### Tossed Salads

Tossed salads are made from leafy vegetables such as lettuce, spinach, watercress, arugula or dandelion greens. They may consist only of greens and dressing, or they can be garnished with fruits, vegetables, nuts, or cheese. They can be dressed with many different types of dressings, from a light oil and vinegar to a hearty hot bacon. It is important that salad dressings be added at the last possible moment before service. Acidic dressings cause most greens to wilt and become soggy.

### Matching Dressings and Salad Greens

There is a simple rule to follow when choosing dressings for salads: The more delicate the texture and flavor of the greens or other ingredients, the lighter and more subtle the dressing should be. Vinaigrette-based dressings are much lighter than mayonnaise-based or similar dressings and should be used with butter head lettuces, Mache or other delicate greens. Crisp head lettuce such as iceberg and hardy lettuce such as romaine can stand up to heavier, mayonnaise-based or similar dressings.

### Salad Garnishes

It is impossible to make a complete list of the garnishes that can be combined with salad greens for a tossed salad. The following is a partial list:

**Vegetables** - nearly any vegetable (raw, blanched or fully cooked) cut into appropriate sizes and uniform shapes

**Fruits** - citrus segments, apples or pears; dried fruits such as raisins, currants or apricots



**Meats, poultry, fish, and shellfish** - cooked meats and poultry sliced or diced neatly and uniformly; poached, grilled or cured fish, diced or flaked; small, whole cooked shellfish such as shrimp and scallop s; lobster or crab sliced, diced or chopped

**Cheeses** - grated hard cheeses such as Parmesan, Romano or Asiago; semi-hard cheeses such as Cheddar or Swiss, cut julienne or shredded

**Nuts** - nearly any are appropriate, roasted, candied or smoked

**Croutons** - assorted breads, seasoned in various ways and toasted

### **COMPOSED SALADS**

Composed green salads usually use a green as a base and built by artistically arranging other ingredients on the plate. There are usually four components: the base, body, garnish and dressing.

1. The **base** is usually a layer of salad greens that line the plate on which the salad will be served. Depending on the desired effect, the leaves can be cup- shaped or flat.
2. The **body** is the main ingredient. It can be lettuce or other greens, or another salad made from cooked or blended ingredients, such as chicken salad or fruit.
3. The **garnish** is added to the salad for color, texture and flavor. It can be as substantial as a grilled, sliced duck breast or as simple as a sprinkling of chopped herbs; it can be warm or cold. The choice is unlimited, but whatever is used should always complement and balance the flavor of the body.
4. The **dressing** should complement rather than mask the other flavors in the salad. If the body already contains a dressing, such as a bound salad, additional dressing may not be necessary.

Composed green salads are usually dressed by ladling the dressing over the salad after it is plated. Alternatively, the individual ingredients can be dressed before they are arranged on the plate. A third method that may be limited by the intricacy of the salad but will save precious time during a busy period is to prepare individual salads on a sheet pan. Then, just before service, mist them with dressing using a spray bottle designated for this purpose; then transfer them to chilled plates using a spatula.

### **BOUND SALADS**

The creative chef can prepare a wide variety of salads by combining cooked meats, poultry, fish, shellfish, potatoes, pasta, grains and /or legumes with a dressing and garnishes. Although the

combinations vary greatly, these salads are grouped here because their ingredients are all bound. That is, each salad consists of one or more ingredients held together in a cohesive mass. The binding agent can be either a vinaigrette or a mayonnaise-based or similar dressing. The ingredients should be evenly distributed throughout, and the degree of cohesiveness can range from tightly packed to flaky and easily separated.

The foods that can be used to produce bound salads are so varied that it is impossible to list them all. Generalizing preparation techniques is also very difficult. There are as many ways to prepare a bound salad, as there are ingredients, dressings and garnishes.

Bound salads can be used as the body of a composed salad (for instance, a serving of egg salad on a bed of greens). Some are used in sandwiches but not ordinarily as side dishes - for example, tuna or chicken salad. Some are served as side dishes but not in sandwiches - for example, potato or pasta salad. Follow specific recipes and traditional uses for each salad to build confidence. Then use these skills and imagination for new creations.

### **Steps for Making Bound Salads**

Preparing a salad from cooked foods is a good opportunity to use leftovers, but be sure they are fresh and of good quality. The finished salad can be only as good as each ingredient in the salad.

1. When making a bound salad, choose ingredients whose flavors blend well and complement each other.
2. Choose ingredients for color; a few colorful ingredients will turn a plain salad into a spectacular one.
3. To improve appearance, cut all ingredients the same size.
4. All ingredients should be cut into pieces that are small enough to be eaten easily with a fork.
5. Be sure all meats, poultry, fish and shellfish are properly cooked before using them. Improperly cooked foods can cause food-borne illness and spoilage.
6. Always chill cooked ingredients well before using them. Warm ingredients promote bacterial growth, especially in mayonnaise-based salads.
7. Always use dressings sparingly. They should enhance the flavors of the other salad ingredients, not mask them.

### **VEGETABLE SALADS**

Vegetable salads are made from cooked or raw vegetables or a combination of both. They can be served on buffets, as an appetizer or as a salad course. As with other salads, vegetable salads must successfully combine color, texture and flavor. Some vegetable salads such as coleslaw and carrot-raisin salad are made with mayonnaise. Most, however, are made by either marinating the vegetables or combining them in a vinaigrette dressing.

Almost any vegetable can be successfully marinated. The amount of time depends on the vegetables and the marinade, but several hours to overnight is usually sufficient for flavors to blend. Soft vegetables such as mushrooms, zucchini and cucumbers can be added directly to a cold marinade. Hard vegetables such as carrots and cauliflower should be blanched in salted water, refreshed, drained and then added to a cold marinade. Carrots, artichokes, mushrooms, cauliflower, zucchini, pearl onions and the like are sometimes simmered quickly in a marinade flavored with lemon juice and olive oil, and then served cold. This style is called **a la grecque**.

Many marinated salads will last several days under proper refrigeration. As the salads age in the marinade, they will change in appearance and texture. This may or may not be desirable. For example, mushrooms and artichokes become more flavorful, while the acids in the marinade discolor green vegetables. If marinated salads are prepared in advance, check their appearance as well as their seasonings carefully at service time.

#### **~ Procedure for Preparing Vegetable Salads ~**

1. Gather and wash all vegetables.
2. Trim, cut, shred or otherwise prepare the vegetables as desired or as directed in the recipe.
3. Blanch or cook the vegetables if necessary.
4. Combine the vegetables with the marinade or dressing. Adjust the seasonings.

### ***FRUIT SALADS***

There are so many different fruits with beautiful bright colors and sweet delicious flavors that preparing fruit salads is easy work. Fruit salads are a refreshing addition to buffets and can be served as the first course of a lunch or dinner. A more elaborate fruit salad can be served as a light lunch.

Always prepare fruit salads as close to service time as possible. The flesh of many types of fruit becomes soft and translucent if cut long before service. Other fruits such as apples, bananas and peaches turn brown in a matter of minutes after cutting. If a fruit salad is dressed at all, the dressing is usually sweet and made with honey or yogurt mixed with fruit juices or purees. Alternatively, Grand Marnier, crème de menthe or other liqueurs sprinkled over the salad can serve as a dressing. Fruit salads can be tossed or composed. Either should offer the diner a pleasing blend of colors, shapes, sizes, flavors and textures.

### **Be Creative with Salads**

*A salad can be a small part of a meal or the entire meal. There are many styles of salads, and a seemingly endless variety of foods can be used to prepare them. Salads are extremely popular, especially with those interested in lighter dining alternatives. Chefs can tempt these diners by determining the appropriate style of the salads and skillfully combining the main ingredients and dressing to achieve a delicious and appealing balance of colors, textures and flavors.*

### Quiz on Salads

1. What are the two most popular lettuces used for salads?
2. What is another name for the leaf lettuce arugula?
3. Name two edible flowers.
4. At what temperature should greens be stored?
5. What lettuce is used in Caesar salad?

### Quiz on Oils/Vinegars

1. What is the only oil extracted from a fruit?
2. Describe the flavor of Dijon mustard – where did it originate?
3. What is the minimum time balsamic vinegar should be aged?
4. In what cuisine is rice vinegar primarily used?
5. Name two kinds of bound salads.

### Quiz on Culinary Herbs

In what two cuisines is basil used?

Cilantro is also known as \_\_\_\_\_?

Lemongrass is also known as \_\_\_\_\_?

Give me two uses for mint.

What kind of parsley is popular in south Louisiana cuisine?

## RECIPES FOR SALADS

### Caesar Salad with Parmesan Tuiles

Makes 6 to 8 servings

The salad's creation is generally attributed to restaurateur Caesar Cardini, an Italian immigrant who operated restaurants in Mexico and the United States. Cardini was living in San Diego but working in Tijuana where he avoided the restrictions of Prohibition. His daughter Rosa (1928–2003) recounted that her father invented the dish when a 4th of July 1924 rush depleted the kitchen's supplies. Cardini made do with what he had, adding the dramatic flair of the tableside tossing "by the chef."



A number of Mr. Cardini's staff have claimed to have invented the dish. Julia Child claimed to have eaten a Caesar Salad at Cardinin's restaurant when she was a child in the 1920s. Nonetheless, the earliest contemporary documentation of Caesar Salad is from a 1946 Los Angeles restaurant menu, twenty years after the 1924 origin asserted by the Cardinis.

- 1 garlic clove, smashed with a pinch of salt and a little olive oil
- anchovy fillets
- 2 egg yolks
- 1 tablespoon Dijon mustard
- to 4 tablespoons fresh lemon juice
- ½ cup vegetable oil or more TO THICKEN
- ¼ cup freshly grated Parmesan cheese
- Salt and freshly ground black pepper
- 2 heads Romaine lettuce
- Croutons

#### **To make the dressing,**

- 1 put the garlic, anchovies, egg yolks, mustard, and lemon juice in a blender and process for 30 seconds until the mixture is smooth.
- 2 With the blender running, pour the oil in a steady stream to emulsify.
- 3 Stir in the Parmesan cheese and season with salt and pepper.
- 4 Refrigerate if not using right away – raw egg yolks.

#### **To make croutons**

- 2 1/2 cups cubed white bread, (3/4-inch cubes) (about half of a French bread)
- Olive oil

- Salt and fresh ground black pepper

- 1 Preheat oven to 350 degrees F.
- 2 Place bread cubes in a medium bowl and drizzle with olive oil, tossing to coat. Season croutons generously with salt and pepper, and toss to coat. Place croutons on a small baking sheet and bake for 10 to 12 minutes, or until croutons are completely crisp. Cool completely.

## Garnish: Parmesan Tuiles



- 3/4 cup (3-ounces) grated Parmesan
- 1 Heat a nonstick skillet over medium-high heat and sprinkle the cheese, by the tablespoon, into the skillet.
  - 2 Cook until lacy and slightly set; about 1 minute.
  - 3 Flip and cook until crisp, about 2 minutes more.
  - 4 Transfer to a rolling pin to allow to cool.

## Classic Southern Chicken Salad Garnished with Tarragon

Makes 4 Servings

- boneless, skinless chicken breasts
- Salt and freshly ground black pepper
- 3/4 cup finely chopped celery
- 3/4 cup sweet pickle relish



- hard-boiled eggs, finely chopped
- 3/4 cup finely chopped green onions
- 3/4 cup mayonnaise
- Hot sauce to taste

Garnish: tarragon leaves

Party crackers or rolls to serve

- 1 Put the chicken breasts in a medium-size saucepan and add enough water to cover the breasts. Season with salt and freshly ground black pepper.
- 2 Bring to a boil, then reduce the heat to medium-low and simmer until juices run clear, about 15 minutes.
- 3 Remove the breasts and drain on paper towels. Set aside to cool.
- 4 When cool enough to handle, cut into 1/2-inch dice or shred.
- 5 Combine all ingredients except mayonnaise in a large bowl.
- 6 Add the mayonnaise in increments, until the chicken salad reaches the desired consistency: rich, but not too creamy.
- 7 Add salt and pepper to taste.

Serve with crackers, or on soft rolls or white toast.



## Hearts of Palm Salad with Vinaigrette

Makes 2 Servings



- cups baby salad greens
- 1 can hearts of palm, drained and cut crosswise into ½-inch slices
- cherry tomatoes, cut in half
- ¼ cup olive oil
- 2 tablespoons Dijon or Creole mustard
- 1 tablespoon apple cider vinegar
- Freshly ground black pepper, to taste
- Parmesan shavings for garnish

- 1 Arrange equal amounts of the greens on dinner plates.
- 2 Arrange the hearts of palm on top of the greens and garnish with the tomatoes.
- 3 Make the dressing by combining the olive oil, mustard, vinegar and black pepper in a small jar fitted with a lid. Shake for a few seconds to mix. Set aside for up to 2 hours before using.
- 4 Shake again just before drizzling the salads with the mixture.
- 5 Garnish with Parmesan cheese to serve.



## Salade Nicoise

Makes 4 servings



Contemporary Salad Nicoise

*The well-known Nicoise Salad, or Salade Nicoise in French, is a delicious, refreshing and traditional salad from France in which fresh produce of the market are complemented with typical Provencal seasonings. Originating from Nice in the Provence-Alpes-Côte d'Azur region, this mixed salad has definitely made the Mediterranean traditional gastronomy transcend borders!*

*The tasty and colourful Nicoise Salad can be served on its own as a main Provencal dish, but it is also common to order it in the typical French Brasseries as a garnish for meat or fish dishes. Bringing into your plate the warmth of France's sunny Côte d'Azur, this crudités salad usually includes tomatoes, anchovies, black olives, capers, French beans and lemon juice.*

*Respecting the traditional Provencal gastronomy, the seasoning is made with olive oil, basil and garlic, but it can also include parsley or mustard to get a French vinaigrette dressing.*



Composed Traditional Salad Nicoise

- 1 head butter lettuce
- pints assorted colored cherry tomatoes, depending on size - cut each in half
- 1 medium green bell pepper, seeded and julienned
- 2 (6 1/2-ounce) cans Albacore tuna packed in water
- hard-boiled eggs, quartered
- ½ pound blanched haricot verts
- radishes, thinly sliced
- 1/2 cup Nicoise or Mediterranean-type olives (or black or green olives - pitted)
- 6-8 anchovy filets
- 1 tablespoon finely chopped chives or green onions
- tablespoons extra-virgin olive oil
- 1 tablespoon Balsamic vinegar
- 1 teaspoon Dijon mustard
- Salt and freshly ground black pepper

- 1 Divide each ingredient into 4 equal parts, and then arrange them on 4 salad plates. Layer them in the order listed.
- 2 Combine the olive oil, balsamic vinegar, and Dijon mustard in a small jar with a lid. Shake until blended.
- 3 Season to taste with salt and freshly ground black pepper. Put the lid back on the jar and shake to blend.

- 4 Drizzle equal amounts of the vinaigrette over the salads and chill for 15 minutes before serving.

## Chapter 9:

### *FRUIT*

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A fruit, botanically, is an organ that develops from the ovary of a flowering plant and contains one or more seeds. From a culinary perspective, a fruit is the perfect snack food, the basis of a dessert, colorful sauce or soup or an accompaniment to meat, fish, shellfish or poultry. No food group offers a greater variety of colors, flavors and textures than fruit.

Fruits, whether fresh, frozen, canned or dried, are one of the most versatile and popular of foods. Fruits can be used uncooked or incorporated into a soup, salad, bread, meat dish or dessert. When selecting fresh fruits, it is important to consider seasonal availability, storage conditions and ripeness. When using them, it is important that they be at their peak of ripeness for the best flavor, texture, aroma and appearance.

## IDENTIFYING FRUITS

This fruit presentation is according to the ways most people view them and use them, rather than by rigid botanical classifications. Fruits divide into eight categories:

1. berries,
2. citrus,
3. exotics,
4. grapes,
5. melons,
6. pomes,
7. stone fruits and
8. tropical varieties,

The category separations are according to either their shape, seed structure or natural habitat. Botanically, tomatoes, beans, eggplant, capsicum peppers and other produce are fruits. However, in ordinary thinking, they are not; they are vegetables. A fruit may have several names, varying from region to region or on a purveyor's choice. Botanists are also constantly reclassifying items to fit new findings. The names given here follow generally accepted custom and usage.

### 1 - BERRIES

Berries are small, juicy fruits that grow on vines and bushes worldwide. Thin skins and many tiny seeds that are often so small they go unnoticed characterize berries. Some of the fruits classified here as berries do not fit the botanical definition (for example, raspberries and straw berries), while fruits that are berries botanically (for example, bananas and grapes) are classified elsewhere. Berries may be eaten plain or used in everything from bread to soup and sorbet. They make especially fine jams and compotes.

Berries must be fully ripened on the vine, as they will not ripen further after harvesting. Select berries that are plump and fully colored. Avoid juice-stained containers and berries with whitish-gray or black spots of mold. All berries should be refrigerated and used promptly. Do not wash berries until just before they are needed, as washing removes some of their aroma and softens them.

**Blackberries**

Blackberries are similar to raspberries, but are larger and shinier, with a deep purple to black color. Thorny blackberry vines are readily found in the wild; commercial production is limited. Their peak season is mid-June through August. Loganberries, Marionberries, olallie berries and boysenberries are blackberry hybrids.

**Blueberries**

Blue berries are small and firm, with a true blue to almost black skin and a juicy, light gray-blue interior. Cultivated berries (high-bush varieties) tend to be larger than wild (low-bush) ones. Blueberries are native to North America and are grown commercially from Maine to Oregon and along the Atlantic seaboard. Their peak season is short, from mid-June to mid-August.

**Cranberries**



Cranberries, another native North American food, are tart, firm fruit with a mottled red skin. They grow on low vines in cultivated bogs (swamps) throughout Massachusetts, Wisconsin, and New Jersey. Rarely eaten raw, they are made into sauce or relish or are used in breads, pies or pastries. Cranberries are readily available frozen or made into a jelly-type sauce and canned. Although color does not indicate ripeness, cranberries should be picked over before cooking to remove those that are soft or bruised. Their peak harvesting season is from Labor Day through October, leading to the association of cranberries with Thanksgiving dinner.



**Currants**

Currants are tiny, tart fruits that grow on shrubs in grape-like clusters. The most common are a beautiful, almost translucent red, but black and golden (or white) varieties also exist. All varieties are used for jams, jellies and sauces, and black currants are made into a liqueur, crème de cassis. Although rarely grown in the United States, currants are very popular and widely available in Europe, with a peak season during the late summer. (The dried fruits called currants are not produced from these berries; they are a special variety of dried grapes.)



**Raspberries**



Raspberries are perhaps the most delicate of all fruits. They have a tart flavor and velvety texture. Red raspberries are the most common, with black, purple and gold en berries available in some markets. When ripe, the berry pulls away easily from its white core, leaving the characteristic hollow center. Because they can be easily crushed and are susceptible to mold, most of the raspberries grown are marketed frozen. They grow on thorny vines in cool climates from Washington State to western New York and are imported from New Zealand and South America. The peak domestic season is from late May through November.



### Strawberries

Strawberries are brilliant red, heart-shaped fruits that grow on vines. The strawberry plant is actually a perennial herb; the berry's flesh is covered by tiny black seeds called achenes, which are the plant's true fruits.

Select berries with a good red color and intact green leafy hull. (The hulls can be easily removed with a paring knife.) Avoid berries with soft or brown spots. Huge berries may be lovely to look at, but they often have hollow centers and little flavor or juice. Although strawberries are available to some extent all year, fresh California strawberries are at their peak from April through June.

## 2 – CITRUS

Citrus fruits include lemons, limes, grapefruits, tangerines, kumquats, oranges and several hybrids. They are characterized by a thick rind, most of which is a bitter white pith (albedo) with a thin exterior layer of colored skin known as the zest. Their flesh is segmented and juicy. Citrus fruits are acidic, with a strong aroma; their flavors vary from bitter to tart to sweet.

Citrus fruits grow on trees and shrubs in tropical and subtropical climates worldwide. All citrus fruits are fully ripened on the tree and will not ripen further after harvesting. They should be refrigerated for longest storage. Select fruits that feel heavy and have thin, smooth skins. Avoid those with large blemishes or moist spots.



### **Grapefruits**

Grape fruits are large and round with a yellow skin, thick rind and tart flesh. They are an 18th-century hybrid of the orange and pummelo (a large, coarse fruit used mostly in Middle and Far Eastern cuisines). Two varieties of grape fruit are widely available all year: white- fleshed and pink- or ruby-fleshed. White grapefruits produce the finest juice, although pink grapefruits are sweeter. Fresh grapefruits are best eaten raw or topped with brown sugar and lightly broiled.



### **Kumquats**

Kumquats are very small, oval-shaped, orange-colored fruits with a soft, sweet skin and slightly bitter flesh. They can be eaten whole, either raw or preserved in syrup, and may be used in jams and preserves.



### **Lemons**

The most commonly used citrus fruits, lemons, are oval-shaped, bright yellow fruits available all year. Their strongly acidic flavor makes them unpleasant to eat raw but perfect for flavoring desserts and confections. Lemon juice is also widely used in sauces, especially for fish, shellfish and poultry. Lemon zest is candied, or used as garnish. Rubbing the skin of a lemon or other citrus fruit with a sugar cube extracts much of the aromatic oil. The cube can then be crushed or dissolved to use in formulas calling for citrus flavor.



### Limes

Limes are small fruits with thin skins ranging from yellow-green to dark green. Limes are too tart to eat raw and are often substituted for lemons in prepared dishes. They are also juiced or used in cocktails, curries or desserts. Lime zest can be grated and used to give color and flavor to a variety of dishes. Limes are available all year; their peak season is during the summer. The key lime is a small tart lime variety native to South Florida and used to make key lime pie.



### Oranges

Oranges are round fruits with a juicy, orange-colored flesh and a thin, orange skin. They can be either sweet or bitter.

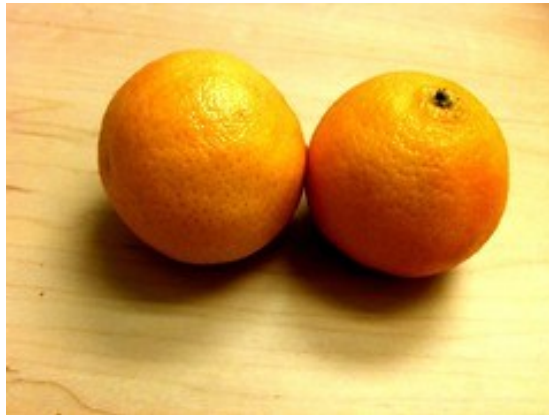
Valencia oranges and navel oranges (a seedless variety) are the most popular sweet oranges. They can be juiced for beverages or sauces, and the flesh may be eaten raw, added to salads, cooked in desserts or used as a garnish. The zest may be grated or julienned for sauces or garnish. Sweet oranges are available all year; their peak season is from December to April.



### *Blood Oranges*

Blood oranges are also sweet but are small, with a rough, reddish skin. Their flesh is streaked with a blood-red color. Blood oranges are available primarily during the winter months and are eaten raw, juiced or used in salads or sauces. When selecting sweet oranges, look for fruits that feel plump and heavy, with unblemished skin. The color of the skin depends on weather conditions; a green rind does not affect the flavor of the flesh.

Bitter oranges include the Seville and bergamot. They are used primarily for the essential oils found in their zest. Oil of bergamot gives Earl Grey tea its distinctive flavor; oil of Seville is essential to curacao, Grand Marnier and orange flower water. Seville oranges are also used in marmalades and sauces for meats and poultry.



### **Tangerines**

Tangerines, sometimes referred to as mandarins, are small and dark orange. Their rind is loose and easily removed to reveal sweet, juicy, aromatic segments. Tangerines are most often eaten fresh and uncooked, but are available canned as mandarin oranges. Tangelos are a hybrid of tangerines and grapefruits. They are the size of a medium orange; they have a bulbous stem end and few to no seeds.

### **EXOTICS**

**Improved transportation** has led to the increasing availability (although sporadic in some areas) of exotic or unusual fresh fruits such as:

- figs,
- persimmons,
- pomegranates,
- prickly pears,
- rhubarb and
- star fruits.

Other exotic fruits, such as breadfruit, durian, feijoa and loquat, are still available only on a limited basis from specialty purveyors.



**Figs**

Figs are the fruit of ficus trees. They are small, soft, pear-shaped fruits with an intensely sweet flavor and rich, moist texture made crunchy by a multitude of tiny seeds. Fresh figs can be sliced and served in salads or with cured meats such as prosciutto. They can also be baked, poached, or used in jams, preserves, or compotes.

Dark-skinned figs, known as Mission figs, are a variety planted at Pacific Coast missions during the 18th century. They have a thin skin and small seeds and are available fresh, canned or dried. The white-skinned figs grown commercially include the White Adriatic, used principally for drying and baking, and the all-purpose Kadota. The most important domestic variety, however, is the Calimyrna. These large figs have a rich yellow color and large nutty seeds. Fresh Calimyrna figs are the finest for eating out of hand; they are also available dried.

For the best flavor, figs should be fully ripened on the tree. Unfortunately, fully ripened figs are very delicate and difficult to transport. Most figs are in season from June through October; fresh Calimyrna figs are available only during June.





*Gooseberries*

Several varieties of gooseberry are cultivated for culinary purposes. One well-known variety is the European gooseberry, a member of the currant family that grows on spiny bushes in cool, moist regions of the Northern Hemisphere. Its berries can be relatively large, like a small plum, but are usually less than 1 inch (2.5 centimeters) in diameter. The skin, which is firm and smooth or only slightly hairy, can be green, white (actually gray-green), yellow or red. The tart berries contain many tiny seeds. They are eaten fresh or used for jellies, preserves, tarts and other desserts or as a traditional accompaniment to rich or fatty dishes, such as goose and mackerel. North American gooseberry varieties are smaller, perfectly round, and pink to deep red at maturity. Although more prolific, these varieties lack flavor and are generally considered inferior to European gooseberries.

**Cape gooseberries**, also known as 'physalis', ground cherries and 'poha', are unrelated to European and American gooseberries. Native to Peru, they became popular during the 19th century along the African Cape of Good Hope, for which they are named. Australia and New Zealand are currently the largest producers. Cape gooseberries are covered with a paper-thin husk or calyx. About the size of a cherry, they have a waxy, bright orange skin and many tiny seeds. Their flavor is similar to coconut and oranges, but tarter. Cape gooseberries may be eaten raw, made into jam or used in desserts. Fresh, they make an especially striking garnish.



*Guava*

Guava are a small, oval or pear-shaped fruit with a strong fragrance and a mild, slightly grainy flesh. They are excellent in jams and preserves, and guava juice is available plain or blended with other tropical fruit juices. Guava paste, a thick, sliceable gel, is a popular treat throughout Central America and the Caribbean. Guava will ripen if stored at room temperature and should be slightly soft and fully ripened for the best flavor.



### *Lychees*

The lychee, also spelled litchi or leechee, is the fruit of a large tree native to southern China and Southeast Asia. The fruits, which grow in clusters, are oval to round, red and about 1 inch (2.5 centimeters) in diameter. The tough outer skin encloses juicy, white, almost translucent flesh and one large seed. Neither the skin nor the seed are edible. The fruit travels well and is now cultivated in Florida and Hawaii, so supplies are relatively stable. Lychees are eaten fresh out of hand or juiced, and are widely available canned or dried. Fresh lychees are mild but sweet with a pleasant aroma.



### *Mangosteens*



The mangosteen, another native of Southeast Asia, is cultivated in Java, Sumatra and the Philippines. Mangosteens (no relation to mangos) are the size of a small orange, with flattened ends. They have a thick, hard, deep reddish-purple rind with hard white petal-shaped protrusions at the stem end. The interior flesh is snow-white and segmented, looking something like a mandarin orange. The texture is juicy and delicate with a slightly astringent flavor. Because the fruit must ripen on the tree and keeps only a short time. Mangosteens are usually eaten fresh, although canned fruit and mangosteen juice is available.



### *Persimmons*

Persimmons, sometimes referred to as kaki or Sharon fruits, are a bright orange, acorn-shaped fruit with a glossy skin and a large papery blossom. The flesh is bright orange and jelly-like, with a mild but rich flavor similar to honey and plums. Persimmons should be peeled before use; any seeds should be discarded. Select bright orange fruits and refrigerate only after they are completely ripe. When ripe, persimmons will be very soft and the skin will have an almost translucent appearance.

Ripe persimmons are delicious eaten raw; halved and topped with cream or soft cheese; or peeled, sliced and added to fruit salads. Persimmon bread, muffins, cakes and pies are also popular. Under-ripe persimmons are almost inedible, however. They are strongly tannic with a chalky or cottony texture.

Persimmons are tree fruits grown in subtropical areas worldwide, although the Asian varieties—now grown in California—are the most common. Fresh persimmons are available from October through January.



### *Pomegranates*

An ancient fruit native to Persia (now Iran), pomegranates have long been a subject of poetry and a symbol of fertility. Pomegranates are round, about the size of a large orange, with a pronounced calyx. The skin forms a hard shell with a pinkish-red color. The interior is filled with hundreds of small, red seeds (which are, botanically, the actual fruits) surrounded by juicy reel pulp. An inedible yellow membrane separates the seeds into compartments. Pomegranates are sweet-sour, and the seeds are pleasantly crunchy. The bright red seeds make an attractive garnish. Pomegranate juice is a popular beverage in Mediterranean cuisines, and grenadine syrup is made from concentrated pomegranate juice.

Select heavy fruits that are not rock-hard, cracked, or heavily bruised. Whole pomegranates can be refrigerated for several weeks. Pomegranates are available from September through December; their peak season is in October.



### *Prickly Pears*

Prickly pear fruits, also known as cactus pears and Barbaly figs, are actually the berries of several varieties of cactus. They are barrel- or pear-shaped, about the size of a large egg. Their thick, firm skin is green or purple with small sharp pins and nearly invisible stinging fibers. Their flesh is spongy, sweet and a brilliant pink-red, dotted with small black seeds. Prickly pears have the aroma of watermelon and the flavor of sugar water.

Once peeled, prickly pears can be diced and eaten raw, or they can be pureed for making jams, sauces, custards or sorbets, to which they give a vivid pink color. Prickly pears are especially common in Mexican and southwestern cuisines.

Select fruits that are full-colored, heavy and tender, but not too soft. Avoid those with mushy or bruised spots. Ripe prickly pears can be refrigerated for a week or more. Prickly pears are grown in Mexico and several southwestern states and are available from September through December.



### *Rambutans*

Rambutans, the fruit of a tree in the soapberry family, are closely related to lychees. Native to Malaysia, they are now cultivated throughout Southeast Asia. The bright red, oval fruit is about the size of a small hen's egg, and is covered with long, soft spines, hence the name "hairy" lychees. The interior has a white, lightly acidic pulp. Rambutans darken with age, so select brightly colored fruit with soft, fleshy spines. Rambutans are eaten fresh, used in preserves, and ice cream; they are also available canned.



### *Rhubarb*

Although botanically a vegetable, rhubarb is most often prepared as a fruit. A perennial plant, rhubarb grows well in temperate and cold climates. Only the pinkish-red stems are edible; the leaves contain high amounts of oxalic acid, which is toxic.

Rhubarb stems are extremely acidic, requiring large amounts of sugar to create the desired sweet-sour taste. Cinnamon, ginger, orange and strawberry are particularly compatible with rhubarb. It is excellent for pies, cobblers, preserves, or stewing. Young, tender stalks of rhubarb do not need peeling. When cooked, rhubarb becomes very soft and turns a beautiful light pink color.

Fresh rhubarb is sold as whole stalks, with the leaves removed. Select crisp, unblemished stalks. Rhubarb's peak season is during the early spring, from February through May. Frozen rhubarb pieces are readily available and are excellent for pies, tarts or jams.



*Star Fruit*

Star fruits, also known as carambola, are oval, up to 5 inches (12.5 centimeters) long, with five prominent ribs or wings running their length. A cross-section cut is shaped like a star. The edible skin is a waxy orange-yellow; it covers a dry, paler yellow flesh. Its flavor is similar to that of plums, sweet but bland. Star fruits do not need to be peeled or seeded. They are most often sliced and added to fruit salad or used as a garnish. Unripe fruits can be cooked in stews or chutneys.

Color and aroma are the best indicators of ripeness. The fruits should be a deep golden-yellow and there should be brown along the edge of the ribs. The aroma should be full and floral. Green fruits can be kept at room temperature to ripen, then refrigerated for up to 2 weeks. Star fruits are cultivated in Hawaii, Florida and California, though some are still imported from the Caribbean. Fresh fruits are available from August to February.



*Grapes*

Grapes are the single largest fruit crop in the world, due, of course, to their use in wine making. This section, however, discusses only table grapes, those grown for eating. Grapes are berries that grow on vines in large clusters. California is the world's largest producer, with more than a dozen varieties grown for table use. Grapes are classified by color as white (which are actually green) or black (which are actually red). White grapes are generally blander than black ones, with a thinner skin and firmer flesh. The grape's color and most of its flavor are found in the skin. Grapes are usually eaten raw, either alone or in fruit salads. They are also used as a garnish or accompaniment to desserts and cheeses. Dried grapes are known as raisins; usually made from Thompson Seedless or Muscat grapes), currants (made from Black Corinth grapes and labeled Zante currants) or sultanas (made from sultana grapes).

Grapes are available all year because the many varieties have different harvesting schedules. Look for firm, unblemished fruits that are firmly attached to the stem. A surface bloom or dusty appearance is caused by yeasts and indicates recent harvesting. Wrinkled grapes or those with brown spots around the stem are past their prime. All grapes should be rinsed and drained prior to use.

### *Red Flame Grapes*

Red Flame grapes are a seedless California hybrid, second only in importance to the Thompson Seedless. Red Flame grapes are large and round with a slightly tart flavor and variegated red color.

### *Thompson Seedless Grapes*

The most commercially important table grapes are a variety known as Thompson Seedless, which are pale green with a crisp texture and sweet flavor. Their peak season is from June to November. Many are dried in the hot desert sun of California's San Joaquin Valley to produce dark raisins. For golden raisins, Thompson Seedless grapes are treated with sulfur dioxide to prevent browning, and then dried mechanically.

### *Other Table Grapes*

Of the table grapes containing seeds, the most important varieties are the Concord, Ribier and Emperor. They range from light red to deep black, and all three are in season during the autumn. Concord grapes, one of the few grape varieties native to the New World, are especially important for making juices and jellies.

Virtually all the fine wine made in the world comes from varieties of a single grape species, *Vitis vinifera*. It is grown in the United States, Europe, South Africa, South America, the Middle East, Australia, and wherever fine wine is made.

## MELONS

Like pumpkins and cucumbers, melons are members of the gourd family (Cucurbitaceae). The dozens of melon varieties can be divided into two general types: sweet (or dessert) melons and watermelons. Sweet melons have a tan, green or yellow netted or furrowed rind and dense, fragrant flesh. Watermelon has a thick, dark green rind surrounding crisp, watery flesh.



*Melons*

Melons are almost 90 percent water, so cooking destroys their texture, quickly turning the flesh to mush. Most are served simply sliced, perhaps with a bit of lemon or lime juice. Melons also blend well in fruit salads or with rich, cured meats such as prosciutto. Melons may be pureed and made into sorbet or chilled, uncooked soup.

Melons should be vine-ripened. A ripe melon should yield slightly and spring back when pressed at the blossom end (opposite the stem). It should also give off a strong aroma. Avoid melons that are very soft or feel damp at the stem end. Ripe melons may be stored in the refrigerator, although the flavor will be better at room temperature. Slightly under-ripe melons can be stored at room temperature to allow flavor and aroma to develop.





### *Cantaloupes*

American cantaloupes, which are actually muskmelons, are sweet melons with a thick, yellow-green netted rind, a sweet, moist, orange flesh and a strong aroma. (European cantaloupes, which are not generally available in this country, are more craggy and furrowed in appearance.) As with all sweet melons, the many small seeds are found in a central cavity. Cantaloupes are excellent for eating alone and are especially good with ham or rich meats.

Avoid cantaloupes with the pronounced yellow color or moldy aroma that indicates over-ripeness. Mexican imports ensure a year-round supply, although their peak season is summer.

### *Casaba Melons*

The casaba melon is a teardrop-shaped sweet melon. It has a coarse, yellow skin and a thick, ridged rind; its flesh is creamy white to yellow. Casaba melons are used like cantaloupes. Casaba melons do not have an aroma, so selection must be based on a deep skin color and the absence of dark or moist patches. Their peak season is during September and October.

### *Crenshaw Melons*

Crenshaw (or cranshaw) melons have a mottled, green-yellow ridged rind and orange-pink flesh. They are large pear-shaped sweet melons with a strong aroma. The flesh has a rich, spicy flavor and may be used like cantaloupe. Crenshaws are available from July through October; their peak season is during August and September.





### *Honeydew Melons*

Honeydew melons are large oval sweet melons with a smooth rind that ranges from white to pale green. Although the flesh is generally pale green, with a mild, sweet flavor, pink-or gold-fleshed honeydews are also available. Like casaba melons, honeydew melons have little to no aroma. They are available almost all year; their peak season is from June through October.

### *Santa Claus Melons*

Santa Claus or Christmas melons are large, elongated sweet melons with a green-and-yellow-striped, smooth rind. The flesh is creamy white or yellow and tastes like casaba. They are a winter variety, with peak availability during December, which explains the name.



### *Watermelons*

Watermelons are large (up to 30 pounds or 13.5 kilograms) round or oval-shaped melons with a thick rind. The skin may be solid green, green-striped or mottled with white. The flesh is crisp and extremely juicy with small, hard, black seeds throughout. Seedless hybrids are available. Most watermelons have pink to red flesh, although golden-fleshed varieties are becoming more common. Watermelons are of a different genus from the sweet melons described earlier. They are native to tropical Africa but grow commercially in Texas and several southern states.

## POMES

Pomes are tree fruits with thin skin and firm flesh surrounding a central core containing many small seeds called pips or carpels. Pomes include apples, pears and quince.



### *Apples*

Apples, perhaps the most common and commonly appreciated of all fruits, grow on trees in temperate zones worldwide. They are popular because of their convenience, flavor, variety and availability.

Apples can be eaten raw out of hand, or they can be used in a wide variety of cooked or baked dishes. They are equally useful in breads, desserts or vegetable dishes and go well with game, pork and poultry. Classic dishes prepared with apples are often referred to as *a la Normande*. Apple juice (cider) produces alcoholic and nonalcoholic beverages and cider vinegar.

Of the hundreds of known apple varieties, only 20 or so are commercially significant in the United States. Most have a moist, creamy white flesh with a thin skin of yellow, green or red. They range in flavor from very sweet to very tart, with an equally broad range of textures, from firm and crisp to soft and mealy.

In Europe, apples are divided into distinct cooking and eating varieties. Cooking varieties are those that disintegrate to a puree when cooked. American varieties are less rigidly classified. Nevertheless, not all apples are appropriate for all types of cooking. Those that retain their shape better during cooking are the best choices when slices or appearances are important. Varieties with a higher malic acid content break down easily, making them more appropriate for applesauce or juicing. Either type may be eaten out of hand, depending on personal preference.

## Varieties of Apples

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VARIETY	SKIN COLOR	FLAVOR	PEAK SEASON	USE
Fiji	Yellow-green with red highlights	Sweet-spicy	All year	Eating, in salads
Gala	Yellow-orange with red stripes	Sweet	Aug.-March	Eating, in salads, sauce
Golden Delicious	Glossy, greenish-gold	Sweet	Sept - Oct.	In tarts, with cheese, in salads
Granny Smith	Bright green	Tart	Oct-Nov.	Eating, in tarts
Jonathan	Brilliant red	Tart to acidic	Sept-Oct.	Eating, all-purpose
McIntosh	Red with green background	Tart to acidic	Fall	Applesauce, in closed pies
Pippin (Newton)	Greenish-yellow	Tart	Fall	In pies, eating, baking
Red Delicious	Deep red	Sweet but bland	Sept-Oct.	Eating
Rome	Red	Sweet-tart	Oct.-Nov.	Baking, pies, sauces
Winesap	Dark red with streaks	Tangy	Oct.-Nov.	Cider, all-purpose

Although not native to North America, apples are now grown commercially in 35 states, with Washington and New York leading in production. Apples are harvested when still slightly under-ripe, then stored in a controlled atmosphere (temperature and oxygen are greatly reduced) for extended periods until ready for sale. Modern storage techniques make fresh apples available all year, although their peak season is during the autumn.

When selecting apples, look for smooth, unbroken skins and firm fruits, without soft spots or bruises. Badly bruised or rotting apples should be discarded immediately. They emit quantities of ethylene gas that speed spoilage of nearby fruits. (Remember the saying that "one bad apple spoils the barrel.") Store apples chilled for up to 6 weeks. Apple peels (the skin) may be eaten or removed as desired, but in either case, apples should be washed just prior to use to remove pesticides and any wax that was applied to improve appearance. Apple slices can be frozen (often with sugar or citric acid added to slow spoilage) or dried.



*Pears*

Pears are an ancient tree fruit grown in temperate areas throughout the world. Most of the pears marketed in the United States are grown in California, Washington and Oregon.

## Pear Varieties

VARIETY	APPEARANCE	FLAVOR	PEAK SEASON	USE
<b>Anjou</b> (Beurre d'Anjou)	Greenish-yellow skin; egg-shaped with short neck; red variety also available	Sweet and juicy	Oct.-May	Eating, poaching
<b>Bartlett</b> (Williams)	Thin yellow skin; bell-shaped; red variety also available	Very sweet, buttery, juicy	Aug.-Dec.	Eating, canning, in salads
<b>Bosc</b>	Golden-brown skin; long tapered neck	Buttery	Sept-May	Poaching, baking
<b>Cornice</b>	Yellow-green skin; large and chubby	Sweet, juicy	Oct.- Feb.	Eating
<b>Sekel</b>	Tiny; brown to yellow skin	Spicy	Aug.-Dec.	Poaching, pickling

Although thousands of pear varieties have been identified, only a dozen or so are commercially significant. Pear varieties vary widely in size, color and flavor. They are generally eaten out of hand, baked, or poached. Pears are delicious with cheese, especially blue cheeses, and can be used in fruit salads, compotes or preserves. When selecting pears, look for fruits with smooth, unbroken skin and an intact stem.

Asian pears, also known as Chinese pears or apple-pears, are of a different species than common pears. They have the moist, sweet flavor of a pear and the round shape and crisp texture of an apple. They are becoming increasingly popular in the United States, particularly those known as Twentieth Century or Nijisseiki.

Pears will not ripen properly on the tree, so they are picked while still firm and should be allowed to soften before use. Under-ripe pears may be left at room temperature to ripen. A properly ripened pear should have a good fragrance and yield to gentle pressure at the stem end. Pears can be prepared or stored in the same ways as apples.



*Quince*

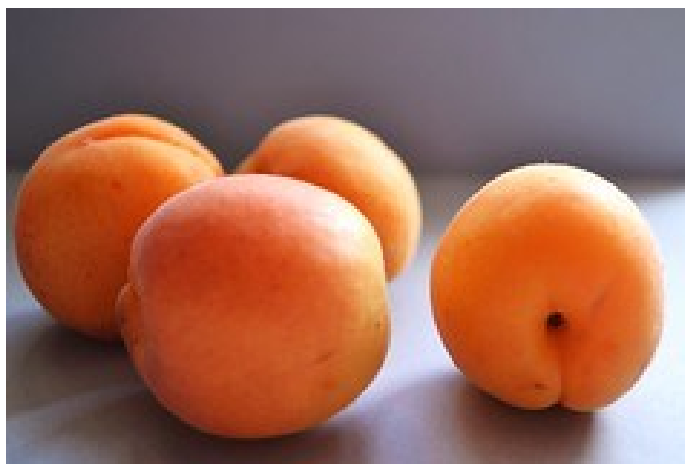
Common quince resemble large, lumpy yellow pears. Their flesh is hard, with many pips or seeds, and they have a wonderful fragrance. While too astringent to eat raw, quince develop a sweet flavor and pink color when cooked with sugar. Quince are used in meat stews, jellies, marmalades and pies. They have a high pectin content and may be added to other fruit jams or preserves to encourage gelling.

Fresh quince, usually imported from South America or southeast Europe, are available from October through January. Select firm fruits with a good yellow color. Small blemishes may be cut away before cooking. Quince will keep for up to a month under refrigeration.

## **STONE FRUITS**

Stone fruits, also known as drupes, include apricots, cherries, nectarines, peaches and plums. They are characterized by a thin skin, soft flesh and one woody stone or pit. Although most originated in China, the shrubs and trees producing stone fruits are now grown in temperate climates worldwide.

The domestic varieties of stone fruits are in season from late spring through summer. They tend to be fragile fruits, easily bruised and difficult to transport, and have a short shelf life. Do not wash them until ready to use, as moisture can cause deterioration. Stone fruits are excellent dried and are often used to make liqueurs and brandies. (The kernel inside the pits of many stone fruits contains amygdalin, a compound that has a bitter almond flavor. Eating the raw kernel can cause digestive discomfort or more serious side effects and should be avoided. When cooked it is harmless and can add flavor to jams and creams.)

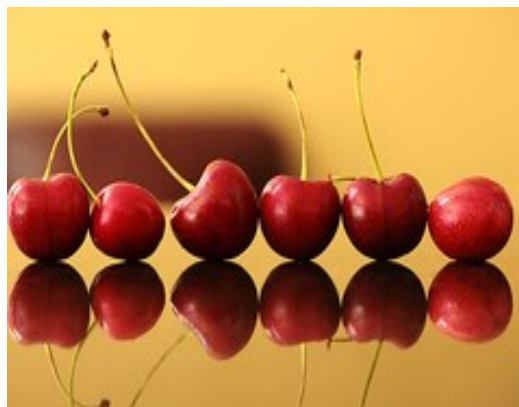


*Apricots*

Apricots are small, round stone fruits with a velvety skin that varies from deep yellow to vivid orange. Their juicy orange flesh surrounds a dark, almond-shaped pit. Apricots can be eaten out of hand, poached, stewed, baked or candied. They are often used in fruit compotes or savory sauces for meat or poultry, and are also popular in quick breads and fruit tarts or pureed for dessert sauces, jams, custards or mousses.

Apricots have a short season, peaking during June and July, and do not travel well. Select apricots that are well shaped, plump and firm. Avoid ones that are greenish-yellow or mushy. Fresh apricots will last for several days under refrigeration, but the flavor is best at room temperature. If fresh fruits are unavailable, canned apricots are usually an acceptable substitute. Dried apricots and apricot juice (known as nectar) are readily available.

From the northern states, particularly Washington, Oregon, Michigan and New York, come the two most important types of cherry: the sweet cherry and the sour (or tart) cherry. Sweet cherries are round to heart-shaped, about 1 inch (2.5 centimeters) in diameter, with skin that ranges from yellow to deep red to nearly black. The flesh, which is sweet and juicy, may vary from yellow to dark red. The most common and popular sweet cherries are the dark red Bings. Yellow-red Royal Ann and Rainier cherries are also available in some areas.



*Cherries*

Sweet cherries are often marketed fresh, made into maraschino cherries or candied for use in baked goods. Fresh sweet cherries have a very short season, peaking during June and July. Cherries will not ripen further after harvesting. Select fruits that are firm and plump with a green stem still attached. There should not be any brown spots around the stem. A dry or brown stem indicates that the cherry is less than fresh. Once the stem is removed, the cherry will deteriorate rapidly. Store fresh cherries in the refrigerator and do not wash them until ready to use.

Sour cherries are light to dark red and are so acidic they are rarely eaten uncooked. The most common sour cherries are the Montmorency and Morello. Most sour cherries are canned or frozen, or cooked with sugar and starch (usually cornstarch or tapioca) and sold as prepared pastry and pie fillings.

*Both sweet and sour varieties are available dried.*



*Peaches and Nectarines*



Peaches are moderate-sized, round fruits with a juicy, sweet flesh. Nectarines are a variety of peach, the main difference between the two being their skin. Peaches have a thin skin covered with fuzz, while nectarines have a thin, smooth skin. The flesh of either fruit ranges from white to pale orange. Although their flavors are somewhat different, they may be substituted for each other in most recipes.

Peaches and nectarines are excellent for eating out of hand or in dessert tarts or pastries. They are also used in jams, chutneys, preserves and savory relishes, having a particular affinity for Asian and Indian dishes. Although the skin is edible, peaches are generally peeled before use. (Peaches peel easily if blanched first.)

Peaches and nectarines are either freestones or clingstones. With freestones, the flesh separates easily from the stone; free stone fruits are commonly eaten out of hand. The flesh of clingstones adheres firmly to the stone; they hold their shape better when cooked and are the type most often canned.

Select fruits with a good aroma; an overall creamy, yellow or yellow-orange color; and an unwrinkled skin free of blemishes. Red patches are not an indication of ripeness; a green skin indicates that the fruit was picked too early and it will not ripen further. Peaches and nectarines will soften but do not become sweeter after harvesting.

The United States, especially California, is the world's largest producer of peaches and nectarines. Their peak season is through the summer months, with July and August producing the best crop. South American peaches are sometimes available from January to May. Canned and frozen peaches are readily available.



### *Plums*

Plums are round to oval-shaped fruits that grow on trees or bushes. Dozens of plum varieties are known, although only a few are commercially significant. Plums vary in size from very small to 3 inches (7.5 centimeters) in diameter. Their thin skin can be green, red, yellow or various shades of blue-purple.

Plums are excellent for eating out of hand. Plums can also be baked, poached or used in pies, cobblers or tarts; they are often used in jams or preserves, and fresh slices can be used in salads or compotes.

Fresh plums are widely available from June through October; their peak season is in August and September. When selecting plums, look for plum p, smooth fruits with unblemished skin. Generally, they should yield to gentle pressure, although the green and yellow varieties remain quite firm. Avoid plums with moist, brown spots near the stem. Plums may be left at room temperature to ripen, and then stored in the refrigerator.

### ***TROPICALS***

Tropical fruits are native to the world's hot, tropical or subtropical regions. Most are now readily available throughout the United States thanks to rapid transportation and distribution methods. All can be eaten fresh, without cooking. Their flavors complement each other and go well with rich or spicy meat, fish and poultry dishes.



### ***Bananas***

Common yellow bananas are actually the berries of a large tropical herb. Grown in bunches called hands, they are about 7 to 9 inches (17.5 to 22.5 centimeters) long, with a sticky, soft, sweet flesh. Their inedible yellow skin is easily removed. Baby bananas (Nino, Ladyfinger or Finger Bananas) measure 4 to 5 inches long (10 to 12.5 centimeters) with yellow or red skin. Their flesh is more dense and sweeter than larger banana varieties and their diminutive size makes them ideal for many dessert applications.

Properly ripened bananas are excellent eaten out of hand or used in salads. Lightly bruised or over-ripe fruits are best used for breads or muffins. Bananas blend well with other tropical fruits and citrus. Their unique flavor is also complemented by cherry, cinnamon, ginger, honey, and chocolate.

Fresh bananas are available all year. Bananas are always harvested when still green, because the texture and flavor will be adversely affected if the fruits are allowed to turn yellow on the tree. Unripe bananas are hard, dry and starchy. Because bananas ripen after harvesting, it is acceptable to purchase green bananas if there is sufficient time for final ripening before use. Bananas should be left at room temperature to ripen. A properly ripened banana has a yellow peel with brown flecks. The tip should not have any remaining green coloring. As bananas continue to age, the peel darkens and the starches turn to sugar, giving the fruits a sweeter flavor. Avoid bananas that have large brown bruises or a gray cast (a sign of cold damage).



### *Plantains*

Plantains, also referred to as cooking bananas, are larger than but not as sweet as common bananas. They are frequently cooked as a starchy vegetable in tropical cuisines.



### *Dates*

Dates are the fruit of the date palm tree, which has been cultivated since ancient times. Dates are about 1 to 2 inches (2.5 to 5 centimeters) long, with a paper-thin skin and a single grooved seed in the center. Most are golden to dark brown when ripe.

Although dates appear to be dried, they are actually fresh fruits. They have a sticky-sweet, almost candied texture and rich flavor. Dates provide flavor and moisture for breads, muffins, cookies and tarts. Additionally, they can be served with fresh or dried fruits, or stuffed with meat or cheese as an appetizer.

Pitted dates are readily available in several packaged forms: whole, chopped, or extruded (for use in baking). Whole un-pitted dates are available in bulk. Date juice is also available for use as a natural sweetener, especially in baked goods. Although packaged or processed dates are available all year, peak season for fresh domestic dates is from October through December. When selecting dates, look for those that are plump, glossy and moist.



### *Kiwis*

Kiwis, sometimes known as kiwifruits or Chinese gooseberries, are small oval fruits, about the size of a large egg, with a thin, fuzzy brown skin. The flesh is bright green with a white core surrounded by hundreds of tiny black seeds.

Kiwis are sweet, but somewhat bland. They are best used raw, peeled and eaten out of hand or sliced for fruit salads or garnish. Although kiwis are not recommended for cooking because heat causes them to fall apart, they are a perfect addition to glazed fruit tarts and can be pureed for sorbets, sauces or mousses. Kiwis contain an enzyme similar to that in fresh pineapple and papaya, which has a tenderizing effect on meat and prevents gelling.



### *Mangoes*

Mangoes are oval or kidney-shaped fruits that normally weigh between 6 ounces and 1 pound (180 and 500 grams). Their skin is smooth and thin but tough, varying from yellow to orange-red, with patches of green, red or purple. As mangoes ripen, the green disappears. The juicy, bright orange flesh clings to a large, flat pit.

A mango's unique flavor is spicy-sweet, with an acidic tang. Mangoes can be pureed for use in drinks or sauces, or the flesh can be sliced or cubed for use in salads, pickles, chutneys or desserts. Mangoes go well with spicy foods such as curry and with barbecued meats.

Although Florida produces some mangoes, most of those available in the United States are from Mexico. Their peak season is from May through August. Select fruits with good color that are firm and free of blemishes. Ripe mangoes should have a good aroma, and should not be too soft or shriveled. Allow mangoes to ripen completely at room temperature, then refrigerate for up to 1 week. blemishes. Ripe mangoes should have a good aroma, and should not be too soft or shriveled. Allow mangoes to ripen completely at room temperature, then refrigerate for up to one week.



*Papayas*

The papaya is a greenish-yellow fruit shaped rather like a large pear and weighing 1 to 2 pounds (500 to 1000 grams). When halved, it resembles a melon. The flesh is golden to red dish-pink; its center cavity is filled with round, silver-black seeds resembling caviar. Ripe papayas can be eaten raw, with only a squirt of lemon or lime juice. They can also be pureed for sweet or spicy sauces, chilled soups or sorbets.

Papayas contain papain, which breaks down proteins, and therefore papayas are an excellent meat tenderizer. Meats can be marinated with papaya juice or slices before cooking. Papain, however, makes fresh papayas unsuitable for use in gelatins because it inhibits gelling. Unripe (green) papayas are often used in pickles, or chutneys, and can be baked, or stewed, with meat or poultry.

Papaya seeds are edible, with a peppery flavor and slight crunch. They are occasionally used to garnish fruit salads or add flavor to fruit salsas and compotes. Papayas are grown in tropical and sub-tropical areas worldwide. Although they are available year-round, their peak season is from April through June. Select papayas that are plump, with a smooth, unblemished skin. Color is a better determinant of ripeness than is softness: The greater the proportion of yellow to green skin color, the riper the fruit. Papayas may be held at room temperature until completely ripe, then refrigerated for up to 1 week.



### *Passion Fruits*

Passion fruits have a firm, almost shell-like purple skin with orange -yellow pulp surrounding large, black, edible seeds. They are about the size and shape of large hen eggs, with a sweet, rich and unmistakable citrusy flavor. The pulp is used in custards, sauces and ice creams.

Select heavy fruits with dark, shriveled skin and a strong aroma. Allow them to ripen at room temperature, if necessary, then refrigerate. Passion fruits are now grown in New Zealand, Hawaii and California and should be available all year, although their peak season is in February and March. Bottles or frozen packs of puree are readily available and provide a strong, true flavor.





### *Pineapples*

Pineapples are the fruit of a shrub with sharp spear-shaped leaves. Each fruit is covered with rough, brown eyes, giving it the appearance of a pinecone. The pale yellow flesh, which is sweet and very juicy, surrounds a cylindrical woody core that is edible but too tough for most uses. Most pineapples weigh approximately 2 pounds (1 kilogram), but dwarf varieties are also available.

Pineapples are excellent eaten raw, alone or in salads. Slices can be baked or grilled to accompany pork, or ham. The cuisines of Southeast Asia incorporate pineapple into various curries, soups and stews. Pineapple juice is a popular beverage often used in punch or cocktails. Canned or cooked pineapple can be added to gelatin mixtures, but avoid using fresh pineapple; an enzyme (bromelin) found in fresh pineapple breaks down gelatin.

Pineapples do not ripen after harvesting. They must be left on the stem until completely ripe, at which time they are extremely perishable. The vast majority of pineapples come from Hawaii. Fresh pineapples are available all year, with peak supplies in March through June. Select heavy fruits with a strong, sweet aroma and rich color. Avoid those with dried leaves or soft spots. Pineapples should be used as soon as possible after purchase. Pineapples are also available canned in slices, cubes or crushed, dried or candied.

### **Nutrition**

Most fruits are quite nutritious. They have a high water content (usually 75 to 95 percent), low protein, and fat contents, all of which makes them low in calories. They are also an excellent source of fiber, and the sugar content of ripe fruits is a good source of energy. Some fruits, such as citrus, melons and strawberries, contain large amounts of vitamin C (which may be destroyed, however, by cooking or processing). Deep yellow and green fruits, such as apricots, mangoes and kiwis are high in vitamin A; bananas, raisins and figs are a good source of potassium.



## Selecting Fresh Fruits

Fresh fruits have not been subjected to any processing (such as canning, freezing or drying). Fresh fruits may be ripe or unripe, depending on their condition when harvested or the conditions under which they have been stored. In order to use fresh fruits to their best advantage, it is important to make careful purchasing decisions. It is important to pay attention to the size of each piece of fruit, its grade or quality, its ripeness on delivery and its nutritional content in order to serve fruit in an appropriate and cost-effective manner.

## Grading

Fresh fruits traded on the wholesale market may be graded under the USDA's voluntary program. The grades, based on size and uniformity of shape, color and texture as well as the absence of defects, are U.S. Fancy, U.S. No. 1, U.S. No. 2 and U.S. No. 3. Most fruits purchased for food service operations are U.S. Fancy. Fruits with lower grades are suitable for processing into sauces, jams, jellies or preserves.

## Ripening

Several important changes take place in a fruit as it ripens. The fruit reaches its full size; its pulp or flesh becomes soft and tender; its color changes. In addition, the fruit's acid content declines, making it less tart, and its starch content converts into the sugars fructose and glucose, which provide the fruit's sweetness, flavor and aroma.

Unfortunately, these changes do not stop when the fruit reaches its peak of ripeness. Rather, they continue, deteriorating the fruit's texture and flavor and eventually causing spoilage. Depending on the species, fresh fruits can be purchased either fully ripened or unripened. Figs and pineapples, for example, ripen only on the plant and are harvested at or just before their peak of ripeness, then rushed to market. They should not be purchased un-ripened, as they will never attain full flavor or texture after harvesting. On the other hand, some fruits, including bananas and pears, continue to ripen after harvesting and can be purchased unripened.

With most harvested fruits, the ripening time as well as the time during which the fruits remain at their peak of ripeness can be manipulated. For instance, ripening can be delayed by chilling. Chilling slows the fruit's respiration rate (fruits, like animals, consume oxygen and expel carbon dioxide). The slower the respiration rate, the slower the conversion of starch to sugar. For quicker ripening, fruit can be stored at room temperature.

Ripening is also affected by ethylene gas, a colorless, odorless hydrocarbon gas. Ethylene gas is naturally emitted by ripening fruits and can be used to encourage further ripening in most fruits. Apples, tomatoes, melons, and bananas give off the most ethylene and should be stored

away from delicate fruits and vegetables, especially greens. Fruits that are picked and shipped unripened can be exposed to ethylene gas to induce ripening just before sale. Conversely, to extend the life of ripe fruits a day or two, isolate them from other fruits and keep them well chilled.

Fresh fruits will not ripen further once they are cooked or processed. The cooking or processing method applied, however, may soften the fruits or add flavor.

### **Purchasing Specifications**

Fresh fruits are sold by weight or by count. They are packed in containers referred to as crates, bushels, cartons, cases, lugs or flats. The weight or count packed in each of these containers varies depending on the type of fruit, the purveyor and the state in which the fruits were packed. For example, Texas citrus is packed in cartons equal to 7/10 of a bushel; Florida citrus is packed in cartons equal to 1/s of a bushel. Sometimes fruit size must be specified when ordering. A 30-pound case of lemons, for example, may contain 96, 112, or 144 individual lemons, depending on their size.

Some fresh fruits, especially melons, pineapples, peaches and berries are available trimmed, cleaned, peeled or cut. Sugar and preservatives are sometimes added. They are sold in bulk containers, sometimes packed in water. These items offer a consistent product with a significant reduction in labor costs. The purchase price may be greater than that for fresh fruits, and flavor, freshness and nutritional qualities may suffer somewhat from the processing.

### ***PURCHASING AND STORING PRESERVED FRUITS***

Preservation techniques are designed to extend the shelf life of fruits in essentially fresh form. These methods include irradiation, acidulation, canning, freezing and drying. Except for drying, these techniques do not substantially change the fruits' texture or flavor. Canning and freezing can also be used to preserve cooked fruits.

#### **Irradiated Fruits**

Some fruits can be subjected to ionizing radiation to destroy parasites, insects and bacteria. The treatment also slows ripening without a noticeable effect on the fruits' flavor and texture. Irradiated fruits must be labeled "treated with radiation," "treated by irradiation" or with the appropriate symbol.

#### **Acidulation**

Apples, pears, bananas, peaches and other fruits turn brown when cut. Although this browning is commonly attributed to exposure to oxygen, it is actually caused by the reaction of enzymes.

Enzymatic browning can be retarded by immersing cut fruits in an acidic solution such as lemon or orange juice. This simple technique is sometimes referred to as acidulation. Soaking fruits in water or lemon juice and water (called acidulated water) is not recommended. Unless a sufficient amount of salt or sugar is added to the water, the fruits will just become mushy. However, if enough salt or sugar is added to retain texture, the flavor will be affected.

## **Canned Fruit**

Almost any type of fruit can be canned successfully; pineapple and peaches are the largest sellers. In commercial canning, raw fruits are cleaned and placed in a sealed container, then subjected to high temperatures for a specific amount of time. Heating destroys the microorganisms that cause spoilage, and the sealed environment created by the can eliminates oxidation and retard s decomposition. However, the heat required by the canning process also softens the texture of most fruits. Canning has little or no effect on vitamins A, B, C and D because oxygen is not present during the heating process. Canning also has no practical effect on proteins, fats or carbohydrates.

In solid-pack cans, little or no water is added to the product. The only liquid is from the fruits ' natural moisture. Water-pack cans have water or fruit juice added, which must be taken into account when determining costs. Syrup-pack cans have a sugar syrup added: light, medium, or heavy. The syrup should also be taken into account when determining food costs, and the additional sweetness should be considered when using syrup-packed fruits. Cooked fruit products such as pie fillings are also available canned.

Canned fruits are purchased in cases of standard -sized cans (see Appendix II). Once a can is opened, any unused contents should be transferred to an appropriate storage container and refrigerated. Cans with bulges should be opened and discarded immediately.

## **Frozen Fruits**

Freezing is a highly effective method for preserving fruits. It severely inhibits the growth of microorganisms that cause fruits to spoil. Freezing does not destroy nutrients, although the appearance or texture of most fruits can be affected because of their high water content. This occurs when ice crystals formed from the water in the cells burst the cells' walls.

Many fruits, especially berries and apple and pear slices, are now individually quick-frozen (IQF). This method employs blast s of cold air, refrigerated plates, liquid nitrogen, liquid air or other technique s to chill the produce quickly. Speeding the free zing process can greatly reduce the formation of ice clystals.

Fruits can be trimmed and sliced before freezing and are also available frozen in sugar syrup, which acids flavor and prevents browning. Berries are frozen whole, while stone fruits are usually peeled, pitted, and sliced. Fruit purees are also available frozen.

Frozen fruits are graded as U.S. Grade A (Fancy), U.S. Grade B (Choice or Extra Standard), or U.S. Grade C (Standard). The "U.S." indicates that a government inspector has graded the product, but packers may use grade names without an actual inspection if the contents meet the standards of the grade indicated.

IQF fruits can be purchased in bulk by the case. All frozen fruits should be sealed in moisture-proof wrapping and kept at a constant temperature of 0°F (- 18°C) or below. Temperature fluctuations can cause freezer burn. Frozen berries such as blueberries and blackberries should not be thawed before adding to batters because their juice can easily discolor the batter.

## **Dried Fruits**

Drying is the oldest known technique for preserving fruits, having been used for more than 5000 years. When ripe fruits are dried, they lose most of their moisture. This concentrates their flavors and sugars and dramatically extends shelf life. Although most fruits can be dried, plums (prunes), grapes (raisins, sultanas and currants), apricots and figs are the fruits most commonly dried. The drying method can be as simple as leaving ripe fruits in the sun to dry naturally or the more cost-efficient technique of passing fruits through a compartment of hot, dry air to quickly extract moisture. Dried fruits actually retain from 16 to 26 percent residual moisture, which leaves them moist and soft. They are often treated with sulfur dioxide to prevent browning (oxidation) and to extend shelf life.

Dried fruits may be eaten out of hand; added to cereals or salads; baked in muffins, breads, pies or tarts; stewed for chutneys or compotes; or used as a stuffing for roasted meats or poultry. Before use, dried fruits may be softened by steeping them for a short time in a hot liquid such as water, wine, rum, brandy or other liquor. Some dried fruits should be simmered in a small amount of water before use.

Store dried fruits in airtight containers to prevent further moisture loss; keep in a dry, cool area away from sun light. Dried fruits may mold if exposed to both air and high humidity.

## **Juicing**

Fruit juice is used as a beverage, alone, mixed with other ingredients, and as the liquid ingredient in other preparations. Juice can be extracted from fruits (and some vegetables) in two ways: pressure and blending.

Pressure is used to extract juice from fruits such as citrus that have a high water content. Pressure is applied by hand squeezing or with a manual or electric reamer. All reamers work on the same principle: A ribbed cone is pressed against the fruit to break down its flesh and release the juice. Always strain juices to remove seeds, pulp or fibrous pieces.

A blender or an electric juice extractor can be used to liquefy less-juicy fruits and vegetables such as apples, carrots, tomatoes, beets and cabbage. The extractor pulverizes the fruit or vegetable, then separates and strains the liquid from the pulp with centrifugal force.

Interesting and delicious beverages can be made by combining the juice of one or more fruits or vegetables: pineapple with orange, apple with cranberry, strawberry with tangerine and papaya with orange. Color should be considered when creating mixed-juice beverages, however. Some combinations can cause rather odd color changes. Although yellow and orange juices are not a problem, those containing red and blue flavonoid pigments (such as Concord grapes, cherries, strawberries, raspberries and blueberries) can create some unappetizing colors. Adding an acid such as lemon juice helps retain the correct red and blue hues.

### ***APPLYING VARIOUS COOKING METHODS***

Although most fruits are edible raw and typically served that way, some fruits can also be cooked. Commonly used cooking methods are broiling and grilling, baking, sautéing, deep-frying, poaching, simmering and preserving.

When cooking fruits, proper care and attention are critical. Even minimal cooking can render fruits overly soft or mushy. To combat this irreversible process, sugar can be added. When fruits are cooked with sugar, the sugar will be absorbed slowly into the cells, firming the fruits. Acids (notably lemon juice) also help fruits retain their structure. (Alkalis, such as baking soda, cause the cells to break down more quickly, reducing the fruits to mush.)

There are so many different fruits with such varied responses to cooking that no one standard for doneness is appropriate. Each item should be evaluated on a recipe-by-recipe basis. Generally, however, most cooked fruits are done when they are just tender when pierced with a fork or the tip of a paring knife. Simmered fruits, such as compotes, should be softer, cooked just to the point of disintegration. Avoid overcooking fruits by remembering that some carryover cooking will occur through the residual heat contained in the foods. Always rely on subjective tests such as sight, feel, taste, and aroma—rather than cooking time.

### ***Broiling and Grilling***

Fruits are usually broiled or grilled just long enough to caramelize sugars; cooking must be done quickly in order to avoid breaking down the fruits' structure. Good fruits to broil or grill are pineapples, apples, grapefruits, bananas, persimmons and peaches. The fruits may be cut into slices, chunks or halves as appropriate. A coating of sugar, honey or liqueur adds flavor, as do lemon juice, cinnamon and ginger.

When broiling fruits, use an oiled sheet pan or broiling platter. When grilling fruits, use a clean grill grate or thread the pieces onto skewers. Only thick fruit slices will need to be turned or rotated to heat fully. Broiled or grilled fruits can be served alone, as an accompaniment to meat, fish or poultry or as topping for ice creams or custards.

**~ Procedure to Broil or Grill Fruit ~**

1. Select ripe fruits and peel, core or slice as necessary.
2. Top with sugar or honey to add flavor and aid caramelization.
3. Place the fruits on the broiler platter, sheet pan or grill grate.
4. Broil or grill at high temperatures, turning as necessary to heat the fruits thoroughly but quickly.

**Baking**

After washing, peeling, coring or pitting, most pomes, stone fruits and tropical fruits can be baked to create hot, flavorful desserts. Fruits with sturdy skins, particularly apples and pears, are excellent for baking alone, as their skin (peel) holds in moisture and flavor. They can also be used as edible containers by filling the cavity left by coring with a variety of sweet or savory mixtures.

Combinations of fruits can bake together successfully; try mixing fruits for a balance of sweetness and tartness (for example, strawberries with rhubarb or apples with plums).

Several baked desserts are simply fruits (fresh, frozen or canned) topped with a crust (called a cobbler), strudel (called a crumple or crisp) or batter (called a buckle). Fruits, sometimes poached first, can also bake in a wrapper of puff pastry, flaky dough or phyllo dough to produce an elegant dessert.

**~Procedure for Baking Fruit~**

1. Select ripe but firm fruits and peel, core, pit or slice as necessary.
2. Add sugar or any flavorings.
3. Wrap the fruits in pastry dough if desired, or directed in the recipe.
4. Place the fruits in a baking dish and bake uncovered in a moderate oven until tender or properly browned.

***Sautéing***

Fruits develop a rich, syrupy flavor when sautéed briefly in butter, sugar and, if desired, spices or liqueur. Cherries, bananas, apples, pears and pineapples are good choices. They should be peeled, cored and seeded as necessary and cut into uniform-size pieces before sautéing.

For dessert, fruits are sautéed with sugar to create a caramelized glaze or syrup. The fruits and syrup can be used to fill crepes or to top sponge cakes or ice creams. Liquor may be added and the mixture flamed (flambéed) in front of diners. .

For savory mixtures, onions, shallots or garlic are often added. In both sweet and savory fruit sautés, the fat used should be the most appropriate for the finished product. Butter and bacon fat are typical choices.

#### **~ Procedure for Sautéing Fruits ~**

1. Peel, pit and core the fruits as necessary and cut into uniform-size pieces.
2. Melt the fat in a hot sauté pan.
3. Add the fruit pieces and any flavoring ingredients. Do not crowd the pan, as this will cause the fruit to stew in its own juices.
4. Cook quickly over high heat.

### ***Deep-Frying***

Few fruits are suitable for deep-frying. Apples, bananas, pears, pineapples and firm peaches mixed in or coated with batter, however, produce fine results. These fruits should be peeled, cored, seeded, and cut into evenly-sized slices or chunks. They may also need to be dried with paper towels so that the batter or coating can adhere.

Fruit fritters are also a popular snack or dessert item. Fritters contain diced or chopped fish, shellfish, vegetables, or fruits bound together with a thick batter and deep-fried. Because frying time is very short, the main ingredient is usually precooked. Fritters are spooned or dropped directly into the hot fat; they form a crust as they cook. Popular examples are clam fritters, corn fritters, artichoke fritters and apple fritters.

#### **~ Method for Deep-Frying Fruit Fritters ~**

1. Cut, chop and otherwise prepare the food to be made into fritters.
2. Precook any ingredients if necessary.
3. Prepare the batter as directed.
4. Scoop the fritters into deep fat at 350°F (180°C), using the swimming method.
5. Cook until done. The fritters should be golden brown on the outside and moist but set on the inside.
6. Remove the fritters from the fat and hold them over the fryer, allowing the excess fat to drain off. Transfer the food to a hotel pan either lined with absorbent paper or fitted with a rack. Serve hot.
7. If the fritters are to be held for later service, place them under a heat lamp.

### **MOIST-HEAT COOKING METHODS**

#### ***Poaching***



One of the more popular cooking methods for fruits is poaching. Poaching softens and tenderizes fruits and infuses them with additional flavors such as spices or wine. Poached fruits can be served hot or cold and used in tarts or pastries or as an accompaniment to meat or poultry dishes.

The poaching liquid can be water, wine, liquor or sugar syrup. (As noted earlier, sugar helps fruits keep their shape, although it takes longer to tenderize fruits poached in sugar syrup.) The low poaching temperature (185°F/85°C) allows fruits to soften gradually. The agitation created at higher temperatures would damage them.

Cooked fruits should be allowed to cool in the flavored poaching liquid or syrup. Most poaching liquids can be used repeatedly. If they contain sufficient sugar, they can be reduced to a sauce or glaze to accompany the poached fruits.

#### **~ Procedure for Poaching Fruits ~**

1. Peel, core and slice the fruits as necessary.
2. In a sufficiently deep, nonreactive saucepan, combine the poaching liquid (usually water or wine) with sugar, spices, citrus zest and other ingredients as desired or as directed in the recipe.
3. Submerge the fruits in the liquid. Place a circle of parchment paper over the fruits to help them stay submerged.
4. Place the saucepan on the stovetop over a medium-high flame; bring to a boil.
5. As soon as the liquid boils, reduce the temperature. Simmer gently.
6. Poach until the fruits are tender enough for the tip of a small knife to be easily inserted. Cooking time depends on the type of fruit used, its ripeness and the cooking liquid.

### ***Simmering***

Simmering techniques are used to make stewed fruits and compotes. Fresh, frozen, canned and dried fruits can be simmered or stewed. As with any moist heat cooking method, simmering softens and tenderizes fruits. The liquid used can be water, wine or the juices naturally found in the fruits. Sugar, honey and spices may be added as desired. Stewed or simmered fruits can be served hot or cold, as a first course, a dessert or an accompaniment to meat or poultry dishes.

#### **~ Method for Simmering Fruit ~**

1. Peel, core, pit and slice the fruits as necessary.
2. Bring the fruits and cooking liquid, if used, to a simmer. Cook until the fruit is tender.
3. Add sugar or other sweeteners as desired or as directed in the recipe.

## *Preserving*

Fresh fruits can be preserved with sugar if the fruit-and-sugar mixture is concentrated by evaporation to the point that microbial spoilage cannot occur. The added sugar also retards the growth of, but does not destroy, microorganisms.

Pectin, a substance present in varying amounts in all fruits, can cause cooked fruits to form a semisolid mass known as a gel. Fruits that are visually unattractive but otherwise of high quality can be made into gels, which are more commonly known as jams, jellies, marmalades and preserves.

The essential ingredients of a fruit gel are fruit, pectin, acid (usually lemon juice), and sugar. They must be carefully combined in the correct ratio for the gel to form. For fruits with a low pectin content (such as strawberries) to form a gel, pectin must be added, either by adding a fruit with a high pectin content (for example, apples or quinces) or by adding packaged pectin.

*Terms:*

**Concentrate** - also known as a fruit paste or compo und; a reduced fruit puree, without a gel structure, used as a flavoring

**Jam** - a fruit gel made from fruit pulp and sugar

**jelly** - a fruit gel made from fruit juice and sugar

**marmalade** - a citrus jelly that also contains unpeeled slices of citrus fruit

**preserve** - a fruit gel that contains large pieces or whole fruits

## **Quiz on Fruit**

1. Describe a clafoutis.
2. When and where was Bananas Foster created?
3. What kind of liqueur and liquor is used in making Bananas Foster?
4. Describe the term macerate.
5. Describe brie cheese.

## RECIPES FOR FRUIT

### Pear or Apple Clafoutis

Makes 8 servings

Clafoutis, sometimes spelled clafouti in Anglophone countries, is a baked French dessert of fruit, traditionally black cherries, arranged in a buttered dish, and covered with a thick flan-like batter.



- cups milk
- 1 cup heavy cream
- 1 cup granulated sugar
- 1 ½ teaspoons pure vanilla extract
- 2/3 cup all-purpose flour
- large eggs
- Granny Smith apples or firm, ripe Anjou pears, peeled, cored, and thinly sliced
- tablespoons brandy
- Confectioners' sugar

- 1 Preheat the oven to 375 degrees. Generously butter a gratin dish, about 12 inches in diameter and two to three inches deep. (In a pinch you can use a 10-inch deep-dish pie plate).
- 2 Combine the milk, cream, granulated sugar, and the vanilla in a medium-size saucepan.
- 3 Bring to a boil over medium-high heat, stirring to dissolve the sugar. Reduce the heat to medium and boil gently to cook slightly, two to three minutes. Remove from the heat and set aside.

- 4 Place the flour in a medium-size mixing bowl, and using an electric mixer, beat in the eggs one at a time, scraping the sides of the bowl often, to make a smooth batter.
- 5 Gradually beat in the warm milk mixture to form a smooth and thin batter.
- 6 Pour into the prepared gratin dish.
- 7 Toss the apple or pear slices with the brandy and arrange in layers over the top of the batter. They will sink as you work.
- 8 Bake the clafoutis until firm to the touch in the center and lightly golden on top, about 1 hour and 15 minutes.
- 9 Remove from the oven and let cool to lukewarm or room temperature. Serve by cutting into pie-like wedges, dusting each with the confectioners' sugar.

## Baked Apples with Cream Cheese Drizzle

Makes 6 Servings

- gala apples
- 1 ½ cups water

### Filling:

- 1 cup golden raisins
- 1 cup chopped pecans
- tablespoons maple syrup
- 1 ¼ teaspoons ground cinnamon

### Cream Cheese Drizzle:

- ounces softened cream cheese
- 1¼ teaspoons vanilla extract
- Touch water

- 1 Preheat oven to 350 degrees
- 2 Pour the water into a baking dish large enough to accommodate the 6 apples. Set aside.
- 3 Core the apple using a melon baller or sharp knife, being sure to leave the bottom of the apple intact so that it will hold the filling without leaking!



- 4 Mix the filling ingredients together in a small bowl. Using a small spoon, scoop the filling into the apples.



- 5 Place the stuffed apples in the prepared casserole dish. Cover with a glass cover or foil.
- 6 Bake for about 45-50 minutes, removing the cover after 20 minutes.
- 7 Meanwhile, mix cream cheese drizzle ingredients in a small bowl. Once apples are cooked through, and tender, remove from the oven, place on a plate and drizzle with cream cheese mixture. Serve immediately.



## Bananas Foster

Makes 4 Servings

*We have Richard Foster, a regular at New Orleans' celebrated restaurant Brennan's, to thank for this delectable dessert. A combination of cooked bananas swimming in sugar, melted butter, and rum, which is often ignited tableside, the dessert was created in 1951 by Brennan's chef for Mr. Foster. An owner of an awning company, Foster served on the New Orleans Crime Commission and was a good friend of restaurant owner Owen Edward Brennan.*

- ¼ cup (½ stick) butter
- 1 cup brown sugar (packed)
- ½ teaspoon ground cinnamon
- ¼ cup banana liqueur
- 4 bananas, cut in half lengthwise, then halved
- ¼ cup dark rum
- 4 scoops vanilla ice cream

- 1 Combine the butter, sugar, and cinnamon in a flambé pan or skillet.
- 2 Place the pan over low heat either on a butane burner or on top of the stove, and cook, stirring, until the sugar dissolves.
- 3 Stir in the banana liqueur, then place the bananas in the pan.
- 4 When the banana sections soften and begin to brown, carefully add the rum.
- 5 Continue to cook the sauce until the rum is hot, then tip the pan slightly to ignite the rum.
- 6 When the flames subside, lift the bananas out of the pan and place 2 pieces over each portion of ice cream.
- 7 Generously spoon warm sauce over the top of the ice cream and serve immediately.



## Daniel Boulud's Trifle in a Jar (Fruit Verrines)

Yield 3 Cups



### Sweetened Whipped Cream

- 2 cups heavy cream
- 1/2 teaspoon pure vanilla extract
- 2 teaspoons sugar

- 1 Combine the cream, vanilla, and sugar in a medium-size mixing bowl and, using an electric mixer, whip until soft peaks form.
- 2 Cover and chill in the refrigerator until ready to use.

### Filling:

- Cut 1 pound cake into 1/2-inch cubes
- Macerate one-pint raspberries in 2-tablespoons Chambord for 15 minutes.
- (When you macerate something, you soften it by soaking it in a liquid, often while you're cooking or preparing food. To macerate strawberries, all you have to do is sprinkle sugar on them, which draws out their juices so they become soft and sweet and deliciously saucy. For this recipe we soaked the raspberries in a premium black raspberry liqueur).
- 1 cup shelled, salted pistachios – roughly chopped for garnish.



**To Assemble:**

To build each verrine, place approximately 2 tablespoons of macerated berries, then some of the whipped cream, more cubes of cake, more berries, and sprinkle of pistachios.

**Fruit Pizza****Crust:**

- Non-stick cooking spray
- 1 ¼ cups all-purpose flour
- ½ teaspoon baking powder
- ¼ teaspoon salt
- 1 tablespoon unsalted butter, at room temperature
- ½ cup granulated sugar
- ¼ cup light brown sugar
- 1 large egg
- 1 teaspoon vanilla extract

- 1 For the crust: Preheat the oven to 350 degrees F. Spray a 10 to 12-inch tart pan or pizza pan with nonstick cooking spray.
- 2 In a medium bowl, whisk together the flour, baking powder and salt.
- 3 In a large mixing bowl, cream together the butter and sugars using a handheld mixer until smooth.
- 4 Add in the egg and vanilla and mix until incorporated.
- 5 Slowly incorporate the flour mixture into the creamed butter and mix until blended.
- 6 Remove the dough from the bowl and press into the prepared pan. (You may need to dust your hands with some flour to prevent the dough from sticking to them. It is wet dough when it comes together.)
- 7 Bake until the edges just start to brown, 10 to 12 minutes. Remove from the oven and let cool.

**For the Spread**

- 1 (8-ounce) package cream cheese, softened
- ½ cup confectioners' sugar
- 1 ½ teaspoons vanilla extract
- ½ teaspoon lemon zest
- Pinch salt

In a large mixing bowl, beat the cream cheese, sugar, vanilla, lemon zest and a pinch of salt until smooth. Spread evenly on the cooled crust.

**Cook's Note:** An offset spatula is a great tool for spreading the cookie dough. If the dough seems a little soft, flour your hands before you work with the dough or chill the dough in the refrigerator.

### **For the Glaze**

- 3 tablespoons orange marmalade
- 1 1/2 teaspoon herbs de Provence

Combine the marmalade, 2 tablespoons water and herbs de Provence to a small skillet and cook over medium heat until loosened and warm.

### **Fresh Fruit Topping:**

- 1 cup blueberries
- 1 cup sliced kiwi
- 1 cup sliced nectarines
- 1 cup raspberries
- 1 cup strawberries, sliced

**To assemble:** Arrange the fresh fruit in the desired pattern on top of the pizza, brush the glaze over the fruit, slice and serve.



## Grilled Brie with Apple Compote

*Brie is a soft cow's-milk cheese named after Brie, the French region from which it originated*



### Compote makes about 3 cups

- pounds tart apples, peeled, cored and cut into small dice (toss with acidulated water to prevent discoloration)
- tablespoons fresh lemon juice
- 1 tablespoon brandy
- 1/4 cup sugar
- 1/4 teaspoon ground cinnamon

Combine the above ingredients in a large saucepan over low heat and cover. Stir occasionally until the apples are tender, about 30 minutes. Remove from the heat and cool completely.

### To assemble:

- 1 cup chopped toasted pecans
- small wheels of brie cheese (grilled with hatch marks)

Place the grilled brie on a serving platter. Spoon the apple compote over the cheese and sprinkle with toasted pecans. Serve with party crackers.

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## GLOSSARY

**a la** - French for "in the manner or style of"; used in relation to a food , it designates a style of preparation or presentation.

**a la carte** - a menu on which each food and beverage is listed and priced separately; (2) foods cooked to order as opposed to foods cooked in advance and held for later service.

**a la grecque** - a preparation style in which vegetables are marinated in olive oil, lemon juice and herbs, then served cold.

**a point** - French term for cooking to the ideal degree of doneness; (2) when applied to meat , refers to cooking it medium rare.

**absorption** - the ability of flour to absorb moisture when mixed into dough , which varies according to protein content, growing, and storage conditions.

**acid** - a substance that neutralizes a base (alkaline) in a liquid solution; foods such as citrus juice, vinegar and wine that have a sour or sharp flavor (most foods are slightly acidic); acids have a pH of less than 7.

**acidulation** - the browning of cut fruit caused by the reaction of an enzyme (polyphenol oxidase) with the phenolic compounds present in these fruits; this browning is often mistakenly attributed to exposure to oxygen.

**acini di pepe** - from the Italian word for "peppercorn"; a tiny pasta shaped like peppercorns primarily used for soups; orzo can be substituted.

**additives** - substances added to many foods to prevent spoilage or improve appearance, texture, flavor or nutritional value; they may be synthetic materials copied from nature (for example, sugar substitutes) or naturally occurring substances (for example , lecithin). Some food additives may cause allergic reactions in sensitive people.

**adobo seasoning** - a commercial spice blend; although several brands are available, most include dried chilies, Mexican oregano , cumin, black pepper, garlic powder and onion powder.

**aerate** - to incorporate air into a mixture through sifting and mixing.

**aerobic bacteria** - those that thrive on oxygen.

**aging** - (1) the period during which freshly killed meat is allowed to rest so that the effects of rigor mortis dissipate; (2) the period during which freshly milled flour is allowed to rest so that it will whiten and produce less sticky doughs; the aging of flour can be chemically accelerated.

**airline breast** - a boneless chicken breast with the first wing bone attached.

**albumen** - the principal protein found in egg whites.

**al dente** - Italian for "to the tooth"; used to describe a food , usually pasta, that is cooked only until it gives a slight resistance when one bites into it.

**alkali** - also known as a base, any substance with a pH higher than 7; baking soda is one of the few alkaline foods.

**alkaloid** - a number of bitter organic substances with alkaline properties; found most often in plants and sometimes used in drugs.

**allemande** - an intermediary sauce made by adding lemon juice and a liaison to chicken or veal veloute.

**allumette** - a matchstick cut of 1/8 inch X 1/8 inch X 2 inches (3 millimeters X 3 millimeters X 5 centimeters) usually used for potatoes; (2) a strip of puff pastry with a sweet or savory filling.

**American service** - restaurant service in which the waiter takes the orders and brings the food to the table; the food is placed on dishes (plated) in the kitchen, making it a relatively fast method for seated service.

**amino acid** - the basic molecular component of proteins; each of the approximately two dozen amino acids contains oxygen, hydrogen, carbon and nitrogen atoms.

**anadromous** - describes a fish that migrates from a saltwater habitat to spawn in fresh water.

**anaerobic bacteria** - those that are able to live and grow without the presence of oxygen.

**andouille** - a very spicy smoked pork sausage, popular in Cajun cuisine.

**angus beef, Certified** - a brand created in 1978 to distinguish the highest-quality beef produced from descendants of the black, hornless Angus cattle of Scotland.

**animal husbandry** - the business, science and practice of raising domesticated animals.

**anterior** - at or toward the front of an object or place; opposite of posterior.

**appetizers** - also known as first courses, usually small portions of hot or cold foods intended to whet the appetite in anticipation of the more substantial courses to follow.

**aquafarming** - also known as aquaculture, the business, science and practice of raising large quantities of fish and shellfish in tanks, ponds or ocean pens.

**aroma** - the sensations, as interpreted by the brain, of what we detect when a substance comes in contact with sense receptors in the nose.

**aromatic** - a food added to enhance the natural aromas of another food; aromatics include most flavorings, such as herbs and spices, as well as some vegetables.

**artesian-well water** - water obtained from an underground source; the water rises to the surface under pressure.

**aspic; aspic jelly** - a clear jelly usually made from a clarified stock thickened with gelatin; used to coat foods, especially charcuterie items, and for garnish.

**as purchased (A.P.)** - the condition or cost of an item as it is purchased or received from the supplier

**au gratin** - foods with a browned or crusted top; often made by browning a food with a bread-crumb, cheese and/ or sauce topping under a broiler or salamander.

**au jus** - roasted meats, poultry or game served with their natural, un-thickened juices.

**au sec** - cooked until nearly dry.

**bacteria** - single-celled microorganisms, some of which can cause diseases, including food-borne diseases.

**bagel** - a dense, donut-shaped yeast roll; it is cooked in boiling water, then baked, which gives it a shiny glaze and chewy texture.

**bain marie** - a hot-water bath used to gently cook food or keep cooked food hot; (2) a container for holding food in a hot-water bath.

**baked Alaska** - ice cream set on a layer of sponge cake and encased in meringue, then baked until the meringue is warm and golden.

**baked blind** - describes a pie shell or tart shell that is baked unfilled, using baking weights or beans to support the crust as it bakes.

**baking** - a dry-heat cooking method in which foods are surrounded by hot, dry air in a closed environment; similar to roasting, the term baking is usually applied to breads, pastries, vegetables and fish.

**baking powder** - a mixture of sodium bicarbonate and one or more acids, generally cream of tartar and/ or sodium aluminum sulfate, used to leaven baked goods; it releases carbon dioxide gas if moisture is present in a formula. Single-acting baking powder releases carbon dioxide gas in the presence of moisture only; double-acting baking powder releases some carbon dioxide gas upon contact with moisture, and more gas is released when heat is applied.

**baking soda** - sodium bicarbonate, an alkaline compound that releases carbon dioxide gas when combined with an acid and moisture; used to leaven baked goods.

**ballotine** - similar to a galantine; usually made by stuffing a deboned poultry leg with forcemeat; it is then poached or braised and normally served hot.

**banneton** - a traditional woven basket, often lined with canvas, in which yeast bread is placed to rise before baking.

**barbecue** - to cook foods over dry heat created by the burning of hardwood or hardwood charcoals; (2) a tangy tomato- or vinegar-based sauce used for grilled foods ; (3) foods cooked by this method and/or with this sauce.

**barding** - tying thin slices of fat, such as bacon or pork fatback, over meats or poultry that have little to no natural fat covering in order to protect and moisten them during roasting.

**barista** - Italian for "bartender"; now used to describe someone who has been professionally trained in the art of preparing espresso and espresso-based beverages.

**base** - a substance that neutralizes an acid in a liquid solution; ingredients such as sodium bicarbonate (baking soda) that have an alkaline or bitter flavor; bases have a pH of more than 7.

**baste** - to moisten foods during cooking (usually grilling, broiling or roasting) with melted fat, pan drippings, a sauce or other liquids to prevent drying and to add flavor.

**batonnet** - foods cut into matchstick shapes of 1/4 inch X 1/4 inch X 2 inches (6 millimeters X 6 millimeters X 5 centimeters).

**batter** - (1) a semiliquid mixture containing flour or other starch used to make cakes and breads. The gluten development is minimized and the liquid forms the continuous medium in which other ingredients are disbursed; generally contains more fat, sugar and liquids than a dough; (2) a semiliquid mixture of liquid and starch used to coat foods for deep-frying.

**Baume scale** - see hydrometer.

**bavarian cream** - a sweet dessert mixture made by thickening custard sauce with gelatin and then folding in whipped cream; the final product is poured into a mold and chilled until firm.

**beard** - a clump of dark threads found on a mussel.

**bearnaise** - a sauce made of butter and egg yolks and flavored with a reduction of vinegar, shallots, tarragon and peppercorns.

**beating** - a mixing method in which foods are vigorously agitated to incorporate air or develop gluten; a spoon or electric mixer with its paddle attachment is used.

**béchamel** - a leading sauce made by thickening milk with a white roux and adding seasonings.

**beefalo** - the product of crossbreeding a bison (American buffalo) and a domestic beef animal.

**beer** - an alcoholic beverage made from water, hops and malted barley, fermented by yeast.

**beignets** - squares or strips of eclair paste deep-fried and dusted with powdered sugar.

**berry** - the kernel of certain grains such as wheat; (2) small, juicy fruits that grow on vines and bushes.

**beurre blanc** - French for "white butter"; an emulsified butter sauce made from shallots, white wine and butter.

**beurre composé** - a compound butter term.

**beurre fondu** - French for "melted butter"; it is often served over steamed vegetables such as asparagus or poached white fish.

**beurre manie** - a combination of equal amounts by weight of flour and soft, whole butter; it is whisked into a simmering sauce at the end of the cooking process for quick thickening and added sheen and flavor.

**beurre noir** - French for "black butter"; used to describe whole butter cooked until dark brown (not black); sometimes flavored with vinegar or lemon juice, capers and parsley and served over fish, eggs and vegetables.

**beurre noisette** - French for "brown butter"; used to describe butter cooked until it is a light brown color; it is flavored and used in much the same manner as beurre noir.

**beurre rouge** - French for "red butter"; an emulsified butter sauce made from shallots, red wine and butter.

**biological hazard** - a danger to the safety of food caused by disease-causing microorganisms such as bacteria, molds, yeasts, viruses or fungi.

**biscuit method** - a mixing method used to make biscuits, scones and flaky doughs; it involves cutting cold fat into the flour and other dry ingredients before any liquid is added.

**bisque** - a soup made from shellfish; classic versions are thickened with rice.

**bivalves** - mollusks such as clams, oysters and mussels that have two bilateral shells attached at a central hinge.

**blanching** - very briefly and partially cooking a food in boiling water or hot fat; used to assist preparation (for example, to loosen peels from vegetables), as part of a combination cooking method or to remove undesirable flavors.

**blanquette** - a white stew made of a white sauce and meat or poultry that is simmered without first browning.

**blending** - a mixing method in which two or more ingredients are combined just until they are evenly distributed.

**bloom** - (1) a white, powdery layer that sometimes appears on chocolate if the cocoa butter separates; (2) a measure of gelatin's strength; (3) to soften granulated gelatin in a cold liquid before dissolving and using.

**blue cheese** - (1) a generic term for any cheese containing visible blue- green molds that contribute a characteristic tart, sharp flavor and aroma; also known as a blue-veined cheese or bleu; (2) a group of Roquefort-style cheeses made in the United States and Canada from cow's or goat's milk rather than ewe's milk and injected with molds that form blue-green veins; also known as blue mold cheese or blue-veined cheese.

**boiling** - a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 212°F/ 100°C) liquid to the food submerged in it; the turbulent waters and higher temperatures cook foods more quickly than do poaching or simmering.

**bombe** - two or more flavors of ice cream, or ice cream and sherbet, shaped in a spherical mold; each flavor is a separate layer that forms the shell for the next flavor.

**bordelaise** - a brown sauce flavored with a reduction of red wine, shallots, pepper and herbs and garnished with marrow.

**bottled water** - any water, either still or sparkling, that is bottled and sold.

**bouchees** - small puff pastry shells that can be filled and served as bite-size hors d'oeuvre or petit fours.

**bound salad** - a salad composed of cooked meats, poultry, fish, shellfish, pasta or potatoes combined with a dressing.

**bouquet garni** - fresh herbs and vegetables tied into a bundle with twine and used to flavor stocks, sauces, soups and stews.

**bouquetiere** - a garnish (bouquet) of carefully cut and arranged fresh vegetables.

**boxed beef** - industry terminology for primal and sub-primal cuts of beef that are vacuum sealed and packed into cardboard boxes for shipping from the packing plant to retailers and food service operations.

**braising** - a combination cooking method in which foods are first browned in hot fat, then covered and slowly cooked in a small amount of liquid over low heat; braising uses a combination of simmering and steaming to transfer heat from the liquid (conduction) and the air (convection) to the foods.

**bran** - the tough outer layer of a cereal grain and the part highest in fiber.

**brandy** - an alcoholic beverage made by distilling wine or the fermented mash of grapes or other fruits.

**Brawn** - also called an aspic terrine, made from simmered meats packed into a terrine and covered with aspic.

**brazier; brasier** - a pan designed for braising; usually round with two handles and a tight-fitting lid

**breadding** - a coating of bread or cracker crumbs, cornmeal or other dry meal applied to foods that will typically be deep-fried or pan-fried; (2) the process of applying this coating.

**brigade** - a system of staffing a kitchen so that each worker is assigned a set of specific tasks; these tasks are often related by cooking method, equipment or the types of foods being produced.

**brine** - a mixture of salt, water and seasonings used to preserve foods.

**brioche** - a rich yeast bread containing large amounts of eggs and butter.

**brochettes** - skewers, either small hors d'oeuvre or large entree size, threaded with meat, poultry, fish, shellfish and/ or vegetables and grilled, broiled or baked; sometimes served with a clipping sauce.

**broiling** - a dry-heat cooking method in which foods are cooked by heat radiating from an overhead source

**broth** - a flavorful liquid obtained from the long simmering of meats and/or vegetables.

**brown sauce**- see espagnole sauce.

**brown stew** - a stew in which the meat is first browned in hot fat.

**brown stock** - a richly colored stock made of chicken, veal, beef or game bones and vegetables , all of which are caramelized before they are simmered in water with seasonings.

**brunch** - a late-morning to early- afternoon meal that takes the place of both breakfast and lunch; a brunch menu often offers breakfast foods as well as almost anything else.

**brunoise** - 1) foods cut into cubes of 1/8 inch X 1/8 inch X 1/8 inch (3 millimeters X 3 millimeters X 3 millimeters) ; a 1/16- inch (1.5-millimeter) cube is referred to as a fine brunoise; (2) foods garnished with vegetables cut in this manner

**buffet service** - restaurant service in which diners generally serve themselves foods arranged on a counter or table or are served by workers assigned to specific areas of the buffet. Usually 'buffet service style' restaurants charge by the meal; restaurants offering buffet service that charge by the dish are known as cafeterias.

**bun** - any of a variety of small, round yeast rolls; can be sweet or savory.

**butcher** - to slaughter and/or dress or fabricate animals for consumption.

**butler service** - restaurant service in which servers pass foods (typically hors d'oeuvre) or drinks arranged on trays.

**buttercream** - a light, smooth, fluffy frosting of sugar, fat and flavorings; egg yolks or whipped egg whites are sometimes added. There are three principal kinds: simple, Italian and French.

**butterfly** - to slice boneless meat, poultry or fish nearly in half lengthwise so that it spreads open like a book.

**cafeteria** - see buffet service.

**caffeine** - an alkaloid found in coffee beans, tea leaves and cocoa beans that acts as a stimulant.

**cake** - in American usage, refers to a broad range of pastries , including layer cakes , coffeecakes and gateaux; can refer to almost anything that is baked, tender, sweet and sometimes frosted.

**calf** - ( 1) a young cow or bull; (2) the meat of calves slaughtered when they are older than five months.

**calorie** - the unit of energy measured by the amount of heat required to raise 1000 grams of water one degree Celsius; it is also written as kilocalorie or kcal.

**canapé** - tiny open-faced sandwich served as an hors d'oeuvres ; usually composed of a small piece of bread or toast topped with a savory spread and garnish.

**capon** - the class of surgically castrated male chickens; they have well-flavored meat and soft, smooth skin

**capsaicin** - an alkaloid found in a chili pepper 's placental ribs that provides the pepper's heat.

**carmelization** - the process of cooking sugars; the browning of sugar enhances the flavor and appearance of foods.

**Carbohydrates** - a group of compounds composed of oxygen, hydrogen and carbon that supply the body with energy (4 calories per gram); carbohydrates are classified as simple (including certain sugars) and complex (including starches and fiber)

**carotenoid** - a naturally occurring pigment that predominates in red and yellow vegetables such as carrots and red peppers.

**carryover cooking** - the cooking that occurs after a food is removed from a heat source; it is accomplished by the residual heat remaining in the food.

**cartilage** - also known as gristle; a tough, elastic, whitish connective tissue that helps give structure to an animal's body.



**carve** - to cut cooked meat or poultry into portions casings- membranes used to hold forcemeat for sausages; they can be natural animal intestines or manufactured from collagen extracted from cattle hides.

**casserole** - (1) a heavy dish, usually ceramic, for baking foods; (2) foods baked in a casserole dish.

**caul fat** - a fatty membrane from pig or sheep intestines; it resembles fine netting and is used to bard roasts and pates and to encase forcemeat for sausages.

**cellulose**- a complex carbohydrate found in the cell wall of plants ; it is edible but indigestible by humans

**cephalopods--mollusks** with a single, thin internal shell called a pen or cuttlebone, well-developed eyes, a number of arms that attach to the head and a saclike fin-bearing mantle ; include squid and octopus

**Certified Angus Beef**- a brand created in 1978 to distinguish the highest-quality beef produced from descendants of the black, hornless Angus cattle of Scotland. The meat must meet American Angus Association standards for yield, marbling and age, and be graded as high choice or prime.

**chafing dish**- a metal dish with a heating unit (flame or electric) used to keep foods warm at tableside or during buffet service.

**chalazae cords** - thick, twisted strands of egg white that anchor the yolk in place.

**charcuterie** - the production of pates, terrines, galantines, sausages and similar foods.

**cheesecloth** - a light, fine mesh gauze used to strain liquids and make sachets.

**chef de cuisine** - also known simply as chef ; the person responsible for all kitchen operations , developing menu items and setting the kitchen's tone and tempo.

**chef de partie** - also known as station chef; produces the menu items under the direct supervision of the chef or sous-chef.

**chefs knife** - an all-purpose knife used for chopping, slicing and mincing ; its tapering blade is 8-14 inches (20- 35 centimeters) long.

**chemical hazard** - a danger to the safety of food caused by chemical substances, especially cleaning agents, pesticides and toxic metals.

**chevre** - French for "goat"; generally refers to a cheese made from goat's milk.

**chiffonade** - to finely slice or shred leafy vegetables or herbs.

**chili** - a member of the capsicum plant family; may be used fresh or dried or dried and ground into a powder.

**chili** - stew-like dish containing chili- a commercial spice powder containing a blend of seasonings.

**china cap** - a cone -shaped strainer made of perforated metal.

**chine** - the backbone or spine of an animal; a sub-primal cut of beef, veal, lamb, pork or game carcass containing a portion of the backbone with some adjoining flesh.

**chinois** - a conical strainer made of fine mesh, used for straining and pureeing foods.

**chlorophyll** - a naturally occurring pigment that predominates in green vegetables such as cabbage.

**cholesterol** - a fatty substance found in foods derived from animal products and in the human body ; it has been linked to heart disease.

**chop** - (1) a cut of meat, including part of the rib; (2) to cut into pieces when uniformity of size and shape is not important.

**chorizo** - a coarse, spicy pork sausage flavored with ground chilies and removed from its casing before cooking; used in Mexican and Spanish cuisines.

**choux pastry** –see Eclair paste.

**Chowder** - a hearty soup made from fish, shellfish and/or vegetables, usually containing milk and potatoes and often thickened with roux.

**churros** - a Spanish and Mexican pastry in which sticks of eclair paste flavored with cinnamon are deep-fried and rolled in sugar while still hot.

**chutney** - a sweet-and-sour condiment made of fruits and/ or vegetables cooked in vinegar with sugar and spices; so me chutneys are reduced to a puree, while others retain recognizable pieces of their ingredients.

**cider** - mildly fermented apple juice; non-alcoholic apple juice may also be labeled cider.

**citrus** - fruits characterized by a thick rind, most of which is a bitter white pith with a thin exterior layer of colored skin (zest); their flesh is segmented and juicy and varies from bitter to tart to sweet.

**clarification** - (1) the process of transforming a broth into a clear consommé by trapping impurities with a clearmeat consisting of the egg white protein albumen, ground meat, an acidic product, mirepoix and other ingredients; (2) the clearmeat used to clarify a broth.

**clarified butter** - purified butterfat; the butter is melted and the water and milk solids are removed.

**classic cuisine** - a late 19<sup>th</sup> - and early 20<sup>th</sup>-century refinement and simplification of French Grande Cuisine. Classic (or classical) cuisine relies on the thorough exploration of culinary principles and techniques, and emphasizes the refined preparation and presentation of superb ingredients.

**clean** - to remove visible dirt and soil.

**clear soups** - un-thickened soups, including broths, consommés and broth-based soups.

**clearmeat** - see clarification.

**club roll** - a small oval-shaped roll made of crusty French bread.

**coagulation** - the irreversible transformation of proteins from a liquid or semi-liquid state to a drier, solid state; usually accomplished through the application of heat.

**cocoa butter** - the fat found in cocoa beans and used in fine chocolates.

**coconut cream** - (1) a coconut-flavored liquid made like coconut milk but with less water; it is creamier and thicker than coconut milk; (2) the thick fatty portion that separates and rises to the top of canned or frozen coconut milk; do not substitute cream of coconut for true coconut cream.

**coconut milk** - a coconut-flavored liquid made by pouring boiling water over shredded coconut; may be sweetened or unsweetened; do not substitute cream of coconut for coconut milk.

**coconut water** - the thin, slightly opaque liquid contained within a fresh coconut.

**cojita** - an aged, hard, salty Mexican cow's-milk cheese; similar to feta, although not soaked in brine.

**colander** - a perforated bowl, with or without a base or legs, used to strain foods.

**collagen** - a protein found in connective tissue; it is converted into gelatin when cooked with moisture.

**combination cooking methods** - cooking methods, principally braising and stewing, that employ both dry-heat and moist-heat procedures.

**composed salad** - a salad prepared by arranging each of the ingredients (the base, body, garnish and dressing) on individual plates in an artistic fashion.

**composition** - a completed plate's structure of colors, shapes and arrangements.

**compound butter** - also known as a beurre composé, a mixture of softened whole butter and flavorings used as a sauce or to flavor and color other sauces.

**compound sauces** - see Small sauces.

**concasse** - peeled, seeded and diced tomato.

**concasser** - to pound or chop coarsely; usually used for tomatoes or parsley.

**concentrate** - also known as a fruit paste or compound; a reduced fruit puree, without a gel structure, used as a flavoring.

**conching** - stirring melted chocolate with large stone or metal rollers to create a smooth texture in the finished chocolate.

**condiment** - traditionally, any item added to a dish for flavor, including herbs, spices and vinegars; now also refers to cooked or prepared flavorings such as prepared mustards, relishes, bottled sauces and pickles.

**conduction** - the transfer of heat from one item to another through direct contact.

**confit** - meat or poultry (often lightly salt-cured) slowly cooked and preserved in its own fat and served hot.

**connective tissue** - tissue found throughout an animal's body that binds together and supports other tissues such as muscles.

**consommé** - a rich stock or broth that has been clarified with clearmeat to remove impurities.

**contaminants** - biological, chemical or physical substances that can be harmful when consumed in sufficient quantities.

**contamination** - the presence, generally unintentional, of harmful organisms or substances.

**convection** - the transfer of heat caused by the natural movement of molecules in a fluid (whether air, water or fat) from a warmer area to a cooler one; mechanical convection is the movement of molecules caused by stirring.

**conversion factor (C.F.)** - the number used to increase or decrease ingredient quantities and recipe yields

**cooking** - the art, practice or work of cooking.

**cookie press** - also known as a cookie gun, a hollow tube fitted with a plunger and an interchangeable decorative tip or plate; soft cookie dough is pressed through the tip to create shapes or patterns.

**cookies** - small, sweet, flat pastries; usually classified by preparation or makeup techniques as drop, icebox, bar, cutout, pressed and wafer.

**cooking** - (1) the transfer of energy from a heat source to a food; this energy alters the food's molecular structure, changing its texture, flavor, aroma and appearance; (2) the preparation of food for consumption

**cooking medium** - the air, fat, water or steam in which a food is cooked.

**coring** - the process of removing the seeds or pit from a fruit or fruit-vegetable.

**cost of goods sold** - the total cost of food items sold during a given period; calculated as beginning inventory plus purchases minus ending inventory.

**cost per portion** - the amount of the total recipe cost divided by the number of portions produced from that recipe; the cost of one serving.

**coulbiac** - a creamy mixture of salmon fillet, rice, hard-cooked eggs, mushrooms, shallots and dill enclosed in a pastry envelope usually made of brioche dough.

**coulis** - a sauce made from a puree of vegetables and/or fruit; may be served hot or cold.

**count** - the number of individual items in a given measure of weight or volume.

**coupe** - another name for an ice cream sundae, especially one served with a fruit topping.

**court bouillon** - water simmered with vegetables, seasonings and an acidic product such as vinegar or wine; used for simmering or poaching fish, shellfish or vegetables.

**cows** - female cattle after their first calving, principally raised for milk and calf production.

**cracking** - a milling process in which grains are broken open.

**cream filling** - a pie filling made of flavored pasty cream thickened with cornstarch.

**creaming** - a mixing method in which softened fat and sugar are vigorously combined to incorporate air

**cream of coconut** - a canned commercial product consisting of thick, sweetened coconut-flavored liquid; used for baking and in beverages.

**cream puffs** - baked rounds of eclair paste cut in half and filled with pastry cream, whipped cream, fruit or other filling

**creams** - also known as crèmes; include light, fluffy or creamy-textured dessert foods made with whipped cream or whipped egg whites, such as Bavarian creams, chiffons, mousses and crème Chantilly

**cream sauce** - a sauce made by adding cream to a béchamel sauce

**cream soup** - a soup made from vegetables cooked in a liquid that is thickened with a starch and pureed; cream is then incorporated to add richness and flavor

**crème anglaise** - also known as crème à l'anglaise; see vanilla custard sauce

**crème Brule** - French for "burnt cream"; used to describe a rich dessert custard topped with a crust of caramelized sugar

**crème caramel** - like crème renversee and flan, a custard baked over a layer of caramelized sugar and inverted for service

**crème Chantilly** - heavy cream whipped to soft peaks and flavored with sugar and vanilla; used to garnish pastries or desserts or folded into cooled custard or pastry cream for fillings

**crème Chiboust** - a vanilla pastry cream lightened by folding in Italian meringue; traditionally used in a gâteau St. Honore

**crème patissiere** - see pastry cream

**crepe** - a thin, delicate unleavened griddlecake made with a very thin egg batter cooked in a very hot sauté pan; used in sweet and savory preparations

**critical control point** - a step during the processing of food when a mistake can result in the transmission, growth or survival of pathogenic bacteria

**croissant** - a crescent-shaped roll made from a rich, rolled-in yeast dough

**croquembouche** - a pyramid of small puffs, each filled with pastry cream; a French tradition for Christmas and weddings, it is held together with caramelized sugar and decorated with spun sugar or marzipan flowers

**croquette** - a food that has been pureed or bound with a thick sauce (usually béchamel or veloute), made into small shapes and then breaded and deep-fried

**cross-contamination** - the transfer of bacteria or other contaminants from one food, work surface or piece of equipment to another

**croûte, en** - describes a food encased in a bread or pastry crust

**crouton** - a bread or pastry garnish, usually toasted or sautéed until crisp

**crudités** - generally refers to raw or blanched vegetables served as an hors d'oeuvre and often accompanied by a clip

**crullers** - a Dutch pastry in which a loop or strip of twisted éclair paste is deep-fried

**crumb** - the interior of bread or cake; may be elastic, aerated, fine grained or coarse grained

**crustaceans** - shellfish characterized by a hard outer skeleton or shell and jointed appendages; include lobsters, crabs and shrimp

**cuisine** - the ingredients, seasonings, cooking procedures and styles attributable to a particular group of people; the group can be defined by geography, history, ethnicity, politics, culture or religion

**cuisson** - the liquid used for shallow poaching

**cupping** - testing coffee or tea for taste and quality, often performed by a professional taster trained to identify key coffee or tea characteristics

**curdling** - the separation of milk or egg mixtures into solid and liquid components; caused by overcooking, high heat or the presence of acids

**curing salt** - a mixture of salt and sodium nitrite that inhibits bacterial growth; used as a preservative, often for charcuterie items

**custard** - any liquid thickened by the coagulation of egg proteins; its consistency depends on the ratio of eggs to liquid and the type of liquid used; custards can be baked in the oven or cooked in a bain-marie or on the stove top

**cutlet** - a relatively thick, boneless slice of meat

**cutting** - (1) reducing a food to smaller pieces; (2) a mixing method in which solid fat is incorporated into dry ingredients until only lumps of the desired size remain

**cutting loss** - the unavoidable and unrecoverable loss of food during fabrication; the loss is usually the result of food particles sticking to the cutting board or the evaporation of liquids

**cuttlebone** - also known as the pen, the single, thin internal shell of cephalopods

**cycle menu** - a menu that changes every day for a certain period and then repeats the same daily items in the same order (for example, on a seven-day cycle, the same menu is used every Monday)

**dairy products** - include cow's milk and foods produced from cow's milk such as butter, yogurt, sour cream

and cheese; sometimes other milks and products made from them are included (e.g., goat's milk cheese)

**decant** - to separate liquid from solids without disturbing the sediment by pouring off the liquid; vintage wines are often decanted to remove sediment

**decline phase** - a period during which bacteria die at an accelerated rate, also known as the negative growth phase

**decoction** - (1) boiling a food until its flavor is removed; (2) a procedure used for brewing coffee

**decorator's icing** - see royal icing

**deep-frying** - a dry-heat cooking method that uses convection to transfer heat to a food submerged in hot fat; foods to be deep-fried are usually first coated in batter or breading

**deglaze** - to swirl or stir a liquid (usually wine or stock) in a pan to dissolve cooked food particles remaining on the bottom; the resulting mixture often becomes the base for a sauce

**degrease** - to remove fat from the surface of a liquid such as a stock or sauce by skimming, scraping or lifting congealed fat

**deionized water** - water that has had the cations and anions removed by passing it over a bed of ion-exchange resins

**demi-glace** - French for "half-glaze"; a mixture of half brown stock and half brown sauce reduced by half

**demineralized water** - water that has had all the minerals and impurities removed by passing it over a bed of ion-exchange resins

**density** - the relationship between

the mass and volume of a substance ( $D = m/v$ ). For example, as more

and more sugar is dissolved in a liquid, the heavier or denser the liquid will become. Sugar density is measured on the Baume scale using a hydrometer or saccharometer.

**dessert wines** - sweet wines made from grapes left on the vine until they are overly ripe, such as Sauternes or wines labeled "Late Harvest"; during fermentation, some of the sugar is not converted to alcohol, but remains in the wine, giving it its characteristic intense sweet taste

**detrempe** - a paste made with flour and water during the first stage of preparing a pastry dough, especially rolled-in doughs

**deveining** - the process of removing a shrimp's digestive tract

**deviled** - describes meat, poultry or other food seasoned with mustard, vinegar and other spicy seasonings

**diagonals** - oval-shaped slices

**dice** - to cut into cubes with six equal-sized sides

**dip** - a thick, creamy sauce, served hot or cold, to accompany crudité, crackers, chips or other foods, especially as an hors d'oeuvre; dips are often based on sour cream, mayonnaise or cream cheese

**direct contamination** - the contamination of raw foods in their natural setting or habitat

**distillation** - the separation of alcohol from a liquid (or, during the production of alcoholic beverages, from a fermented mash); it is accomplished by heating the liquid or mash to a gas that contains alcohol vapors; this steam is then condensed into the desired alcoholic liquid (beverage)

**distilled water** - water that has had all the minerals and impurities removed through distillation; it is generally used for pharmaceutical purposes

**diver scallops** - scallops that are harvested from the ocean by divers who hand-pick each one; diver scallops tend to be less gritty than those harvested by dragging, and hand-harvesting is more ecologically friendly

**docking** - pricking small holes in an unbaked dough or crust to allow steam to escape and to prevent the dough from rising when baked

**dough** - a mixture of flour and other ingredients used in baking; has a low moisture content, and gluten forms the continuous medium into which other ingredients are embedded; it is often stiff enough to cut into shapes

**drawn** - a market form for fish in which the viscera is removed

**dredging** - mating a food with flour or finely ground crumbs; usually done prior to sautéing or frying or as the first step of the standard breading procedure

**dress** - to trim or otherwise prepare an animal carcass for consumption

**dressed** - a market form for fish in which the viscera, gills, fins and scales are removed

**dressing** - another name for a bread stuffing used with poultry

**drinking water** - water that comes from a government-approved source and has undergone some treatment and filtration; it can be bottled or available on tap and is used for drinking and general culinary purposes

**drupes** - see stone fruits

**dry-heat cooking methods** - cooking methods, principally broiling, grilling, roasting and baking, sautéing, pan-frying and deep-frying, that use air or fat to transfer heat through conduction and convection; dry-heat cooking methods allow surface sugars to caramelize

**drying** - a preservation method in which the food's moisture content is dramatically reduced; drying changes the food's texture, flavor and appearance

**duchesse potatoes** - a puree of cooked potatoes, butter and egg yolks, seasoned with salt, pepper and nutmeg; can be eaten as is or used to prepare several classic potato dishes

**duckling** - duck slaughtered before it is eight weeks old

**dumpling** - any of a variety of small starchy products made from doughs or batters that are simmered or steamed; can be plain or filled

**durum wheat** - a species of very hard wheat with a particularly high amount of protein; it is used to make couscous or milled into semolina, which is used for making pasta

**duxelles** - a coarse paste made of finely chopped mushrooms sautéed with shallots in butter used in sauces and stuffing

**eclair paste** - also known as pate a choux; a soft dough that produces hollow baked products with crisp exteriors; used for making eclairs, cream puffs and savory products

**eclairs** - baked fingers of eclair paste filled with pastry cream; the top is then coated with chocolate glaze or fondant

**edible portion (E.P.)** - the amount of a food item available for consumption or use after trimming or fabrication; a smaller, more convenient portion of a larger or bulk unit

**egg wash** - a mixture of beaten eggs (whole eggs, yolks or whites) and a liquid, usually milk or water, used to coat doughs before baking to acid sheen

**elastin** - a protein found in connective tissues, particularly ligaments and tendons; it often appears as the white or silver covering on meats known as silver skin

**emince** - small, thin, boneless piece of meat

**emulsification** - the process by which generally unmixable liquids, such as oil and water, are forced into a uniform distribution

**emulsion** - a uniform mixture of two unmixable liquids; it is often temporary (for example, oil in water)

**endosperm** - the largest part of a cereal grain and a source of protein and carbohydrates (starch); the part used primarily in milled products

**en papillote** - a cooking method in which food is wrapped in paper or foil and then heated so that the food steams in its own moisture

**entrée** - the main dish of an American meal, usually meat, poultry, fish or shellfish accompanied by a vegetable and starch; in France, the first course, served before the fish and meat courses

**Enzymes** - proteins that aid specific chemical reactions in plants and animals

**escalope** - see scallop

**escargot** - French for "snail"; those used for culinary purposes are land snails (genus *Helix*); the most popular are the large Burgundy snails and the smaller but more flavorful common or garden snail known as petit gris

**espagnole** - also known as brown sauce, a leading sauce made of brown stock, mirepoix and tomatoes thickened with brown roux; often used to produce demi-glace

**essence** - a sauce made from a concentrated vegetable juice

**essential nutrients** - nutrient s that must be provided by food because the body cannot or does not produce them in sufficient quantities

**essential oils** - pure oils extracted from the skins, peels and other parts of plants used to give their aroma and taste to flavoring agents in foods, cosmetics and other products

**ethnic cuisine** - the cuisine of a group of people having a common cultural heritage, as opposed to the cuisine of a group of people bound together by geography or political factors

**ethylene gas** - a colorless, odorless hydrocarbon gas naturally emitted from fruits and fruit-vegetables that encourages ripening

**evaporation** - the process by which heated water molecules move faster and faster until the water turns to a gas (steam) and vaporizes; evaporation is responsible for the drying of foods during cooking

**ewe's milk** - milk produced by a female sheep; it has approximately 7.9% milkfat, 11.4% milk solids and 80.7% water

**extracts**--concentrated mixtures of ethyl alcohol and flavoring oils such as vanilla, almond and lemon

**extrusion** - the process of forcing pasta dough through perforated plates to create various shapes; pasta dough that is not extruded must be rolled and cut

**fabricate** - to cut a larger portion of raw meat (for example, a primal or sub primal), poultry or fish into smaller portions

**fabricated cuts** - individual portions cut from a sub-primal

**facultative bacteria** - those that can adapt and will survive with or without oxygen

**fancy** - (1) fish that has been previously frozen; (2) a quality grade for fruits, especially canned or frozen

**fatback** - fresh pork fat from the back of the pig, used primarily for barding

**fats** - (1) a group of compounds composed of oxygen, hydrogen and carbon atoms that supply the body with energy (9 calories per gram); fats are classified as saturated, monounsaturated or polyunsaturated; (2) the general term for butter, lard, shortening, oil and margarine used as cooking media or ingredients

**fermentation** - the process by which yeast converts sugar into alcohol and carbon dioxide; it also refers to the time that yeast dough is left to rise - that is, the time it takes for carbon dioxide gas cells to form and become trapped in the gluten network

**feuilletées** - square, rectangular or diamond-shaped puff pastry boxes; may be filled with a sweet or savory mixture

**fiber** - also known as dietary fiber; indigestible carbohydrates found in grains, fruits and vegetables; fiber aids digestion

**FIFO (first in, first out)** - a system of rotating inventory, particularly perishable and semi-perishable goods, in which items are used in the order in which they are received

**file'** - a seasoning and thickening agent made from dried, ground sassafras leaves

**filet, fillet** - (1) filet: a boneless tenderloin of meat; (2) fillet: the side of a fish removed intact, boneless or semiboneless, with or without skin; (3) to cut such a piece

**fish veloute** - a veloute sauce made from fish stock

**flambé** - food served flaming ; produced by igniting brandy, rum or other liquor

**flan** - a firm savory or sweet egg custard; dessert variety is baked over a layer of caramelized sugar and inverted for service

**flash-frozen** - describes food that has been frozen very rapidly using metal plates, extremely low temperatures or chemical solutions

**flash point** - the temperature at which a fat ignites and small flames appear on the surface of the fat

**flatfish** - fish with asymmetrical, compressed bodies that swim in a horizontal position and have both eyes on the top of the head; include sole, flounder and halibut

**flavonoids** - plant pigments that dissolve readily in water, found in red, purple and white vegetables such as blueberries, red cabbage, onions and tea

**flavor** - an identifiable or distinctive quality of a food, drink or other substance perceived with the combined senses of taste, touch and smell

**flavored tea** - tea to which flavorings such as oils, dried fruit, spices, flowers and herbs have been added

**flavoring** - an item that adds a new taste to a food and alters its natural flavors; flavorings include herbs, spices, vinegars and condiments; the terms *seasoning* and *flavoring* are often used interchangeably.

**fleur-de-lis** - a crescent-shaped piece of puff pastry used as a garnish

**flour** - a powdery substance of varying degrees of fineness made by milling grains such as wheat, corn or rye

**fluoridated water** - water, either naturally fluoridated or treated with a fluorine-containing compound, intended to promote healthy teeth by preventing tooth decay

**foamed milk** - milk that is heated and frothed with air and steam generated by an espresso machine; it will be slightly cooler than steamed milk

**foie gras** - liver of specially fattened geese

**fold** - a measurement of the strength of vanilla extract

**folding** - incorporating light, airy ingredients into heavier ingredients by gently moving them from the bottom of the bowl up over the top in a circular motion, usually with a rubber spatula

**fond** - (1) French for "stock" or "base"; (2) the concentrated juices, drippings and bits of food left in pans after foods are roasted or sautéed; it is used to flavor sauces made directly in the pans in which foods were cooked

**fondant** - a sweet, thick opaque sugar paste commonly used for glazing pastries such as napoleons or making candies

**fond lie** - see *jus lie*

**fondue** - a Swiss specialty made with melted cheese, wine and flavorings; eaten by dipping pieces of bread into the hot mixture with long forks

**food cost** - the cost of the materials that go directly into the production of menu items

**food cost percentage** - the ratio of the cost of foods used to the total food sales during a set period, calculated by dividing the cost of food used by the total sales in a restaurant

**Food Guide Pyramid** - a dietary guide that prioritizes and proportions food choices among six general food groups

**Force meat** - a preparation made from uncooked ground meats, poultry, fish or shellfish, seasoned, and emulsified with fat; commonly prepared as country-style, basic and mousseline and used for charcuterie items

**formula** - the standard term used throughout the industry for a bakeshop recipe; formulas rely on weighing to ensure accurate measuring of ingredients

**frangipane** - a sweet almond and egg filling cooked inside pastry

**free-range chickens** - chickens allowed to move freely and forage for food; as opposed to chickens raised in coops

**free-range veal** - the meat of calves that are allowed to roam freely and eat grasses and other natural foods; this meat is pinker and more strongly flavored than that of milk-fed calves



**freezer burn** - the surface dehydration and discoloration of food that results from moisture loss at below-freezing temperatures

**French dressing** - classically, a vinaigrette dressing made from oil, vinegar, salt and pepper; in the United States, the term also refers to a commercially prepared dressing that is creamy, tartly sweet and red-orange in color

**French service** - restaurant service in which one waiter (a captain) takes the order, does the tableside cooking and brings the drinks and food; the secondary or back waiter serves bread and water, clears each course, crumbs the table and serves the coffee

**Frenching** - a method of trimming racks or individual chops of meat, especially lamb, in which the excess fat is cut away, leaving the eye muscle intact; all meat and connective tissue are removed from the rib bone

**fresh-frozen** - describes a food that has been frozen while still fresh

**fricassee** - a white stew in which the meat is cooked in fat without browning before the liquid is added

**frittata** - an open-faced omelet of Spanish-Italian heritage

**frosting** - also known as icing, a sweet decorative coating used as a filling between the layers or as a coating over the top and sides of a cake

**fruit** - the edible organ that develops from the ovary of a flowering plant and contains one or more seeds (pips or pits)

**frying** - a dry-heat cooking method in which foods are cooked in hot fat; includes sautéing and stir-frying, pan-frying and deep-frying

**fumet** - a stock made from fish bones or shellfish shells and vegetables simmered in a liquid with flavorings

**fungi** - a large group of plants ranging from single-celled organisms to giant mushrooms; the most common are molds and yeasts

**fusion cuisine** - the blending or use of ingredients and/or preparation methods from various ethnic, regional or national cuisines in the same dish; also known as transnational cuisine

**galantine** - similar to a ballotine; a charcuterie item made from a forcemeat of poultry, game or suckling pig usually wrapped in the skin of the bird or animal and poached in an appropriate stock; often served cold, usually in aspic game-birds and animals hunted for sport or food; many game birds and animals are now ranch-raised and commercially available

**game hen** - the class of young or immature progeny of Cornish chickens or of a Cornish chicken and White Rock chicken; they are small and very flavorful

**ganache** - a rich blend of chocolate and heavy cream and, optionally, flavorings, used as a pastry or candy filling or frosting

**garde-manger** - (1) also known as the pantry chef, the cook in charge of cold food production, including salads and salad dressings, charcuterie items, cold appetizers and buffet items; (2) the work area where these foods are prepared

**garnish** - (1) food used as an attractive decoration; (2) a subsidiary food used to add flavor or character to the main ingredient in a dish (for example, noodles in chicken noodle soup)

**gastrique** - caramelized sugar deglazed with vinegar; used to flavor tomato or savory fruit sauces

**gastronomy** - the art and science of eating well

**gateau** - (1) in American usage, refers to any cake-type dessert; (2) in French usage, refers to various pastry items made with puff pastry, éclair paste, short dough or sweet dough

**gaufrette** - a thin lattice or waffle-textured slice of vegetable cut on a mandolin

**gaufrette potatoes** - thin, fried, lattice-cut slices of potato

**gelatin** - a tasteless and odorless mixture of proteins (especially collagen) extracted from boiling bones, connective tissue and other animal parts; when dissolved in a hot liquid and then cooled, it forms a jellylike substance used as a thickener and stabilizer

**gelatinization** - the process by which starch granules are cooked; they absorb moisture when placed in a liquid and heated; as the moisture is absorbed, the product swells, softens and clarifies slightly

**gelato** - an Italian-style ice cream that is denser than American-style ice cream

**genoise** – (1) a form of whipped-egg cake that uses whole eggs whipped with sugar; (2) a French sponge cake

**germ** - the smallest portion of a cereal grain and the only part that contains fat

**ghee** - a form of clarified butter in which the milk solids remain with the fat and are allowed to brown; originating in India and now used worldwide as an ingredient and cooking medium, it has a long shelf life, a high smoke point and a nutty, caramel-like flavor

**giblets** - the collective term for edible poultry viscera, including gizzards, hearts, livers and necks.

**Gizzard** - a bird's second stomach

**glacage** - browning or glazing a food, usually under a salamander or broiler

**glace de poisson** - a syrupy glaze made by reducing a fish stock

**glace de viande** - a dark, syrupy meat glaze made by reducing a brown stock

**glace de volaille** - a light brown, syrupy glaze made by reducing a chicken stock

**glaze** – (1) any shiny coating applied to food or created by browning; (2) the dramatic reduction and concentration of a stock; (3) a thin, flavored coating poured or dripped onto a cake or pastry

**global cuisine** - foods (often commercially produced items) or preparation methods that have become ubiquitous throughout the world; for example, curries and French-fried potatoes

**glucose** - a thick, sweet syrup made from cornstarch, composed primarily of dextrose; light corn syrup can usually be substituted for it in baked goods or candy making

**gluten** - an elastic network of proteins created when wheat flour is moistened and manipulated

**goat's milk** - milk produced by a female goat; it has approximately 4.1% milkfat, 8.9% milk solids and 87% water

**gougere eclair**- pastry flavored with cheese baked and served as a savory hors d'oeuvre

**gourmand** -- a connoisseur of fine food and drink, often to excess

**gourmet** - a connoisseur of fine food and drink

**gourmet foods** - foods of the highest quality, perfectly prepared and beautifully presented

**grading** - a series of voluntary programs offered by the U.S. Department of Agriculture to designate a food's overall quality

**grains** – (1) grasses that bear edible seeds, including corn, rice and wheat; (2) the fruit (that is, the seed or kernel) of such grasses

**gram** - the basic unit of weight in the metric system; equal to approximately 1/16 of an ounce

**grande cuisine** - the rich, intricate and elaborate cuisine of the 18th- and 19th-century French aristocracy and upper classes. It is based on the rational identification, development and adoption of strict culinary principles. By emphasizing the how and why of cooking, *grande cuisine* was the first to distinguish itself from regional cuisines, which tend to emphasize the tradition of cooking.

**grate** - to cut a food into small, thin shreds by rubbing it against a serrated metal plate known as a grater

**gravy** - a sauce made from meat or liquid and thickening agent; usually made in the pan in which the meat or poultry was cooked

**green meats** - freshly slaughtered meats that have not had sufficient time to age and develop tenderness and flavor

**gremolata** - an aromatic garnish of chopped parsley, garlic and lemon zest used for osso buco

**grilling** - a dry-heat cooking method in which foods are cooked by heat radiating from a source located below the cooking surface; the heat can be generated by electricity or by burning gas, hardwood or hardwood charcoals

**grind** - to pulverize or reduce food to small particles using a mechanical grinder or food processor

**grinding** - a milling process in which grains are reduced to a powder; the powder can be of differing degrees of fineness or coarseness

**gristle** - see cartilage

**grosse piece** - a centerpiece consisting of a large piece of the principal food offered; for example, a large wheel of cheese with slices of the cheese cascading around it

**gum paste** - a smooth dough of sugar and gelatin that can be colored and used to make decorations, especially for pastries

**HACCP** - see Hazard Analysis Critical Control Points

**halal** - describes food prepared in accordance with Muslim dietary laws

**hanging** - the practice of allowing eviscerated (drawn or gutted) game to age in a cool, well-ventilated place; hanging helps tenderize the flesh and strengthen its flavor

**hard water** - water with relatively high calcium and magnesium concentrations

**haricot vert** - a French variety of green bean characterized by its long, slender pod with an intense flavor and tender texture

**Hazard Analysis Critical Control Points (HACCP)** - a rigorous system of self-inspection used to manage and maintain sanitary conditions in all types of food service operations; it focuses on the flow of food through the food service facility to identify any point or step in preparation (known as a critical control point) where some action must be taken to prevent or minimize a risk or hazard

**Heimlich maneuver** - the first-aid procedure for choking victims in which sudden upward pressure is applied to the upper abdomen in order to force any foreign object from the windpipe

**herb** - any of a large group of aromatic plants whose leaves, stems or flowers are used as a flavoring; used either dried or fresh

**high-ratio cake** - a form of creamed-fat cake that uses emulsified shortening and a two-stage mixing method

**hollandaise** - an emulsified sauce made of butter, egg yolks and flavorings (especially lemon juice)

**homogenization** - the process by which milk fat is prevented from separating out of milk products

**hors d'oeuvre** - very small portions of hot or cold foods served before the meal to stimulate the appetite

**hotel pan** - a rectangular, stainless steel pan with a lip allowing it to rest in a storage shelf or steam table; available in several standard sizes

**hull** - also known as the husk, the outer covering of a fruit, seed or grain

**hulling** - a milling process in which the hull or husk is removed from grains

**hybrid** - the result of cross-breeding different species that are genetically unlike; often a unique product

**hybrid menu** - a menu combining features of a static menu with a cycle menu or a market menu of specials

**hydrogenation** - the process used to harden oils; hydrogen atoms are added to unsaturated fat molecules, making them partially or completely saturated and thus solid at room temperature

**hydrometer** - a device used to measure specific gravity; it shows degrees of concentration on the Baume scale

**hygroscopic** - describes a food that readily absorbs moisture from the air

**icing** - see frosting

**IMPS/NAMP** - see NAMP/TMPS

**incidental food additives** - those inadvertently or unintentionally added to foods during processing, such as pesticide residues on fruits

**induction cooking** - a cooking method that uses a special coil placed below the stove top's surface in combination with specially designed cookware to generate heat rapidly with an alternating magnetic field

**infection** - in the food safety context, a disease caused by the ingestion of live pathogenic bacteria that continue their life processes in the consumer's intestinal tract

**infrared cooking** - a heating method that uses an electric or ceramic element heated to such a high temperature that it gives off waves of radiant heat that cook the food

**infuse** - to flavor a liquid by steeping it with ingredients such as tea, coffee, herbs or spices

**infusion** - (1) the extraction of flavors from a food at a temperature below boiling; (2) a group of coffee brewing techniques, including steeping, filtering and dripping; (3) the liquid resulting from this process

**instant-read thermometer** - a thermometer used to measure the internal temperature of foods; the stem is inserted in the food, producing an instant temperature readout

**intentional food additives** - those added to foods on purpose, such as the chemicals used to ensure longer shelf life or food colorings

**intoxication** - in the food safety context, a disease caused by the toxins that bacteria produce during their life processes

**inventory** - the listing and counting of all foods in the kitchen, storerooms and refrigerators

**IQF (individually quick-frozen)** - describes the technique of rapidly freezing each individual item of food such as slices of fruit, berries or pieces of fish before packaging; IQF foods are not packaged with syrup or sauce

**irradiation** - a preservation method used for certain fruits, vegetables, grains, spices, meat and poultry in which ionizing radiation sterilizes the food, slows ripening and prevents sprouting

**jam** - a fruit gel made from fruit pulp and sugar

**jelly** - a fruit gel made from fruit juice and sugar

**juice** - the liquid extracted from any fruit or vegetable

**julienne** - (1) to cut foods into stick-shaped pieces, approximately 1/8 inch X 1/8 inch X 2 inches (3 millimeters X 3 millimeters X 5 centimeters); a fine julienne has dimensions of 1/16 inch X 1/16 inch X 2 inches (1.5 millimeters X 1.5 millimeters X 5 centimeters); (2) the stick-shaped pieces of cut food

**jus lie** - also known as fond lie; a sauce made by thickening brown stock with cornstarch or similar starch; often used like a demi-glace, especially to produce small sauces

**Kaiser roll** - a large round yeast roll with a crisp crust and a curved pattern stamped on the top; used primarily for sandwiches

**kneading** - working a dough to develop gluten

**Kobe beef** - an exclusive type of beef traditionally produced in Kobe, Japan. Wagyu cattle are fed a special diet, which includes beer to stimulate the animal's appetite during summer months. The animals are massaged with sake to relieve stress and muscle stiffness in the belief that calm, contented cattle produce better-quality meat. This

special treatment produces meat that is extraordinarily tender and full-flavored, and extraordinarily expensive. Kobe Beef America introduced Wagyu cattle to the United States in 1976. KBA's cattle are raised without hormones and the meat is dry-aged for 21 days prior to sale.

**Kosher** - prepared in accordance with Jewish dietary laws

**Lactose** - a disaccharide that occurs naturally in mammalian milk; milk sugar

**lag phase** - a period, usually following transfer from one place to another, during which bacteria do not experience much growth

**lamb** - the meat of sheep slaughtered under the age of one year

**lard** - the rendered fat of hogs

**larding** - inserting thin slices of fat, such as pork fatback, into low-fat meats in order to add moisture

**lardons** - sliced, blanched, fried bacon

**leading sauces** - also known as mother sauces, the foundation for the entire classic repertoire of hot sauces; the five leading sauces (béchamel, veloute, espagnole [also known as brown], tomato and hollandaise) are distinguished by the liquids and thickeners used to make them; they can be seasoned and garnished to create a wide variety of small or compound sauces

**leavener** - an ingredient or process that produces or incorporates gases in a baked product in order to increase volume, provide structure and give texture

**lecithin**- a natural emulsifier found in egg yolks

**legumes** - (1) French for "vegetables"; (2) a large group of vegetables with double-seamed seed pods; depending upon the variety, the seeds, pod and seeds together, or the dried seeds are eaten

**liaison** - a mixture of egg yolks and heavy cream used to thicken and enrich sauces

**liqueur** - a strong, sweet, syrupy alcoholic beverage made by mixing or redistilling neutral spirits with fruits, flowers, herbs, spices or other flavorings; also known as a cordial

**liquor** - an alcoholic beverage made by distilling grains, fruits, vegetables or other foods; includes rum , whiskey and vodka

**liter** - the basic unit of volume in the metric system, equal to slightly more than a quart

**log phase** - a period of accelerated growth for bacteria

**lozenges** - diamond -shaped pieces, usually of firm vegetables

**macaroni** - any dried pasta made with wheat flour and water; only in the United States does the term refer to elbow-shaped tubes

**macerate** - to soak foods in a liquid, usually alcoholic, to soften them

**macronutrients** - the nutrients needed in large quantities: carbohydrates, proteins, fats and water

**madeira** - a Portuguese fortified wine heated during aging to give it a distinctive flavor and brown color

**Magret** - a duck breast, traditionally taken from the ducks that produce foie gras; it is usually served boneless but with the skin intact

**maître d'hôtel** - (1) the leader of the dining room brigade, also known as the dining room manager; oversees the dining room or "front of the house" staff; (2) a compound butter flavored with chopped parsley and lemon juice

**makeup** - the cutting, shaping and forming of dough products before baking

**mandolin** - a stainless steel, hand- operated slicing device with adjustable blades

**marbling** - whitish streaks of inter- and intramuscular fat

**marinade** - the liquid used to marinate foods; it generally contains herbs, spices and other flavoring ingredients as well as an acidic product such as wine, vinegar or lemon juice

**marinate** - to soak a food in a seasoned liquid in order to tenderize the food and add flavor to it

**market menu** - a menu based upon product availability during a specific period ; it is written to use foods when they are in peak season or readily available

**marmalade** - a citrus jelly that also contains unpeeled slices of citrus fruit

**marquise** - a frozen mousse-like dessert, usually chocolate

**marsala** - a flavorful fortified sweet-to-semi dry Sicilian wine

**marzipan** - a paste of ground almonds, sugar and egg whites used to fill and decorate pastries

**matignon** - a standard mirepoix plus diced smoked bacon or smoked ham and, depending on the dish, mushrooms and herbs

**matzo** - thin, crisp unleavened bread made only with flour and water; can be ground into meal that is used for matzo balls and pancakes

**mayonnaise** - a thick , creamy sauce consisting of oil and vinegar emulsified with egg yolks, usually used as a salad dressing

**meal** - (1) the coarsely ground seeds of any edible grain such as corn or oats; (2) any dried, ground substance (such as bone meal)

**mealy potatoes** - also known as starchy potatoes; those with a high starch content and thick skin; they are best for baking

**medallion** - a small, round, relatively thick slice of meat

**melting** - the process by which certain foods, especially those high in fat, gradually soften and then liquefy when heated

- menu** - a list of foods and beverages available for purchase
- meringue** - a foam made of beaten egg whites and sugar
- metabolism** - all the chemical reactions and physical processes that occur continuously in living cells and organisms
- meter** - the basic unit of length in the metric system, equal to slightly more than 1 yard
- mezzaluna** - a two-handled knife with one or more thick, crescent-shaped blades used to chop and mince herbs and vegetables
- micronutrients** - the nutrients needed only in small amounts; vitamins and minerals
- microorganisms** - single-celled organisms as well as tiny plants and animals that can be seen only through a microscope
- microwave cooking** - a heating method that uses radiation generated by a special oven to penetrate the food; it agitates water molecules, creating friction and heat; this energy then spreads throughout the food by conduction (and by convection in liquids)
- mignonette** - (1) a medallion; (2) a vinegar sauce with shallots
- milk-fed veal** - also known as formula-fed veal; the meat of calves fed only a nutrient-rich liquid and kept tethered in pens; this meat is whiter and more mildly flavored than that of free-range calves
- milling** - the process by which grain is ground into flour or meal
- mince** - to cut into very small pieces when uniformity of shape is not important
- minerals** - inorganic micronutrients necessary for regulating body functions and proper bone and tooth structures
- mineral water** - drinking water that comes from a protected underground water source and contains at least 250 parts per million of total dissolved solids such as calcium
- mirepoix** - a mixture of coarsely chopped onions, carrots and celery used to flavor stocks, stews and other foods; generally, a mixture of 50 percent onions, 25 percent carrots and 25 percent celery, by weight, is used
- mirin** - sweet, viscous Japanese wine made from glutinous rice, generally used to flavor and sweeten glazes and sauces
- mise en place** - French for "putting in place"; refers to the preparation and assembly of all necessary ingredients and equipment
- miso** - a thick paste made by salting and fermenting soybeans and rice or barley; generally used as a flavoring
- mix** - to combine ingredients in such a way that they are evenly dispersed throughout the mixture
- moist-heat cooking methods** - cooking methods, principally simmering, poaching, boiling and steaming, that use water or steam to transfer heat through convection; moist-heat cooking methods are used to emphasize the natural flavors of foods
- mojo criollo** - a citrus and herb marinade used in Latino cuisines; bottled brands are available in Hispanic markets
- molding** - the process of shaping foods, particularly grains and vegetables bound by sauces, into attractive, hard-edged shapes by using metal rings, circular cutters or other forms
- molds** - (1) algae-like fungi that form long filaments or strands; for the most part, molds affect only food appearance and flavor; (2) containers used for shaping foods
- mollusks** - shellfish characterized by a soft, unsegmented body, no internal skeleton and a hard outer shell
- monounsaturated fats** - see unsaturated fats
- monter au beurre** - to finish a sauce by swirling or whisking in butter (raw or compound) until it is melted; used to give sauces shine, flavor and richness

**mortadella** - an Italian smoked sausage made with ground beef, pork and pork fat, flavored with coriander and white wine; it is air-dried and has a delicate flavor; also a large American bologna-type pork sausage sn1dded with pork fat and garlic

**mortar and pestle** - a hard bowl (the mortar) in which foods such as spices are ground or pounded into a pow de r with a club-shaped tool (the pestle)

**mother sauces** - *see* leading sauces

**mousse** - a soft, creamy food, either sweet or savory, lightened by adding whipped cream, beaten egg whites or both

**mousseline** - a cream or sauce lightened by folding in ,whipped cream

**mouthfeel** - the sensation created in the mouth by a combination of a food 's taste, smell, texture and temperature

**muesli** - a breakfast cereal made from raw or toasted cereal grains, dried fruits, nuts and dried milk solids and usually eaten with milk or yogurt; sometimes known as granola

**muffin method** - a mixing method used to make quick-bread batters; it involves combining liquid fat with other liquid ingredients before adding them to the dry ingredients

**muscles**-- animal tissues consisting of bundles of cells or fibers that can contract and expand; they are the portions of a carcass usually consumed

**mushrooms** - members of a broad catego1y of plants known as fungi; they are often used and served like vegetables

**mutton** - the meat of sheep slaughtered after they reach the age of one year

**NAMP/IMPS** - the Institutional Meat Purchasing Specifications (IMPS) published by the U.S. Department of Agriculture; the IMPS are illustrated and described in The Meat Buyer's Guide published by the National Association of Meat Purveyors (NAMP)

**nappe** - (1) the consistency of a liquid, usually a sauce , that will coat the back of a spoon; (2) to coat a food with sauce

**national cuisine** - the characteristic cuisine of a nation

**natural water** - bottled drinking water not derived from a municipal water supply; it can be mineral, spring, well or artesian-well water

**navarin** - a brown ragout generally made with turnips , other root vegetables, onions , peas and lamb

**Neapolitan** - a three-layered loaf or cake of ice cream; each layer is a different flavor and a different color, a typical combination being chocolate, vanilla and strawberry

**nectar**- the diluted, sweetened juice of peaches, apricots, guavas , black currants or other fruits, the juice of ·which would be too thick or too tart to drink straight

**neutral spirits or grain spirits** - pure alcohol (ethanol or ethyl alcohol); they are odorless , tasteless and a ve1y potent 190 proof (95% alcohol)

**New American cuisine** - late- 20th-century movement that began in California but has spread across the United States; it stresses the use of fresh, locally grown, seasonal produce and high -quality ingredients simply pre pa red in a fashion that preserves and emphasizes natural flavors

**noisette** - a small, usually round, portion of meat cut from the rib

**noodles** - flat strips of pasta-type dough made with eggs; may be fresh or dried

**nouvelle cuisine** - French for "new cooking"; a mid-20th-century movement away from many classic cuisine principles and toward a lighter cuisine based on natural flavors, shortened cooking times and innovative combinations

**nut** – (1) the edible single-seed kernel of a fruit surrounded by a hard shell; (2) generally , any seed or fruit with an edible kernel in a hard shell

**nutrients** - the chemical substances found in food that nourish the body by promoting growth, facilitating body functions and providing energy; there are six categories of nutrients: proteins, carbo hydrates, fats, water, minerals and vitamins

**nutrition** - the science that studies nutrients

**oblique cuts** - small pieces with two angle-cut sides

**offal** - also called variety meats; edible entrails (for example, the heart, kidneys, liver, sweetbreads and tongue) and extremities (for example, oxtail and pig's feet) of an animal

**oignon brule-** French for "burnt onion"; made by charring onion halves; used to flavor and color stocks and sauces

**oignon pique** - French for "pricked onion"; a bay leaf tacked with a clove to a peeled onion; used to flavor sauces and soups

**oil** - a type of fat that remains liquid at room temperature

**organic farming** - a method of farming that does not rely on synthetic pesticides, fungicides, herbicides or fertilizers

**Orzo** - a rice-shaped pasta

**oven spring** - the rapid rise of yeast goods in a hot oven, resulting from the production and expansion of trapped gases

**overhead costs** - expenses related to operating a business, including but not limited to costs for advertising, equipment leasing, insurance, property rent, supplies and utilities

**over run** - the amount of air churned into an ice cream during freezing

**paillard** - a scallop of meat pounded until thin, usually grilled

**palate** - (1) the complex of smell, taste and touch receptors that contribute to a person's ability to recognize and appreciate flavors; (2) the range of an individual's recognition and appreciation of flavors

**panada; panade** - (1) something other than fat added to a forcemeat to enhance smoothness, aid emulsification or both; it is often béchamel, rice or crust less white bread soaked in milk; (2) a mixture for binding stuffing and dumplings, notably quenelles, often choux pastry, bread crumbs, frangipane, pureed potatoes or rice

**pan-broiling** - a dry-heat cooking method that uses conduction to transfer heat to a food resting directly on a cooking surface; no fat is used and the food remains uncovered

**pan-dressed** - a market form for fish in which the viscera, gills and scales are removed and the fins and tail are trimmed

**panettone** - sweet Italian yeast bread filled with raisins, candied fruits, anise seeds and nuts; traditionally baked in a rounded cylindrical mold and served as a breakfast bread or dessert during the Christmas holidays

**pan-frying** - a dry-heat cooking method in which food is placed in a moderate amount of hot fat

**pan gravy** - a sauce made by deglazing pan drippings from roast meat or poultry and combining them with a roux or other starch and stock

**papain** - an enzyme found in papayas that breaks down proteins; used as the primary ingredient in many commercial meat tenderizers

**papillote, en** - a cooking method in which food is wrapped in paper or foil and then heated so that the food steams in its own moisture

**parboiling** - partially cooking a food in boiling or simmering liquid; similar to blanching but the cooking time is longer

**parchment paper** - heat-resistant paper used throughout the kitchen for tasks such as lining baking pans, wrapping foods to be cooked en papillote and covering foods during shallow poaching

**par cooking** - partially cooking a food by any cooking method

**parfait** - ice cream served in a long, slender glass with alternating layers of topping or sauce; also the name of the mousse-like preparation that forms the basis for some still-frozen desserts

**paring knife** - a short knife used for detail work, especially cutting fruits and vegetables; it has a rigid blade approximately 2-4 inches (5-10 centimeters) long



**Paris-Brest** - rings of baked eclair paste cut in half horizontally and filled with light pastry cream and/or whipped cream; the top is dusted with powdered sugar or drizzled with chocolate glaze

**Parsienne** - spheres of fruits or vegetables cut with a small melon ball cutter

**par stock (par level)** - the amount of stock necessary to cover operating needs between deliveries

**pasta** - (1) an unleavened paste or dough made from wheat flour (often semolina), water and eggs; the dough can be colored and flavored with a wide variety of herbs, spices or other ingredients and cut or extruded into a wide variety of shapes and sizes; it can be fresh or dried and is boiled for service; (2) general term for any macaroni product or egg noodle

**pasteurization** - the process of heating something to a certain temperature for a specific period in order to destroy pathogenic bacteria

**pastillage** - a paste made of sugar, cornstarch and gelatin; it may be cut or molded into decorative shapes

**pastry cream** - also known as crème patissiere, a stirred custard made with egg yolks, sugar and milk and thickened with starch; used for pastry and pie fillings

**pate** - traditionally, a fine savory meat filling wrapped in pastry, baked and served hot or cold; as opposed to a terrine, which was a coarsely ground and highly seasoned meat mixture baked in an earthenware mold and served cold; today, the words pate and terrine are generally used interchangeably

**pate a choux** - see eclair paste

**pate a glacer** - a specially formulated chocolate coating compo und with vegetable oils designed to retain its shine without tempering; it is used as a coating or frosting chocolate

**pate au pate** - a specially formulated pastry dough used for wrapping pate when making pate en croute

**pate brisee** - a dough that produces a very flaky baked product containing little or no sugar; flaky dough is used for prebaked pie shells or crusts; mealy dough is a less flaky product used for custard, cream or fruit pie crusts

**pate en croute** - a pate baked in pastry dough such as pf1te au pate

**pate feuilletée** - also known as puff pastry; a rolled-in dough used for pastries, cookies and savory products; it produces a rich and buttery but not sweet baked product with hundreds of light, flaky layers

**pate sucrée** - a dough containing sugar that produces a very rich, crisp baked product; also known as sweet dough, it is used for tart shells

**pathogen** - any organism that causes disease; usually refers to bacteria; undetectable by smell, sight or taste

**patissier** - a pastry chef; the person responsible for all baked items, including breads, pastries and desserts

**paupiette** - a thin slice of meat or fish that is rolled around a filling offinely ground meat or vegetables, then fried, baked or braised in wine or stock

**paysanne** - foods cut into flat square, round or triangular items with dimensions of 1/2 inch X ½ inch X ⅓ inch (1.2 centimeters X 1.2 centimeters X 3 millimeters)

**pearling** - a milling process in which all or part of the hull, bran and germ are removed from grains

**pectin** - a gelatin-like carbohydrate obtained from certain fruits; used to thicken jams and jellies

**pepperoni** - a hard, thin, air-dried Italian sausage seasoned with red and black pepper

**persillade** - (1) a food served with or containing parsley; (2) a mixture of bread crumbs, parsley and garlic used to coat meats, especially lamb

**pH** - a measurement of the acid or alkali content of a solution, expressed on a scale of 0 to 14.0. A pH of 7.0 is considered neutral or balanced. The lower the pH value, the more acidic the substance. The higher the pH value, the more alkaline the substance.

**physical hazard** - a danger to the safety of food caused by particles such as glass chips, metal shavings, bits of wood or other foreign matter

**pickle** - (1) to preserve food in a brine or vinegar solution; (2) food that has been preserved in a seasoned brine or vinegar, especially cucumbers. Pickled cucumbers are available whole, sliced, in wedges, or chopped as a relish, and may be sweet, sour, dill- flavored or hot and spicy.

**pigment** - any substance that gives color to an item

**pilaf** - a cooking method for grains in which the grains are lightly sautéed in hot fat and then a hot liquid is added; the mixture is simmered without stirring until the liquid is absorbed

**poaching** - a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 160°F-180°F [71°C-82°C]) liquid to the food submerged in it

**polyunsaturated fats** - see unsaturated fats

**pomes** - members of the Rosaceae family; tree fruits with a thin skin and firm flesh surrounding a central core containing many small seeds (called pips or carpels); include apples, pears and quince

**ponzu** - a Japanese dipping sauce traditionally made with lemon juice or rice wine vinegar, soy sauce, mirin or sake, seaweed and dried bonito flakes

**pork** - the meat of hogs, usually slaughtered under the age of one year

**posole** - also known as hominy or samp; dried corn that has been soaked in hydrated lime or lye; posole (Sp. pozole) also refers to a stew-like soup made with pork and hominy served in Mexico and Central America

**Posterior** - at or toward the rear of an object or place; opposite of anterior

**potentially hazardous foods** - foods on which bacteria can thrive

**poultry** - the collective term for domesticated birds bred for eating; they include chickens, ducks, geese, guineas, pigeons and turkeys

**preserve** - a fruit gel that contains large pieces or whole fruits

**primal cuts** - the primary divisions of muscle, bone and connective tissue produced by the initial butchering of the carcass

**prix fixe** - French for "fixed price"; refers to a menu offering a complete meal for a set price; also known as table d'hôtel

**professional cooking** - a system of cooking based on a knowledge of and appreciation for ingredients and procedures

**profiteroles** - small baked rounds of éclair paste filled with ice cream and topped with chocolate sauce

**proofing** - the rise given shaped yeast products just prior to baking

**proteins** - a group of compounds composed of oxygen, hydrogen, carbon and nitrogen atoms necessary for manufacturing, maintaining and repairing body tissues and as an alternative source of energy (4 calories per gram); protein chains are constructed of various combinations of amino acids

**pudding** - a thick, spoonable dessert custard, usually made with eggs, milk, sugar and flavorings and thickened with flour or another starch

**puff pastry** - see pate feuilletée

**pulled sugar** - a dough-like mixture of sucrose, glucose and tartaric acid that can be colored and shaped by hand into decorative items

**pulses** - dried seeds from a variety of legumes

**pumpnickel** - (1) coarsely ground 1ye flour; (2) bread made with this flour

**puree** - (1) to process food to achieve a smooth pulp; (2) food that is processed by mashing, straining or fine chopping to achieve a smooth pulp

**puree soup** - a soup usually made from starchy vegetables or legumes; after the main ingredient is simmered in a liquid, the mixture, or a portion of it) is pureed

**purified water** - bottled water produced by distillation, reverse osmosis, deionization or suitable processes that meet governmental standards

**putrefactives** - bacteria that spoil food without rendering it unfit for human consumption

**quality grades** - a guide to the eating qualities of meat-its tenderness, juiciness and flavor- based on an animal's age and the meat's color, texture and degree of marbling

**quenelle** - a small, dumpling-shaped portion of a mousseline forcemeat poached in an appropriately flavored stock; it is shaped by using two spoons

**quiche** - a savory tart or pie consisting of a custard baked in a pastry shell with a variety of flavorings and garnishes

**quick bread** - a bread, including loaves and muffins, leavened by chemical leaveners or steam rather than yeast

**radiation cooking** - a heating process that does not require physical contact between the heat source and the food being cooked; instead energy is transferred by waves of heat or light striking the food. Two kinds of radiant heat used in the kitchen are infrared and microwave.

**raft** - a crust formed during the process of clarifying consommé; it is composed of the clearmeat and impurities from the stock, which rise to the top of the simmering stock and release additional flavors

**ragout** - (1) traditionally, a well-seasoned, rich stew containing meat, vegetables and wine; (2) any stewed mixture

**ramekin** - a small, ovenproof dish, usually ceramic

**rancidity** - the decomposition of fats by exposure to oxygen, resulting in off flavors and destruction of nutritive components

**ratites** - family of flightless birds with small wings and flat breastbones; they include the ostrich, emu and rhea

**recipe** - a set of written instructions for producing a specific food or beverage; also known as a formula

**recovery time** - the length of time it takes a cooking medium such as fat or water to return to the desired cooking temperature after food is submerged in it

**red fish** - a name applied to various species of fish around the world. In the United States, it generally refers to a member of the drum family found in the southern Atlantic and the Gulf of Mexico. It has a reddish-bronze skin and firm, ivory flesh with a mild flavor and a typical market weight of 2 to 8 pounds (0.9 to 3.6 kilograms); it is also known as channel bass, red drum and reel bass.

**red rice** - an un-milled short- or long-grain rice from the Himalayas; it has a russet-colored bran and an earthy, nutty flavor

**reduction** - cooking a liquid such as a sauce until its quantity decreases through evaporation. To reduce by one-half means that one-half of the original amount remains. To reduce by three-fourths means that only one-fourth of the original amount remains. To reduce au sec means that the liquid is cooked until nearly dry.

**refreshing** - submerging a food in cold water to quickly cool it and prevent further cooking, also known as shocking; usually used for vegetables

**regional cuisine** - a set of recipes based on local ingredients, traditions and practices; within a larger geographical, political, cultural or social unit, regional cuisines are often variations of one another that blend together to create a national cuisine

**relish** - a cooked or pickled sauce usually made with vegetables or fruits and often used as a condiment; can be smooth or chunky, sweet or savory and hot or mild

**remouillage** - French for "rewetting"; a stock produced by reusing the bones left from making another stock. After draining the original stock from the stockpot, add fresh mirepoix, a new sachet and enough water to cover the bones and mirepoix, and a second stock can be made. A remouillage is treated like the original stock; allow it to simmer for four to five hours before straining. A remouillage will not be as clear or as flavorful as the original stock, however. It is often used to make glazes or in place of water when making stocks.

**Render** - (1) to melt and clarify fat; (2) to cook meat in order to remove the fat

**respiration rate** - the speed with which the cells of a fruit use oxygen and produce carbon dioxide during ripening

**restaurateur** - a person who owns or operates an establishment serving food, such as a restaurant

**ribbon** - a term used to describe the consistency of a batter or mixture, especially a mixture of beaten egg and sugar; when the beater or whisk is lifted, the mixture will fall back slowly onto its surface in a ribbon-like pattern

**ricer** - a sieve-like utensil with small holes through which soft food is forced; it produces particles about the size of a grain of rice

**rillettes** - meat or poultry slowly cooked, mashed and preserved in its own fat; served cold and usually spread on toast

**ripe** - fully grown and developed; a ripe fruit's flavor, texture and appearance are at their peak, and the fruit is ready to use as food

**risers** - boxes (including the plastic crates used to store glassware) covered with linens, paper or other decorative items and used on a buffet table as a base for platters, trays or displays

**risotto** - (1) a cooking method for grains in which the grains are lightly sautéed in butter and then a liquid is gradually added; the mixture is simmered with near-constant stirring until the still-firm grains merge with the cooking liquid; (2) a Northern Italian rice dish prepared this way

**roasting** - a dry-heat cooking method that heats food by surrounding it with hot, dry air in a closed environment or on a spit over an open fire; similar to baking, the term roasting is usually applied to meats, poultry, game and vegetables

**roe** - fish eggs

**roll cuts** – see oblique cuts

**rolled fondant** - a cooked mixture of sugar, glucose and water formulated to drape over cakes

**rolled-in dough** - a dough in which a fat is incorporated in many layers by using a rolling and folding procedure; it is used for flaky baked goods such as croissants, puff pastry and Danish pastry

**rondeau** - a shallow, wide, straight-sided pot with two loop handles

**rondelles** - disk-shaped slices

**rotate stock** – to use products in the order in which they were received; all perishable and semi-perishable goods, whether fresh, frozen, canned or dry, should be used according to the first in, first out (FIFO) principle

**roisserie** - cooking equipment that slowly rotates meat or other foods in front of a heating element

**roulade** - (1) a slice of meat, poultry or fish rolled around a stuffing; (2) a filled and rolled sponge cake

**round fish** - fish with round, oval or compressed bodies that swim in a vertical position and have eyes on both sides of their heads; include salmon, swordfish and cod

**rounding** - the process of shaping dough into smooth, round balls; used to stretch the outside layer of gluten into a smooth coating

**roux** - a cooked mixture of equal parts flour and fat, by weight, used as a thickener for sauces and other dishes; cooking the flour in fat coats the starch granules with the fat and prevents them from lumping together or forming lumps when introduced into a liquid

**royal icing** - also known as decorator's icing, an uncooked mixture of confectioner's sugar and egg whites that becomes hard and brittle when dried; used for making intricate cake decorations

**rub** - a mixture of fresh or dried herbs and spices ground together; it can be used dried, or it can be mixed with a little oil, lemon juice, prepared mustard or ground fresh garlic or ginger to make a wet rub

**Russian service** - restaurant service in which the entree, vegetables, and starches are served from a platter on to the diner's plate by a waiter

**sabayon** - also known as zabaglione; a foamy, stirred custard sauce made by whisking eggs, sugar and wine over low heat

**sachet d'epices; sachet** - French for "bag of spices"; aromatic ingredients tied in a cheesecloth bag and used to flavor stocks and other foods; a standard sachet contains parsley stems, cracked peppercorns, dried thyme, bay leaf, cloves and, optionally, garlic

**salad** - a single food or a mix of different foods accompanied or bound by a dressing

**salad dressing** - a sauce for a salad; most are based on a vinaigrette, mayonnaise or other emulsified product

**salad greens** - a variety of leafy vegetables that are usually eaten raw

**salamander** - a small broiler used primarily for browning or glazing the tops of foods

**Salsa** - Spanish for "sauce"; (1) generally, a cold chunky mixture of fresh herbs, spices, fruits and/or vegetables used as a sauce for meat, poultry, fish or shellfish; (2) in Italian usage, a general term for pasta sauces

**salt-curing** - the process of surrounding a food with salt or a mixture of salt, sugar, nitrite-based curing salt, herbs and spices; salt-curing dehydrates the food, inhibits bacterial growth and adds flavor

**sanding sugar** - granulated sugar with a large, coarse crystal structure that prevents it from dissolving easily; used for decorating cookies and pastries

**sanitation** - the creation and maintenance of conditions that will prevent food contamination or food-borne illness

**sanitize** - to reduce pathogenic organisms to safe levels

**sansho** - dried berries of the prickly ash tree, ground into a powder that is also known as Szechuan pepper, fagara and Chinese pepper; generally used in Japanese cooking to season fatty foods

**sashimi** - raw fish eaten without rice; usually served as the first course of a Japanese meal

**saturated fats** - fats found mainly in animal products and tropical oils; usually solid at room temperature; the body has more difficulty breaking down saturated fats than either monounsaturated or polyunsaturated fats

**sauce** - generally, a thickened liquid used to flavor and enhance other foods

**sausage** - a seasoned forcemeat usually stuffed into a casing; a sausage can be fresh, smoked and cooked, dried or hard

**sautéing** - a dry-heat cooking method that uses conduction to transfer heat from a hot pan to food with the aid of a small amount of hot fat; cooking is usually done quickly over high temperatures

**sauteuse** - the basic sauté pan with sloping sides and a single long handle

**sautoir** - a sauté pan with straight sides and a single long handle

**savory** - a food that is not sweet

**scald** - to heat a liquid, usually milk, to just below the boiling point

**scallop** - a thin, boneless slice of meat

**score** - to cut shallow gashes across the surface of a food before cooking

**Scoville Heat Units** - a subjective rating for measuring a chile's heat; the sweet bell pepper usually rates 0 units, the tabasco pepper rates from 30,000 to 50,000 units and the habanero pepper rates from 100,000 to 300,000 units

**Seafood** - an inconsistently used term encompassing some or all of the following: saltwater fish, freshwater fish, saltwater shellfish, freshwater shellfish and other edible marine life

**sear** - to brown food quickly over high heat; usually done as a preparatory step for combination cooking methods

**season** - traditionally, to enhance flavor by adding salt; (2) more commonly, to enhance flavor by adding salt and/or pepper as well as herbs and spices; (3) to mature and bring a food (usually beef or game) to a proper condition by aging or special preparation; (4) to prepare a pot, pan or other cooking surface to prevent sticking

**seasoning** - an item added to enhance the natural flavors of a food without dramatically changing its taste; salt is the most common seasoning

**seitan** - a form of wheat gluten; it has a firm, chewy texture and a bland flavor; traditionally simmered in a broth of soy sauce or tamari with ginger, garlic and kombu (seaweed)

**seltzer water** - a flavorless natural mineral water with carbonation, originally from the German town of Niederselters

**semi a la carte**-describes a menu on which some foods (usually appetizers and desserts) and beverages are priced and ordered separately, while the entree is accompanied by and priced to include other dishes such as a salad, starch or vegetable

**semifreddi** - also known as still-frozen desserts; items made with frozen mousse, custard or cream into which large amounts of whipped cream or meringue are folded in order to incorporate air; layers of sponge cake and/or fruits may be added for flavor and texture; include frozen snuffles, marquise, mousses and Neapolitans

**semolina** - see durum wheat

**sfoglia** - a thin, flat sheet of pasta dough that can be cut into ribbons, circles, squares or other shapes

**shallow poaching** - a moist-heat cooking method that combines poaching and steaming; the food (usually fish) is placed on a vegetable bed and partially covered with a liquid (cuisson) and simmered

**shellfish** - aquatic invertebrates with shells or carapaces

**sherbet** - a frozen mixture of fruit juice or fruit puree that contains milk and/or eggs for creaminess

**shocking** - also called refreshing; the technique of quickly chilling blanched or par-cooked foods in ice water; prevents further cooking and sets colors

**shortening** - (1) a white, flavorless, solid fat formulated for baking or deep-frying; (2) any fat used in baking to tenderize the product by shortening gluten strands

**shred** - to cut into thin but irregular strips

**shrinkage** - the loss of weight in a food due to evaporation of liquid or melting of fat during cooking

**shuck** - (1) a shell, pod or husk; (2) to remove the edible portion of a food (for example, clam meat, peas or an ear of corn) from its shell, pod, or husk

**side masking** - the technique of coating only the sides of a cake with a garnish such as chopped nuts

**sifting**- shaking one or more dry substances through a sieve or sifter to remove lumps, incorporate air and mix

**silver skin** - the tough connective tissue that surrounds certain muscles; see Elastin

**simmering** - (1) a moist-heat cooking method that uses convection to transfer heat from a hot (approximately 185°F-205°F [85°C-96°C]) liquid to the food submerged in it; (2) maintaining the temperature of a liquid just below the boiling point

**skim** - to remove fat and impurities from the surface of a liquid during cooking

**slice** - to cut an item into relatively broad, thin pieces

**slurry** - a mixture of raw starch and cold liquid used for thickening

**small sauces** - also known as compound sauces; made by adding one or more ingredients to a leading sauce; they are grouped together into families based on their leading sauce; some small sauces have a variety of uses, while others are traditional accompaniments for specific foods

**smoke point**- the temperature at which a fat begins to break down and smoke

**smoking** - any of several methods for preserving and flavoring foods by exposing them to smoke; includes cold smoking (in which the foods are not fully cooked) and hot smoking (in which the foods are cooked)

**smorbrod** - Norwegian cold open-faced sandwiches; similarly, the Swedish term smorgasbord refers to a buffet table of bread and butter, salads, open-faced sandwiches, pickled or marinated fish, sliced meats and cheeses

**soda water** - a flavorless water with induced carbonation, consumed plain or used as a mixer for alcoholic drinks or soda fountain confections; also known as club soda and seltzer

**soft water** - water with a relatively high sodium concentration

**solid pack** - canned fruits or vegetables with little or no water added

**soppressata** - a hard, aged Italian salami, sometimes coated with cracked peppercorns or herbs

**sorbet** - a frozen mixture of fruit juice or fruit puree; similar to sherbet but without milk products

**soufflé** - either a sweet or savory fluffy dish made with a custard base lightened with whipped egg whites and then baked; the whipped egg whites cause the dish to puff when baked

**sous-chef** - a cook who supervises food production and who reports to the executive chef; he or she is second in command of a kitchen

**specifications; specs** - standard requirements to be followed in procuring items from suppliers

**spice** - any of a large group of aromatic plants whose bark, roots, seeds, buds or berries are used as a flavoring; usually used in dried form, either whole or ground

**spring form pan** - a circular baking pan with a separate bottom and a side wall held together with a clamp that is released to free the baked product

**spring lamb** - the meat of sheep slaughtered before they have fed on grass or grains

**spring water** - water obtained from an underground source that flows naturally to the earth's surface

**spun sugar** - a decoration made by flicking dark caramelized sugar rapidly over a dowel to create long, fine, hair-like threads

**squab** - the class of young pigeon used in food service operations

**staling** - also known as starch retrogradation; a change in the distribution and location of water molecules within baked products; stale products are firmer, drier and more crumbly than fresh baked goods

**standard breading procedure** - the procedure for coating foods with crumbs or meal by passing the food through flour, then an egg wash and then the crumbs; it gives foods a relatively thick, crisp coating when deep-fried or pan-fried

**standardized recipe** - a recipe producing a known quality and quantity of food for a specific operation

**staples** - (1) certain foods regularly used throughout the kitchen; (2) certain foods, usually starches, that help form the basis for a regional or national cuisine and are principal components in the diet

**starch** - (1) complex carbohydrates from plants that are edible and either digestible or indigestible (fiber); (2) a rice, grain, pasta or potato accompaniment to a meal

**starch retrogradation** - the process whereby starch molecules in a batter or dough lose moisture after baking; the result is baked goods that are dry or stale

**starchy potatoes** - see mealy potatoes

**static menu** - a menu offering patrons the same foods every day

**station chef** - the cook in charge of a particular department in a kitchen

**steak** - (1) a cross-section slice of a round fish with a small section of the bone attached; (2) a cut of meat, either with or without the bone

**steamed milk** - milk that is heated with steam generated by an espresso machine; it should be approximately 150°F to 170°F (66°C to 77°C)

**steamer** - a set of stacked pots with perforations in the bottom of each pot; they fit over a larger pot filled with boiling or simmering water and are used to steam foods; (2) a perforated insert made of metal or bamboo placed in a pot and used to steam foods; (3) a type of soft-shell clam from the East Coast; (4) a piece of gas or electric equipment in which foods are steamed in a sealed chamber

**steaming** - a moist-heat cooking method in which heat is transferred from steam to the food being cooked by direct contact; the food to be steamed is placed in a basket or rack above a boiling liquid in a covered pan

**steel** - a tool, usually made of steel, used to hone or straighten knife blades

**steep** - to soak food in a hot liquid in order to either extract its flavor or soften its texture

**steers** - male cattle castrated prior to maturity and principally raised for beef

**sterilize** - to destroy all living microorganisms

**stewing** - a combination cooking method similar to braising but generally involving smaller pieces of meat that are first blanched or browned, then cooked in a small amount of liquid that is served as a sauce

**stir-frying** - a dry-heat cooking method similar to sautéing in which foods are cooked over very high heat using little fat while stirring constantly and briskly; often done in a wok

**stirring** - a mixing method in which ingredients are gently mixed by hand until blended, usually with a spoon, whisk or rubber spatula

**stock (French fond)** - a clear, un-thickened liquid flavored by soluble substances extracted from meat, poultry or fish and their bones as well as from a mirepoix, other vegetables and seasonings

**stone fruits** - members of the genus *Prunus*, also known as drupes; tree or shrub fruits with a thin skin, soft flesh and one woody stone or pit; include apricots, cherries, nectarines, peaches and plums

**straight dough method** - a mixing method for yeast breads in which all ingredients are simply combined and mixed

**strain** - to pour foods through a sieve, mesh strainer or cheesecloth to separate or remove the liquid component

**streusel** - a crumbly mixture of fat flour, sugar and sometimes nuts and spices, used to top baked goods

**subcutaneous fat** - also known as exterior fat; the fat layer between the hide and muscles

**submersion poaching** - a poaching method in which the food is completely covered with the poaching liquid

**sub-primal cuts** - the basic cuts produced from each primal

**sucrose** - the chemical name for common refined sugar; it is a disaccharide, composed of one molecule each of glucose and fructose

**sugar** - a carbohydrate that provides the body with energy and gives a sweet taste to foods

**sugar syrups** - either simple syrups (thin mixtures of sugar and water) or cooked syrups (melted sugar cooked until it reaches a specific temperature)

**sundae** - a great and gooey concoction of ice cream, sauces (hot fudge, marshmallow and caramel, for example), toppings (nuts, candies and fresh fruit to name a few) and whipped cream

**supreme** - an intermediary sauce made by adding cream to chicken veloute

**sushi** - cooked or raw fish or shellfish rolled in or served on seasoned rice

**sweat** - to cook a food in a pan (usually covered), without browning, over low heat until the item softens and releases moisture; sweating allows the food to release its flavor more quickly when cooked with other foods

**sweetbreads** - the thymus glands of a calf or lamb

**syrup** - sugar that is dissolved in liquid, usually water, and often flavored with spices or citrus zest

**syrup pack** - canned fruits with a light, medium or heavy syrup added

**table d'hôte** - see *Prix fixe*

**tahini** - a thick, oily paste made from crushed sesame seeds

**tamale** - a Mexican baked dish consisting of seasoned meats, poultry and or vegetables wrapped a corn husk spread with masa

**tang** - the portion of a knife's blade that extends inside the handle

**tart** - a sweet or savory filling in a baked crust made in a shallow, straight-sided pan without a top crust

**tartlet** - a small, single-serving tart

**taste** - the sensations, as interpreted by the brain, of what we detect when food, drink or other substances come in contact with our taste buds

**tempeh** - fermented whole soybeans mixed with a grain such as rice or millet; it has a chewy consistency and a yeasty, nutty flavor

**temper** - to heat gently and gradually; refers to the process of slowly adding a hot liquid to eggs or other foods to raise their temperature without causing them to curdle



**temperature danger zone** - the broad range of temperatures between 41°F and 135°F (5°C and 57°C) at which bacteria multiply rapidly

**tempering** - a process for melting chocolate during which the temperature of the cocoa butter is carefully stabilized; this keeps the chocolate smooth and glossy

**terrine** - (1) traditionally, a loaf of coarse forcemeat cooked in a covered earthenware mold and without a crust; today, the word is used interchangeably with pate; (2) the mold used to cook such items, usually a rectangle or oval shape and made of ceramic

**thickening agents** - ingredients used to thicken sauces; include starches (flour, cornstarch and arrowroot), gelatin and liaisons

**timbale** - (1) a small pail-shaped mold used to shape foods; (2) a preparation made in such a mold

**tisanes** - beverages made from herbal infusions that do not contain any tea

**tofu**- also known as bean curd; it is created from soymilk using a method similar to the way animal milk is separated into curds and whey in the production of cheese

**togarishi** - a Japanese spice and sesame seed blend available at Asian markets

**tomato sauce** - a leading sauce made from tomatoes, vegetables, seasonings and white stock; it may or may not be thickened with roux

**toque (toke)** - the tall white hat worn by chefs

**torchon** - French for a cloth or towel, such as a dishcloth. The term is sometimes used to refer to dishes in which the item has been shaped into a cylinder by being wrapped in a cloth or towel.

**torte** - in Central and Eastern European usage, refers to a rich cake in which all or part of the flour is replaced with finely chopped nuts or bread crumbs

**tossed salad** - a salad prepared by placing the greens, garnishes and salad dressing in a large bowl and tossing to combine

**total recipe cost** - the total cost of ingredients for a particular recipe ; it does not reflect overhead, labor, fixed expenses or profit

**tourner** - to cur into football-shaped pieces with seven equal sides and blunt ends

**toxins** - by-products of living bacteria that can cause illness if consumed in sufficient quantities

**tranche** - an angled slice cut from fish fillets

**trans fats** - a type of fat created when vegetable oils are solidified through hydrogenation

**tripe** - the edible lining of a cow's stomach

**truffles** - (1) flavorful tubers that grow near the roots of oak or beech trees; (2) rich chocolate candies made with ganache

**truss**-- to tie poultry with butcher's twine into a compact shape for cooking

**tube pan** - a deep round baking pan with a hollow tube in the center

**tuber** - the fleshy root, stem or rhizome of a plant from which a new plant will grow; some, such as potatoes, are eaten as vegetables

**tunneling** - large tubular holes in muffins and cakes, a defect caused by improper mixing

**unit cost** - the price paid to acquire one of the specified units

**univalves** - single-shelled mollusks with a single muscular foot, such as abalone

**unsaturated fats** - fats that are normally liquid (oils) at room temperature; they may be monounsaturated (from plants such as olives and avocados) or polyunsaturated (from grains and seeds such as corn, soybeans and safflower as well as from fish)

**vacuum packaging** - a food preservation method in which fresh or cooked food is placed in an airtight container (usually plastic). Virtually all air is removed from the container through a vacuum process, and the container is then sealed.

**vanilla custard sauce** - also known as *crème anglaise*; a stirred custard made with egg yolks, sugar and milk or half-and-half and flavored with vanilla; served with or used in dessert preparations

- vanillin** - (1) whitish crystals of vanilla flavor that often develop on vanilla beans during storage; (2) synthetic vanilla flavoring
- variety** - the result of breeding plants of the same species that have different qualities or characteristics; the new plant often combines features from both parents
- variety meats** - *see* offal
- veal** - the meat of calves under the age of nine months
- vegan** - a vegetarian who does not eat dairy products, eggs, honey or any other animal product; vegans usually also avoid wearing and using animal products such as fur, leather or wool
- vegetable** - any herbaceous plant (one with little or no woody tissue) that can be partially or wholly eaten; vegetables can be classified as cabbages, fruit-vegetables, gourds and squashes, greens, mushrooms and truffles, onions, pods and seeds, roots and tubers and stalks
- vegetarian**-a person who does not eat any meat, poultry, game, fish, shellfish or animal by-products such as gelatin or animal fats; may also exclude dairy products or eggs from the diet
- veloute** - a leading sauce made by thickening a white stock (fish, veal, or chicken) with roux
- venison** - flesh from any member of the deer family, including antelope, elk, moose, reindeer, red-tailed deer, white-tailed deer, mule deer and axis deer
- vent** - (1) to allow the circulation or escape of a liquid or gas; (2) to cool a pot of hot liquid by setting the pot on blocks in a cold water bath and allowing cold water to circulate around it
- vinaigrette** - a temporary emulsion of oil and vinegar seasoned with salt and pepper
- vinegar**- a thin, sour liquid used as a preservative, cooking ingredient and cleaning solution
- viniculture** - the art and science of making wine from grapes
- vintner** - a winemaker
- viruses** - the smallest known form of life; they invade the living cells of a host and take over those cells' genetic material, causing the cells to produce more viruses; some viruses can enter a host through the ingestion of food contaminated with those viruses
- viscera** - internal organs
- vitamins** - compounds present in foods in very small quantities; they do not provide energy but are essential for regulating body functions
- viticulture** - the art and science of growing grapes used to make wines; factors considered include soil, topography (particularly, sunlight and drainage) and microclimate (temperature and rainfall)
- vol-au-vents** - deep, individual portion-sized puff pastry shells, often shaped as a heart, fish or fluted circle; they are filled with a savory mixture and served as an appetizer or main course
- volume** - the space occupied by a substance; volume measurements are commonly expressed as liters, teaspoons, tablespoons, cups, pints and gallons
- wash**- a glaze applied to dough before baking; a commonly used wash is made with whole egg and water
- water bath** - *see* bain marie
- water buffalo's milk** - milk produced by a female water buffalo; it has approximately 7.5% milkfat, 10.3% milk solids and 82.2% water
- water pack**--canned fruits with water or fruit juice added
- waxy potatoes** - those with a low starch content and thin skin; they are best for boiling
- weight** - the mass or heaviness of a substance; weight measurements are commonly expressed as grams, ounces and pounds
- whetstone** - a dense, grained stone used to sharpen or hone a knife blade
- whipping**- a mixing method in which foods are vigorously beaten in order to incorporate air; a whisk or an electric mixer with its whip attachment is used
- white stew** - *see* fricassee and blanquette
- white stock** - a light-colored stock made from chicken, veal, beef or fish bones simmered in water with vegetables and seasonings

**whitewash** – a thin mixture or slurry of flour and cold water used like cornstarch for thickening

**whole butter**- butter that is not clarified , whipped or reduced-fat

**wine** - an alcoholic beverage made from the fermented juice of grapes; may be sparkling (effervescent) or still (non-effervescent) or fortified with additional alcohol

**work section** - see work station

**work station** - a work area in the kitchen dedicated to a particular task, such as broiling or salad making; workstations using the same or similar equipment for related tasks are grouped together into work sections

**yeasts** - microscopic fungi whose metabolic processes are responsible for fermentation; they are used for leavening bread and in cheese, beer and wine making

**yield** - the total amount of a product made from a specific recipe; also , the amount of a food item remaining after cleaning or processing

**yield grades** - a grading program for mem that measures the amount of usable meat on a carcass

**zabaglione** - see sabayon

**zest** - the colored outer portion of the rind of citrus fruit; contains the oil that provides flavor and aroma

**zushi** - the seasoned rice used for sushi

## *APPENDIX*

Fresh Produce Availability Chart

PRODUCT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	Winter		Spring			Summer			Fall			
Apples								X	X	X	X	
Apricots						X	X					
Artichokes			X	X	X							
Asparagus				X	X	X						
Avocados				X	X	X	X	X	X	X		
Beans, green					X	X	X	X	X			
Beets								X	X	X		
Blueberries					X	X	X	X				
Broccoli	X	X	X						X	X	X	X
Brussels sprouts	X	X							X	X	X	X
Cabbage	X	X	X	X	X				X	X	X	X
Cantaloupe						X	X	X	X			
Cauliflower	X	X	X	X	X				X	X	X	X
Celery root	X	X	X	X						X	X	X
Cherries					X	X	X	X				
Chestnuts									X	X	X	X
Citrus	X	X	X	X	X	X			X	X	X	X
Collards	X										X	X
Corn						X	X	X				
Cranberries									X	X	X	X
Cucumbers					X	X	X	X				
Dates										X	X	X
Eggplants						X	X	X	X			
Figs						X	X	X	X	X		
Grapes						X	X	X	X	X	X	
Greens			X	X	X	X						
Kohlrabi						X	X					
Leeks	X	X	X							X	X	X
Lettuce			X	X	X	X	X	X	X			
Lychees						X	X					
Mangos					X	X	X	X				

Mush., morels			X	X	X							
Mushrooms,	X	X									X	X
truffles												
Okra					X	X	X	X	X			
Onions						X	X	X	X			
Onions, sweet				X	X	X						
Papayas			X	X	X	X						
Peaches					X	X	X	X				
Pears	X	X	X	X						X	X	X
Peas, English				X	X							
Peas, field							X	X				
Pecans											X	X
Peppers, bell						X	X	X	X			
Peppers, chile									X	X	X	X
Persimmons										X	X	X
Pineapples			X	X	X	X	X	X				
Plums						X	X	X	X			
Pomegranates									X	X	X	X
Potatoes								X	X	X		
Prickly pears									X	X	X	X
Pumpkins									X	X	X	
Raspberries						X	X	X	X			
Rhubarb		X	X	X	X							
Spinach	X	X	X	X	X					X	X	X
Squash Su.				X	X	X	X	X	X			
Squash, Wtr.	X	X	X							X	X	X
Strawberries		X	X	X	X	X						
Tomatoes						X	X	X	X			
Turnips				X	X					X	X	
Watermelons						X	X	X				

## COOKING VEGETABLES

### Artichokes

**Look for:** Tight, small heads without browning or bruising.

**Prep:** Snip off tough outer leaves; cut off top quarter and trim off woody stem.

- ✓ **Braise:** Heat 2 teaspoons extra-virgin olive oil in a large skillet; add baby artichokes and cook for 1 minute, stirring constantly. Add 1 cup each white wine (or dry vermouth) and water and 1 teaspoon dried thyme (or rosemary or tarragon). Bring to a simmer; cover, reduce heat and cook until tender, about 15 minutes.
- ✓ **Grill:** Halve artichokes, scoop out the choke if necessary, then toss with 1 tablespoon extra-virgin olive oil and 1/2 teaspoon kosher salt. Preheat grill. Place the artichokes over direct, medium-high heat and cook, turning once or twice, until tender, about 8 minutes.
- ✓ **Microwave:** Place artichokes in a large glass pie pan or baking dish, add 1/2 cup white wine (or dry vermouth), 1/2 teaspoon salt and 1 teaspoon dried thyme. Cover tightly and microwave on High until tender, about 8 minutes.
- ✓ **Steam:** Place artichokes in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and steam until tender, about 15 minutes.

### Asparagus

**Look for:** Sturdy spears with tight heads; the cut ends should not look desiccated or woody. Fresh asparagus should snap when bent.

**Prep:** Trim off stem ends; shave down any woody bits with a vegetable peeler.

- ✓ **Braise:** Place a large skillet over high heat. Add asparagus, 1/2 cup water and a slice of lemon. Cover, bring to a simmer, and cook until tender, about 5 minutes.
- ✓ **Grill:** Preheat grill; lightly oil rack. Place asparagus over direct, medium heat; cook until browned, turning occasionally, about 6 minutes.
- ✓ **Microwave:** Place asparagus on a glass platter or pie pan; add 1/4 cup water, drizzle with 1- teaspoon extra-virgin olive oil, and cover tightly. Microwave on High until tender, about 3 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Spread asparagus on a baking sheet or in a pan large enough to hold it in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until wilted and browned, about 10 minutes.

## *Beets*

**Look for:** Small beets with firm, dark ruby or bright orange skins.

**Prep:** Peel.

- ✓ **Microwave:** Cut beets into 1/4-inch-thick rings; place in a large glass baking dish or pie pan. Add 1/4 cup water, cover tightly and microwave on High for 10 minutes. Let stand, covered, for 5 minutes before serving.
- ✓ **Roast:** Preheat oven to 500°F. Cut beets into 1 1/2-inch chunks. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until tender, about 30 minutes.
- ✓ **Sauté:** Heat 1-tablespoon extra-virgin olive oil in a large skillet over medium heat. Grate beets into the pan using the large-hole side of a box grater. Add 1 minced garlic clove. Cook, stirring constantly, for 1 minute. Add 1/3 cup water and bring to a simmer. Cover, reduce heat to low and cook until tender, about 8 minutes.
- ✓ **Steam:** Cut beets into quarters. Place in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and steam until tender, about 15 minutes.

## *Broccoli*

**Look for:** Sturdy, dark-green spears with tight buds, no yellowing and a high floret-to-stem ratio.

**Prep:** Cut off florets; cut stalks in half lengthwise and then into 1-inch-thick half-moons.

- ✓ **Microwave:** Place stems and florets in a large glass baking dish. Cover tightly and microwave on High until tender, about 4 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 1-tablespoon extra-virgin olive oil. Roast, turning once halfway through cooking, until tender and browned in places, about 10 minutes.
- ✓ **Steam:** Place stems in a steamer basket over 2 inches of water (with 1-tablespoon lemon juice added to it) in a large pot set over high heat. Cover and steam for 2 minutes. Add florets; cover and continue steaming until tender, about 5 minutes more.



## *Brussels Sprouts*

**Look for:** Tight, firm, small deep-green heads without yellowed leaves or insect holes. Preferably, the sprouts should still be on the stalk

**Prep:** Peel off outer leaves; trim stem.

- ✓ **Braise:** Place sprouts and 1 cup dry white wine in a large skillet over medium-high heat. Cover and braise until tender, about 7 minutes. Remove sprouts with a slotted spoon; increase heat to high, add 1-teaspoon butter and reduce liquid to a glaze. Pour over sprouts.
- ✓ **Microwave:** Place sprouts in a large glass baking dish. Add 1/4 cup broth (or water), cover tightly and microwave on High until tender, about 6 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Cut sprouts in half. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 1-tablespoon extra-virgin olive oil. Roast, turning once halfway through cooking, until browned and tender, about 20 minutes.
- ✓ **Steam:** Place sprouts in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and steam until tender, 6 to 8 minutes.

## *Carrots*

**Look for:** Orange, firm spears without any gray, white or desiccated residue on the skin. The greens should preferably still be attached.

**Prep:** Peel; cut off greens.

- ✓ **Microwave:** Cut carrots into 1/8-inch-thick rounds. Place in a large glass baking dish or pie pan. Add 1/4 cup broth (or white wine). Cover tightly and microwave on High until tender, about 3 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Cut carrots in half lengthwise then slice into 1 1/2-inch-long pieces. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until beginning to brown, about 15 minutes.
- ✓ **Sauté:** Cut carrots into 1/8-inch-thick rounds. Melt 1-tablespoon butter in a large skillet over medium-low heat. Add carrots; stir and cook until tender, about 4 minutes. Add 1-teaspoon sugar; stir until glazed.
- ✓ **Steam:** Cut carrots into 1/8-inch thick rounds. Place in a steamer basket over 1 inch of water in a large pot set over high heat. Cover and steam for 4 minutes.

## *Cauliflower*

**Look for:** Tight white or purple heads without brown or yellow spots; the green leaves at the stem should still be attached firmly to the head, not limp or withered.

**Prep:** Cut into 1-inch-wide florets; discard core and thick stems.

- ✓ **Braise:** Place florets in a large skillet with 1/2 cup dry white wine and 1/2 teaspoon caraway seeds. Bring to a simmer, reduce heat, cover and cook until tender, about 4 minutes.
- ✓ **Microwave:** Place florets in a large glass baking dish. Add 1/4 cup dry white wine (or dry vermouth). Cover tightly and microwave on High until tender, about 4 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Spread florets on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 1-tablespoon extra-virgin olive oil. Roast, turning once halfway through cooking, until tender and beginning to brown, about 15 minutes.
- ✓ **Steam:** Place florets in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and steam for 5 minutes.

## *Corn*

**Look for:** Pale to dark green husks with moist silks; each ear should feel heavy to the hand, the cob filling the husk well.

- ✓ **Grill:** Pull back the husks without removing them; pull out the silks. Replace the husks; soak the ears in water for 20 minutes. Preheat grill. Place corn (in husks) over high heat and grill, turning occasionally, until lightly browned, about 5 minutes. Remove husks before serving.
- ✓ **Microwave:** Husk corn and cut ears in thirds; place in a large glass baking dish or microwave-safe container. Cover tightly and microwave on High until tender, about 4 minutes.
- ✓ **Sauté:** Remove kernels from cobs. Melt 2 teaspoons butter in a large skillet over medium heat. Add corn kernels; cook, stirring constantly, until tender, about 3 minutes. Stir in 1/2 teaspoon white-wine vinegar before serving.
- ✓ **Steam:** Husk corn, then break or cut ears in half to fit in a steamer basket. Set over 2 inches of water in a large pot over high heat. Cover and steam until tender, about 4 minutes.

## *Eggplant*

**Look for:** Smooth, glossy skins without wrinkles or spongy spots; each eggplant should feel heavy for its size.

**Prep:** Slice into 1/2-inch-thick rounds (peeling is optional).

- ✓ **Braise:** Cut eggplant slices into cubes. Mix with an 8-ounce jar of salsa. Pour into a pan and place over medium heat. Cover and cook, stirring often, until thick, about 15 minutes.
- ✓ **Grill:** Preheat grill. Brush eggplant slices lightly with extra-virgin olive oil. Place over medium-high heat and grill, turning once, until browned, about 8 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Brush both sides of eggplant slices with 2 teaspoons extra-virgin olive oil and arrange on a baking sheet or pan large enough to hold them in a single layer. Roast, turning once halfway through cooking, until tender, about 15 minutes.
- ✓ **Sauté:** Cut eggplant slices into cubes; mix with 2 teaspoons salt. Let stand for 5 minutes, then blot dry with paper towels. Heat 2 teaspoons extra-virgin olive oil in a large skillet over medium heat. Add the eggplant; cook until tender, stirring often, about 4 minutes.

## *Fennel*

**Look for:** Small, white, unbruised bulbs with brilliant green stalks and feathery fronds.

**Prep:** Cut off the stalks and fronds where they meet the bulb, remove any damaged outer layers, cut 1/4 inch off the bottom and remove the core.

- ✓ **Braise:** Slice bulb into 1-inch pieces. Heat 1 tablespoon extra-virgin olive oil in a large skillet over medium heat. Add fennel and 2 teaspoons dried rosemary, crushed. Cook 1 minute, stirring constantly. Add 1/2 cup dry white wine (or dry vermouth). Cover, reduce heat and cook until tender, about 15 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Slice bulb into 1/4-inch pieces. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until tender and beginning to brown, 18 to 20 minutes.
- ✓ **Steam:** Slice bulb into 1-inch pieces. Place in a steamer basket over 2 inches of water (with 1 teaspoon mustard seeds and bay leaves added to it) in a large pot set over high heat. Cover and steam until tender, about 15 minutes.

## *Green Beans*

**Look for:** Small, thin, firm beans.

**Prep:** Snip off stem ends.

- ✓ **Microwave:** Place beans in a large glass baking dish. Add 1/4 cup broth (or water). Cover and microwave on High for 4 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Spread beans on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 1 tablespoon extra-virgin olive oil. Roast, turning once halfway through cooking, until tender and beginning to brown, about 10 minutes.
- ✓ **Sauté:** Heat 2 teaspoons walnut oil in a large skillet. Add beans; cook, stirring constantly, for 2 minutes.
- ✓ **Steam:** Place beans in a steamer basket over 1 inch of water in a large pot set over high heat. Cover and steam for 5 minutes.

## *Leeks*

**Look for:** Long, thin stalks that do not bend and are not bruised; the outer layers should not be wrinkly or dried out.

**Prep:** Trim off the thick green leaves, leaving only the pale green and white parts; pull off damaged outer layers, leaving the root end intact. Split in half lengthwise. Under cold running water, fan out inner layers to rinse out grit and sand.

- ✓ **Braise:** Place leeks in a large skillet with 1/2 cup vegetable (or chicken broth), 1 sprig fresh rosemary (or 6 juniper berries and 6 black peppercorns). Bring to a simmer over high heat. Cover, reduce heat and cook until tender, about 12 minutes. Serve warm or cold with a vinaigrette dressing.
- ✓ **Grill:** Preheat grill. Brush leeks with 1-tablespoon extra-virgin olive oil. Place over direct, medium heat and grill, turning occasionally, until lightly browned, about 8 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Trim off root ends of leeks, slice in half crosswise and then into 1/4-inch-thick slices lengthwise. Spread on a baking sheet or pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, stirring once halfway through cooking, until browned and tender, 10 to 15 minutes.
- ✓ **Sauté:** Thinly slice leeks into half-moons. Heat 1-tablespoon butter in a large skillet over medium heat. Add leeks; cook, stirring often, until softened and very aromatic, about 5 minutes.

## *Peas*

**Look for:** If fresh, look for firm, vibrant green pods without blotches and with the stem end still attached.

**Prep:** If fresh, zip open the hull, using the stem end as a tab. If frozen, do not defrost before using.

- ✓ **Microwave:** Place peas in a glass baking dish or microwave-safe bowl; add 2 tablespoons broth (or unsweetened apple juice). Cover tightly and microwave on High for 2 minutes.
- ✓ **Sauté:** Heat 2 teaspoons butter in a large skillet over medium heat. Add peas; cook, stirring often, until bright green, about 3 minutes.
- ✓ **Steam:** Place peas in a steamer basket over 1 inch of water in a large pot set over high heat. Cover and steam for 2 minutes.

## *Potatoes, red-skinned or yellow-fleshed*

**Look for:** Small potatoes with firm skins that are not loose, papery or bruised.

**Prep:** Scrub off any dirt (peeling is optional; the skin is fiber-rich and the nutrients are clustered about 1/2 inch below the skin).

- ✓ **Braise:** Cut potatoes into 1/2-inch pieces. Place in a large skillet with 1/2 cup each vegetable broth and nonfat milk and 1 teaspoon butter. Bring to a simmer, cover, reduce heat and cook until tender and most of the liquid has been absorbed, about 20 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Halve potatoes then cut into 1/2-inch wedges. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, stirring once halfway through cooking, until crispy and browned on the outside and tender on the inside, 20 to 25 minutes.
- ✓ **Sauté:** Peel potatoes (if desired), then shred using the large-hole side of a box grater. Heat 1 tablespoon canola oil in a large skillet over medium heat. Add potatoes; reduce heat. Cook, pressing down with the back of a wooden spoon, for 6 minutes. Flip the cake over and continue cooking until browned, about 5 minutes more.
- ✓ **Steam:** Place potatoes in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and steam until tender when pierced with a fork, about 10 minutes.

## *Spinach & Chard*

**Look for:** Supple, deeply colored leaves without mushy spots.

**Prep:** Rinse thoroughly to remove sand; remove thick stems and shred leaves into 2-inch chunks. Rinse leaves again but do not dry.

- ✓ **Braise:** Heat 2 teaspoons walnut oil (or canola oil) in a large skillet over medium heat. Add spinach or chard and toss until wilted. Add 1/2 cup dry white wine or dry vermouth. Cover, reduce heat and cook until wilted, about 5 minutes. Uncover and cook until liquid is reduced to a glaze. Sprinkle 2 teaspoons balsamic vinegar (or rice vinegar) over the greens.

## *Squash*

**Look for:** Green, orange or white varieties with firm, smooth skins and no spongy spots.

**Prep:** Cut in quarters and scoop out the seeds.

- ✓ **Braise:** Place squash in a pot with 2 cups unsweetened apple juice. Set over medium-high heat and bring to a simmer. Cover, reduce heat and cook until tender when pierced with a fork, about 20 minutes.
- ✓ **Microwave:** Place squash in a large glass baking dish; add 1/2 cup water. Cover and microwave on High for 15 minutes; let stand, covered, for 10 minutes.

## *Zucchini Squash*

**Look for:** No breaks, gashes or soft spots; smaller squash (under 8 inches) are sweeter and have fewer seeds; do not peel, but scrub off any dirt.

**Prep:** Cut off stem ends.

- ✓ **Grill:** Cut squash lengthwise into 1/4-inch strips. Preheat grill; brush strips lightly with 1 tablespoon extra-virgin olive oil. Place over direct, medium heat; grill, turning once, until marked and lightly browned, 3 to 4 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Cut squash lengthwise into 1/4-inch-thick slices. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until tender, about 10 minutes.
- ✓ **Sauté:** Cut squash into 1/4-inch-thick rings. Heat 1 tablespoon extra-virgin olive oil in a large skillet over medium heat. Add 1 minced garlic clove and squash; cook, stirring frequently, until tender, about 7 minutes.
- ✓ **Steam:** Cut squash into 1/2-inch-thick rings. Place in a steamer basket with a small onion, thinly sliced. Place over 1 inch of water in a large pot set over high heat. Cook until tender, about 5 minutes.

## *Sweet Potatoes*

**Look for:** Taut if papery skins with tapered ends.

- ✓ **Braise:** Peel sweet potatoes and cut into 1-inch pieces. Place in a large skillet with 1 cup vegetable broth, 1 teaspoon honey and 1/2 teaspoon dried thyme. Bring to a simmer over high heat; reduce heat, cover and cook until almost tender, about 15 minutes. Uncover, increase heat and cook until the liquid is reduced to a glaze, about 2 minutes.
- ✓ **Microwaving:** Place 2 to 3 medium sweet potatoes in a large glass baking dish; pierce with a knife. Microwave on High until soft, 8 to 12 minutes. Let stand for 5 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Halve sweet potatoes, then slice into 1/2-inch wedges. Spread on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until browned and tender, 20 to 25 minutes.
- ✓ **Steam:** Peel sweet potatoes and cut into 1-inch pieces. Place in a steamer basket over 2 inches of water in a pot set over high heat. Cover and steam until tender, about 20 minutes.

## *Turnips*

**Look for:** Smaller turnips with firm, white skins; they should feel heavy to the hand. The greens should preferably still be attached.

**Prep:** Cut off the root end and the greens; peel, then cut into thin slices.

- ✓ **Grill:** Steam turnip slices (see below) for 5 minutes; meanwhile, preheat grill. Place slices over direct, medium-high heat and grill, turning once, until lightly browned and tender, about 8 minutes.
- ✓ **Roast:** Preheat oven to 500°F. Spread turnip slices on a baking sheet or in a pan large enough to hold them in a single layer. Coat with 2 teaspoons extra-virgin olive oil. Roast, turning once halfway through cooking, until tender, about 15 minutes.
- ✓ **Sauté:** Cut turnip slices into matchsticks. Heat 1 teaspoon each butter and extra-virgin olive oil in a large skillet over medium heat; add slices and cook, stirring frequently, until tender, about 12 minutes.
- ✓ **Steam:** Place turnip slices in a steamer basket over 2 inches of water in a large pot set over high heat. Cover and cook until tender when pierced with a fork, about 12 minutes.

## Measurement and conversion charts

### *Formulas for Exact measurement*

	WHEN YOU KNOW:	MULTIPLY BY:	TO FIND:
Mass (weight)	Ounces	28.35	grams
	Pounds	0.45	kilograms
	Grams	0.035	ounces
	Kilograms	2.2	pounds
Volume (capacity)	teaspoons	5.0	milliliters
	Tablespoons	15.0	milliliters
	Fluid ounces	29.57	milliliters
	Cups	0.24	liters
	Pints	0.47	liters
	Quarts	0.95	liters
	Gallons	3.785	liters
	Milliliters	0.034	fluid ounces
Temperature	Fahrenheit	5/9 (after subtracting 32)	Celsius
	Celsius	9/5 (then add 32)	Fahrenheit

### *Rounded Measurement for Quick Reference*

1 oz.		= 30 g
4 oz.		= 120 g
8 oz.		= 240 g
16 oz.	= 1 lb.	= 480 g
32 oz.	= 2 lb.	= 960 g
36 oz.	= 2¼ lb.	= 1000 g (1 kg)
1/4 tsp.	= 1/24 fl. oz.	= 1 ml
½ tsp.	= 1/12 fl. oz.	= 2 ml
1 tsp.	= 1/6 fl. oz.	= 5 ml
1 Tbsp.	= 1/2 fl. oz.	= 15 ml
1 C.	= 8 fl. oz.	= 240 ml
2 c. (1 pt.)	= 16 fl. oz.	= 480 ml
4 c. (1 qt.)	= 32 fl. oz.	= 960 ml
4 qt. (1 gal.)	= 128 fl. oz.	= 3.75 lt
32°F		= 0°C
122°F		= 50°C
212°F		= 100°C

### *Conversion Guidelines*

1 gallon	4 quarts
	8 pints
	16 cups (8 fluid ounces)
	128 fluid ounces
1 fifth bottle	approximately 1 ½ pints or exactly 26.5 fluid ounces



1 measuring cup	8 fluid ounces (a coffee cup generally holds 6 fluid ounces)
1 large egg white	1 ounce (average)
1 lemon	1 to 1 ¼ fluid ounces of juice
1 orange	3 to 3½ fluid ounces of juice

Scoop Sizes

Scoop Number	Level Measure
6	2/3 cup
8	1/2 cup
10	2/5 cup
12	1/3 cup
16	1/4 cup
20	3 1/5 tablespoons
24	2 2/3 tablespoons
30	2 1/5 tablespoons
40	1 3/5 tablespoons

The number of the scoop determines the number of servings in each quart of a mixture: for example, with a No. 16 scoop, one quart of mixture will yield 16 servings.

Ladle Sizes

Size	Portion of a Cup	Number per Quart	Number per Liter
1 fl. oz.	1/8	32	34
2 fl. oz.	1/4	16	17
2 2/3 fl. oz.	1/3	12	13
4 fl. oz.	1/2	8	8.6
6 fl. oz.	3/4	5 1/3	5.7

Canned Goods

SIZE	NO. OF CANS PER CASE	AVERAGE WEIGHT	AVERAGE NO. CUPS PER CAN
No. ¼	1 & 2 doz.	4 oz.	1/2
No. ½	8	8 oz.	1
No. 300	1 & 2 doz.	14 oz.	1 3/4
No. 1 tall (also known as 303)	2 & 4 doz.	16 oz.	2
No. 2	2 doz.	20 oz.	2 1/2
No. 2½	2 doz.	28 oz.	3 1/2
No. 3	2 doz.	33 oz.	4
No. 3 cylinder	1 doz.	46 oz.	5 2/3
No. 5	1 doz.	3 lb. 8 oz.	5 1/2
No. 10	6	6 lb. 10 oz.	13

## *Types of Rice*

**White Rice** has been milled to remove the outer husk, the bran, and the germ. Though less nutritious, white rice has some advantages over brown rice: it stores longer and cooks faster. White rice comes in short-, medium-, and long-grain varieties.

**Brown rice** has been given the lightest touch in terms of processing. It is the whole grain version with just the outer husk removed, leaving the nutrient-rich bran and germ. It is nutty, chewy, and more nutritious than white rice. Brown rice comes in short-, medium-, and long-grain varieties. Sweet brown rice is a short-grain, starchy brown rice that becomes very soft and sticky when it's cooked, and is popular in Asian cuisines.

**Black rice** is a highly nutritious source of iron, vitamins, antioxidants, and fiber. It actually turns purple when you cook it.

**Aromatic rice** have a distinctive perfumy aroma when cooked. Popular examples are basmati (India) Jasmine (Thailand), Texmati (Texas), and Wehani and pecan wild rice (both from Louisiana).

**Arborio rice** is a medium-short-grain, starchy white rice, used most famously to make risotto. Continuously stirring risotto helps the rice give up starch that helps thicken the dish. Arborio rice is most easily found in the market, but other risotto rice varieties include Carnaroli, Vialone Nano, and Baldo.

**Sticky rice**, or “glutinous rice,” is a short-grained rice that is typically used in Asian specialties such as sushi. In addition, no, there is no gluten in glutinous rice.

**Wild rice** is actually the seed of a grass plant, and so not a “true” rice, though it is often found in rice blends and pilaf mixes. Wild rice has a nutty flavor and a chewy bite. Instant or quick rice is cooked before being dehydrated and packaged. While it is fast, it lacks the flavor and texture of regular rice.

*Cooking Guide for Beans*

Dried Beans	Cooked Beans
1/3 cup	= 1 cup
1/2 cup	= 1 1/2 cups
2/3 cup	= 2 cups
1 cup	= 3 cups
2 cups (1lb)	= 6 cups

*Dried Bean Varieties*

ADZUKI (or aduki) beans are a Japanese favorite and have a flavor similar to red beans. Sweet and relatively easy to digest. Delicious in soups, rice dishes and salads. Substitutes: red, pinto or cranberry beans.

ANASAZI beans are excellent soup beans for their flavor and appearance. Sweet and fast cooking; they have been used in southwestern recipes for hundreds of years. Great for making refried beans. Substitutes: pinto or cranberry beans.

BLACK-EYED PEAS are a traditional dish in the southern states, usually cooked with ham bones or bacon and served with hot sauce. Also called cowpeas, they are also used in soups, salads, fritters, casseroles and in the dish Hoppin' John.

BLACK TURTLE beans have a strong, earthy flavor and are a staple of Latin American and Caribbean cuisine, where they are used to make side dishes, soups, bean dips and salads. Substitutes: appaloosa or calypso beans.

CANNELLINI beans, also called white kidney beans, are often used in Italian recipes including minestrone soup and bean salads. They have a smooth texture and nutty flavor. Substitutes: red kidney, great northern or navy beans.

CRANBERRY beans are known for their creamy texture with a flavor similar to chestnuts. These beans are a favorite in northern Italy and Spain. Substitutes: cannellini, great northern and pinto beans.

FAVA beans are meaty and strongly flavored, and work well in side dishes, soups and salads. The skins must be removed from the beans after soaking and before cooking . Substitutions: lima, garbanzo or soy beans.

GARBANZO beans, also known as chickpeas, combine perfectly with a variety of seasonings to produce Mediterranean falafel, hummus, creative soups and nutritious salads.

GREAT NORTHERN beans have a delicate, distinctive flavor, and are often used in cassoulets and stews. Substitutes: navy, cannellini or lima beans.

KIDNEY beans are versatile and delicious, and are often used in chili, refried beans, soups and salads. Substitutes: cannellini, navy, red or pinto beans.

LENTILS come in a variety of colors, including brown, green and orange. They are a staple in much of the Middle East and India, and can be used in side dishes, soups, stews and salads.

LIMA beans are sometimes called butter beans, due to their starchy yet buttery flavor. They are used alone as a side dish and in soups. In the South they are served with corn as succotash. Substitutes: soy, navy or fava beans.

MUNG beans are small and green, and they're often sprouted to make bean sprouts. When skinned and split, the beans are flat and yellow, and called moong dal. Substitute: adzuki.

NAVY beans are the common bean in commercially canned pork and beans. They make wonderful soups, salads and chili, and are used for making Boston baked beans. Substitutes: great northern, lima or cannellini beans.

PINTO beans are great in chili and as refried beans, and make a terrific filling for burritos. They are often served with rice and are popular in Spanish-speaking countries. Substitutes: red kidney or cranberry beans.

SOY BEANS are very nutritious, and are used to make vegetable oil, tofu, soy sauce, meat alternatives, soy milk and cheese. Use in soups, stews and casseroles.

SPLIT PEAS can be green or yellow, and are varieties of field peas that split when dried. They are most commonly used in thick soups and stews. Yellow split peas have a milder flavor.

### KITCHEN WIEGHT AND MEASURES

1 pinch	= 1/8 teaspoon
<u>3</u> teaspoons	= <u>1</u> tablespoon (teaspoon – tsp / Tablespoon = tbsp.)
<u>2</u> tablespoons	= <u>1</u> ounce
<u>1</u> cup	= <u>8</u> ounces / 16 tbsp.
$\frac{3}{4}$ cup	= 6 ounces / 12 tbsp.
$\frac{1}{2}$ cup	= 4 ounces / 8 tbsp.
$\frac{1}{4}$ cup	= 2 ounces / 4 tbsp.
16 ounces	= 1 pound
2 cups	= 1 pint / 16 oz.
4 cups	= 1 quart / 32 oz.
16 cups	= 1 gallon / 128 oz.
2 quarts	= $\frac{1}{2}$ gallon / 64 oz.
4 quarts	= 1 gallon

### METRIC CONVERSIONS

1 gram	= 0.03527 oz.
1 kilogram	= 2.2 pounds
<u>28.35</u> grams	= <u>1</u> ounce / 2 tbsp.
<u>453.6</u> g.	= 1 pound
<u>5</u> milliliters	= 1 teaspoon
<u>15</u> milliliters	= 1 tablespoon
<u>240</u> milliliters	= <u>1</u> cup
0.4732 liters	= 1 pint
0.951 liters	= 1 quart
1 liter	= 1.06 quarts

### FOOD QUANTITY NEEDED

- (1) Number to be served X portions size = number of ounces needed  
 Number of ounces needed / 16 (ounces per pound) = pounds needed

EXAMPLE: 25 hamburgers, 8 oz. each. SO.... 8oz X 25 = 200 ounces needed. So....200oz. / 16oz (1 lb.) = 12.5 pounds of hamburger needed.

### RECIPE CONVERSION

Must know: (1) number of servings – recipe yield, and (2) # of servings needed.

- **More servings than the recipe** - recipe yield divided into number of servings needed is the amount needed.
- **Fewer servings needed than the recipe yields** - divide number of servings needed divided by recipe yield is the percentage to reduce the recipe by.

#### EXAMPLES:

(1) Recipe yields 6 servings – you need 24 servings SO...  $24 / 6 = 4$  times the recipe amounts.

(2) Recipe yields 24 servings and you need 6 servings So....  $6 \text{ servings} / 24 \text{ servings} = 25\%$  of recipe ingredients. Or –  $6/6 = 1$      $24/6 = 4$  = ratio 1 to 4 or 25%

*Cooking Grain*

1 Cup of Grain	Water	Cook Time	Cooked Amount
Amaranth	2 cups	25–25 minutes	3½ cups
Barley, hulled	3 cups	45–60 minutes	3½ cups
Buckwheat	2 cups	20 minutes	4 cups
Bulgur	2 cups	10–12 minutes	3 cups
Cornmeal	4 cups	25–30 minutes	2½ cups
Couscous	2 cups	10 minutes (heat off)	3 cups
Millet, hulled	2½ cups	20 minutes	4 cups
Oats, steel cut	4 cups	20 minutes	4 cups
Pasta	6 cups	8–12 minutes	varies
Quinoa	2 cups	12–15 minutes	3+ cups
Brown Rice	2½ cups	45 minutes	3–4 cups
Rye berries	4 cups Soak	45–60 minutes	3 cups
Sorghum	4 cups	25–40 minutes	3 cups
Spelt berries	4 cups Soak	45–60 minutes	3 cups
Teff	3 cups	15–20 minutes	3 cups
Wheat berries	4 cups Soak	45–60 minutes	3 cups
Wild Rice	3 cups	45–55 minutes	3½ cups



## PROFESSIONAL ASSOCIATIONS

American Culinary Association (ACF), [www.acfchefs.org](http://www.acfchefs.org)  
 American Dietetic Association (ADA), [www.eatright.org](http://www.eatright.org)  
 American Hotel and Lodging Association (AHLA), [www.ahla.org](http://www.ahla.org)  
 American Institute of Baking (AIB), [www.aibonline.org](http://www.aibonline.org)  
 American Institute of Wine and Food (AIWF), [www.aiwf.org](http://www.aiwf.org)  
 American Personal Chef Association (APCA), [www.personalchef.com](http://www.personalchef.com)  
 American Society for Healthcare Food Service Administrators (ASHFSA), [www.ashfsa.org](http://www.ashfsa.org)  
 Black Culinarian Alliance (BCA), [www.blackculinarians.com](http://www.blackculinarians.com)  
 Bread Bakers Guild of America, [www.bbga.org](http://www.bbga.org)  
 Club Managers Association of America (CMAA), [www.cmaa.org](http://www.cmaa.org)  
 Confrerie de la Chaine des Rotisseurs, [www.chaineus.org](http://www.chaineus.org)  
 Dietary Managers Association (DMA), [www.dmaonline.org](http://www.dmaonline.org)  
 Foodservice Consultants Society International (FCSI), [www.fcsi.org](http://www.fcsi.org)  
 Foodservice Educators Network International (FENI), [www.feni.org](http://www.feni.org)  
 Food Truck Operation, [Foodtruckoperators.com](http://Foodtruckoperators.com)  
 Institute of Food Technologists (IFT), [www.ift.org](http://www.ift.org)  
 International Association of Culinary Professionals (IACP), [www.iacp.com](http://www.iacp.com)  
 International Caterers Association, [www.icacater.org](http://www.icacater.org)  
 International Council of Cruise Lines, [www.iccl.org](http://www.iccl.org)  
 International Council on Hotel and Restaurant Institutional Education (ICHRIE), [www.chrie.org](http://www.chrie.org)  
 International Food Service Executives Association (IFSEA), [www.ifsea.com](http://www.ifsea.com)  
 International Foodservice Manufacturers Association (IFMA), [www.ifmaworld.com](http://www.ifmaworld.com)  
 International Inflight Food Service Association (IFSA), [www.ifsanet.com](http://www.ifsanet.com)  
 Les Dames d'Escoffier International, [www.ldei.org](http://www.ldei.org)  
 National Association of College and University Foodservice (NACUFS), [www.nacufs.org](http://www.nacufs.org)  
 National Association of Foodservice Equipment Manufacturers (NAFEM), [www.nafem.org](http://www.nafem.org)  
 National Association for the Specialty Food Trade (NASFT), [www.fancyfoodshows.com](http://www.fancyfoodshows.com)  
 National Food Processors Association, [www.nfpa-food.org](http://www.nfpa-food.org)  
 National Ice Carving Association (NICA), [www.nica.org](http://www.nica.org)  
 National Restaurant Association, [www.restaurant.org](http://www.restaurant.org)  
 National Society for Healthcare Foodservice Management (HFM), [www.hfm.org](http://www.hfm.org)  
 Research Chefs Association (RCA), [www.culinology.com](http://www.culinology.com)  
 Retailer's Bakery Association (RBA), [www.rbanet.com](http://www.rbanet.com)  
 School Nutrition Association (SNA), [www.schoolnutrition.org](http://www.schoolnutrition.org)  
 Societe Culinaire Philanthropique, [www.societeculinaire.com](http://www.societeculinaire.com)  
 Society for Foodservice Management (SFM), [www.sfm-online.org](http://www.sfm-online.org)  
 United States Personal Chef Association (USPCA), [www.uspca.com](http://www.uspca.com)  
 Women's Foodservice Forum (WFF), [www.womensfoodserviceforum.com](http://www.womensfoodserviceforum.com)  
 Women Chefs and Restaurateurs, [www.womenfhfs.org](http://www.womenfhfs.org)



## INDUSTRY RESOURCES



Agri Beef [www.agrib Beef.com/education/](http://www.agrib Beef.com/education/)  
American Lamb Board [www.americanlamb.com/chefs-corner/curriculumlamb/](http://www.americanlamb.com/chefs-corner/curriculumlamb/)  
Butterball Foodservice [www.butterballfoodservice.com](http://www.butterballfoodservice.com)  
Maple Leaf Farms [www.mapleleaffarms.com](http://www.mapleleaffarms.com)  
National Cattlemen's Beef Association  
National Pork Board [www.porkfoodservice.org](http://www.porkfoodservice.org)  
National Turkey Federation [www.eatturkey.org](http://www.eatturkey.org)  
North American Meat Institute [www.meatinstitute.org](http://www.meatinstitute.org)

### Seafood

Alaska Seafood Marketing Institute [www.alaskaseafood.org](http://www.alaskaseafood.org)  
Bureau of Seafood and Aquaculture [www.freshfromflorida.com/Recipes/Seafood](http://www.freshfromflorida.com/Recipes/Seafood)  
National Aquaculture Association [thenaa.net](http://thenaa.net)

### Produce

American Egg Board [www.aeb.org](http://www.aeb.org)  
Apricot Producers of California [www.califapricot.com](http://www.califapricot.com)  
Avocados from Mexico [foodservice.avocadosfrommexico.com](http://foodservice.avocadosfrommexico.com)  
California Cling Peach Board [www.calclingpeach.com](http://www.calclingpeach.com)  
California Cling Peach Board [www.calclingpeach.com](http://www.calclingpeach.com)  
California Avocado Commission [www.californiaavocado.com](http://www.californiaavocado.com)  
California Dried Plum Board [www.californiadriedplums.org](http://www.californiadriedplums.org)  
California Endive [www.endive.com](http://www.endive.com)  
California Fig Advisory Board [www.californiafigs.com](http://www.californiafigs.com)  
California Kiwifruit Commission [www.kiwifruit.org](http://www.kiwifruit.org)  
California Pear Advisory Board [www.calpear.com](http://www.calpear.com)  
California Raisin Marketing Board \* Dietary Tool Kit [www.calraisins.org](http://www.calraisins.org)  
California Strawberry Commission [www.calstrawberry.com](http://www.calstrawberry.com)  
California Table Grape Commission [www.tablegrape.com](http://www.tablegrape.com)  
Cherry Marketing Institute [www.choosecherries.com](http://www.choosecherries.com)  
Concord Grape Association [www.concordgrape.org](http://www.concordgrape.org)  
Cranberry Institute [www.cranberryinstitute.org](http://www.cranberryinstitute.org)  
Cranberry Marketing Committee\*Tool Kit [www.uscranberries.com](http://www.uscranberries.com)  
Dole Packaged Foods \*Cost Savings Calculator [www.dolefoodservice.com](http://www.dolefoodservice.com)  
Florida Dept. of Citrus [www.floridajuce.com](http://www.floridajuce.com)  
Hass Avocado Board \*Tool Kit [www.avocadocentral.com](http://www.avocadocentral.com)

Idaho Potato Commission \*Cost & Sizing Guides [www.idahopotato.com](http://www.idahopotato.com)  
 Leafy Greens Council [www.leafy-greens.org](http://www.leafy-greens.org)  
 Leaf Greens Marketing Association [www.lgma.ca.gov/](http://www.lgma.ca.gov/)  
 Louisiana Sweet Potato Commission [www.sweetpotato.org](http://www.sweetpotato.org)  
 Mushroom Council [www.mushroomcouncil.org](http://www.mushroomcouncil.org)  
 National Honey Board \*Teacher Guide [www.honey.com](http://www.honey.com)  
 National Mango Board \*Lesson Plans [www.mango.org](http://www.mango.org)  
 National Onion Association\*Lesson Plans [www.onions-usa.org](http://www.onions-usa.org)  
 National Processed Raspberry Council [www.redrazz.org](http://www.redrazz.org)  
 National Watermelon Promotional Board [www.watermelon.org](http://www.watermelon.org)  
 NC Sweet Potato Commission [www.ncsweetpotatoes.com](http://www.ncsweetpotatoes.com)  
 New York Apple Association [www.nyapplecountry.com](http://www.nyapplecountry.com)  
 North American Blueberry Council [www.blueberry.org](http://www.blueberry.org)  
 Northwest Cherry Growers [www.nwcherries.com](http://www.nwcherries.com)  
 Olives from Spain [olivesfromspain.us/](http://olivesfromspain.us/)  
 Oregon Raspberries and Blackberries [www.oregon-berries.com](http://www.oregon-berries.com)  
 Pacific Northwest Canned Pear Service [www.eatcannedpears.com/](http://www.eatcannedpears.com/)  
 Pear Bureau Northwest [www.usapears.com](http://www.usapears.com)  
 Pomegranate Council [www.pomegranates.org](http://www.pomegranates.org)  
 Potatoes USA [www.PotatoGoodness.com](http://www.PotatoGoodness.com)  
 Produce for Better Health Foundation [www.5aday.com](http://www.5aday.com)  
 The Soyfoods Council [www.thesoyfoodscouncil.com](http://www.thesoyfoodscouncil.com)  
 U.S. Apple Association [www.usapple.org](http://www.usapple.org)  
 USA Rice Federation [www.menurice.com](http://www.menurice.com)  
 Washington Red Raspberry Commission [www.red-raspberry.org](http://www.red-raspberry.org)  
 Washington State Apple Commission [www.bestapples.com](http://www.bestapples.com)  
 Washington State Potato Commission [www.potatoes.com](http://www.potatoes.com)  
 Wheat Foods Council \*Tool kits and classroom materials [www.wheatfoods.org](http://www.wheatfoods.org)  
 Wild Blueberry Assn. of North America [www.wildblueberries.com](http://www.wildblueberries.com)

## **Oil, Spices and Seasonings**

North American Olive Oil Association \*Classroom materials [www.aboutoliveoil.org](http://www.aboutoliveoil.org)

## **Nuts and Legumes**

Almond Board of California\*Tool Kit [www.almonds.com/food-professionals](http://www.almonds.com/food-professionals)  
 American Pistachio Growers [www.americanpistachios.org/](http://www.americanpistachios.org/)  
 California Walnut Board [www.walnuts.org](http://www.walnuts.org)  
 National Peanut Board [www.nationalpeanutboard.org](http://www.nationalpeanutboard.org)

## **Dairy Products**

Emmi Roth USA \*Pairing information [us.emmi.com/en](http://us.emmi.com/en)

Real CA Milk [www.realcaliforniamilk.com/foodservice/](http://www.realcaliforniamilk.com/foodservice/)

Wisconsin Milk Marketing Board Pairing guides [www.wisdairy.com](http://www.wisdairy.com)

## **Specialty Foods**

New York Wine & Grape Foundation [www.nywine.com](http://www.nywine.com)

Popcorn Board [www.popcorn.org](http://www.popcorn.org)

## **Baking Ingredients**

Guittard Chocolate Company [www.guittard.com](http://www.guittard.com)

Bay State Milling Co. [www.baystatemilling.com](http://www.baystatemilling.com)

## **Manufacturing/Distributors**

Barilla America [www.barilla.com/en-us](http://www.barilla.com/en-us)

Bay State Milling Co.

[www.baystatemilling.com](http://www.baystatemilling.com)

Dole Packaged Foods \*Cost Savings Calculator [www.dolefoodservice.com](http://www.dolefoodservice.com)

Knouse Foods [www.knousefoodservice.com](http://www.knousefoodservice.com)

SYSCO [www.sysco.com](http://www.sysco.com)

Unilever Food Solutions [www.unileverfoodsolutions.us](http://www.unileverfoodsolutions.us)

Verterra Dinnerware [www.verterra.com](http://www.verterra.com)