

# INGREDIENTS

IN THE ABSTRACT ART OF COOKING, INGREDIENTS TRUMP

APPLIANCES . . . —*Bob Blumer*

Using the best-quality ingredients possible is crucial for competing in pastry at a high level, where every detail counts and may make the difference between winning and losing. The following is information on choosing, handling, and storing ingredients that you'll most likely be using during the competition.

## Flours

**ALL-PURPOSE FLOUR** is a blend of hard (high-gluten) and soft (low-gluten) wheats, which produces a flour of medium strength with a protein content of 8 to 12 percent. There are two kinds of all-purpose flour.

**BLEACHED ALL-PURPOSE FLOUR** contains bleaching agents, which whiten the flour and make it easier to blend with ingredients with higher percentages of fat and sugar. A bleached flour produces a slightly more tender cake.

**UNBLEACHED ALL-PURPOSE FLOUR** is creamier in color, slightly heavier, and will yield a firmer crumb.

**BREAD FLOUR** is an unbleached, hard-wheat flour that gives more structure to baked goods. It has a gluten content of 11 to 13 percent.

**CAKE FLOUR** is made from soft winter wheats, and contains less gluten than all-purpose flour, about 6 to 10 percent. It is more refined than all-purpose flour. Cakes made with this flour will have a delicate grain and texture.

**PASTRY FLOUR** has a protein content ranging from 8 to 10 percent and can be used for pie dough, muffins, and pastries.

**SEMOLINA** is a durum wheat flour that is coarsely ground and yellow in color. Its protein content ranges from 12 to 14 percent.

**WHOLE WHEAT FLOUR**, milled from the whole wheat kernel, is sometimes used in combination with other flours, and will provide a nutty flavor and a coarse texture to baked goods.

## STORING AND MEASURING FLOUR

Flour should be stored in airtight containers in a cool, dry place. Store whole wheat flour in an airtight container in the refrigerator. All-purpose and cake flours should be used within 15 months of purchase; whole wheat flour should be used within 6 to 8 months. Flours can be frozen; this might extend their life to up to two years. Double-seal the flour in plastic containers and/or resealable bags before freezing. Always measure flour by weight.

## Sweeteners

**GRANULATED SUGAR** is pure refined sucrose derived from sugarcane or sugar beets. With small, even crystals, it is the most common form of sweetener used by the pastry chef.

**SUPERFINE GRANULATED SUGAR**, also known as caster sugar, has very fine crystals that allow it to dissolve quickly. It is sometimes used in cake batters and meringues. Because it is used frequently in the preparation of cocktails, it is also known as bar sugar. It can be substituted for granulated sugar in equal amounts in recipes.

**PEARL SUGAR** has large, pearl-shaped crystals and is used for decorating baked goods.

**CONFECTIONERS' SUGAR**, also called powdered sugar, is granulated sugar that has been processed commercially to a fine powder. Although a small amount of cornstarch is added to prevent clumping (up to 3 percent by weight), it should be sifted before use. Confectioners' sugar is available in different grades, according to fineness (10-X sugar is finer than 6-X sugar).

**BROWN SUGAR** is granulated sugar with molasses added. There are two basic types: light and dark. Light brown sugar has a more delicate flavor and lighter color than its darker counterpart, which contains more molasses (dark brown sugar has about 6.5 percent molasses while light brown sugar contains about 3.5 percent). Because it has a tendency to dry out and become rock-hard, brown sugar should be stored tightly wrapped in a plastic bag inside an airtight container.

**DEMERARA SUGAR** is an unrefined sugar with a large grain, blond color, and creamy molasses flavor.

**MUSCOVADO SUGAR** is a dark cane sugar with a fine, moist texture and a lingering, musky molasses flavor.

**TURBINADO SUGAR** is a coarse-textured, pale blond, raw sugar with a delicate molasses flavor.

**SANDING SUGAR** is fine granulated sugar, which is available in a variety of textures and colors. It is ideal for decorating cakes and other pastries after baking.

**ISOMALT** is a white, crystalline substance that is a sugar substitute. It is made from sucrose and is used in diabetic baking. It is also used extensively for pulled sugar because it absorbs very little water and does not break down when heated.

**CORN SYRUP** is a thick, sweet syrup made from cornstarch processed with enzymes or acids. It contains 15 to 20 percent glucose, other sugars, water, and flavorings. There are two types: light and dark. In general, the light and dark varieties can be used interchangeably. The dark has a richer flavor, reminiscent of brown sugar.

**GLUCOSE SYRUP**, like corn syrup, is made through the conversion of starch into sugar. Glucose syrup is 42 DE (dextrose equivalence) corn syrup and is used in sauces, confections, and pulled sugar.

**MOLASSES**, a by-product of the sugar-refining process, is a thick, brownish black syrup with a distinctive, hearty flavor. It comes in three forms: unsulphured, sulphured, and blackstrap. Unsulphured has a relatively mild flavor, while sulphured molasses has a more pronounced flavor and darker color. Blackstrap molasses has the strongest flavor and darkest color of the three.

**GOLDEN SYRUP**, also known as refiner's syrup, is a thick, delicious, golden syrup that is a by-product of the sugar-refining process. It can be used interchangeably with light corn syrup.

**HONEY** is a golden syrup with a slightly higher sweetening power than sugar and a distinct flavor. Its flavor varies depending on the flowers the bees fed on, and it can range from pale and mild to dark amber and robust.

**MAPLE SYRUP** is made from the concentrated sap of the sugar maple tree. It is available in different grades, ranging from Grade AA, which is thin in texture and mild in flavor, to Grade C, which is thick and robust.

**INVERT SYRUP**, also known as inverted syrup or Trimoline, is derived from sucrose that has been split into glucose and fructose, and is manufactured by adding an acid to sucrose. Products made with invert syrup, such as sorbet, are less prone to crystallization than those made with standard sugar.

# Sugar Syrup Stages

Precise temperatures vary in sugar conversion tables. Below are the basic stages you will need for the recipes in this book.

**215° TO 230°F (102° TO 110°C) · THREAD STAGE.** When you dip a metal spoon into the syrup, a thin thread drips from its edge.

**234° TO 240°F (112° TO 115°C) · SOFT BALL STAGE.** When you drip a small amount of the syrup into a bowl of ice water, you will be able to form a very soft, malleable ball, which may not hold its shape. This syrup is used for French-style buttercreams.

**244° TO 248°F (116° TO 120°C) · FIRM BALL STAGE.** When you drip a small amount of the syrup into a bowl of ice water, you will be able to form a firm, flexible ball that holds its shape.

**250° TO 265°F (122° TO 130°C) · HARD BALL STAGE.** When you drip a small amount of the syrup into a bowl of ice water, you will be able to form a hard ball that is slightly malleable.

**270° TO 290°F (132° TO 144°C) · SOFT CRACK STAGE.** When you drip a small amount of syrup into a bowl of ice water, a string of syrup will form; it will crack when broken, but is still pliable.

**300° TO 310°F (150° TO 155°C) · HARD CRACK STAGE.** When you drip a small amount of syrup into a bowl of ice water, a brittle string of syrup will form; it will crack when broken and is not at all pliable.

**320° TO 338°F (160° TO 170°C) · LIGHT CARAMEL STAGE.** The color of the syrup changes from gold to light amber brown.

**338° TO 356°F (170° TO 180°C) · MEDIUM CARAMEL STAGE.** The color of the syrup changes from light amber to medium amber brown.

**356° TO 374°F (180° TO 190°C) · DARK CARAMEL STAGE.** The color of the syrup changes from medium amber to dark amber brown and begins to smoke.

## Thickeners and Gelling Agents

**GELATIN** is made from the bones, skin, and connective tissue of animals, and is available in sheet or granulated form. It is used in many pastry components as a gelling agent, stabilizer, thickener, and foaming agent. Sheet gelatin is available in different bloom strengths or grades.

**PECTIN** is a gelling agent extracted from citrus fruits or apple skins. It is commonly used as a thickener for jams and jellies, but is also used for a variety of confections and sauces. Pectin is available in powdered or liquid form.

**AGAR AGAR** is a gelling agent derived from the cell walls of sea vegetables. It has very strong gelling properties and is used as a gelatin substitute.

**POTATO STARCH**, also known as potato flour, is made from potatoes that are cooked, dried, and ground into a fine powder. It is a very refined starch that, when cooked, yields good clarity and binding strength.

**CORNSTARCH**, made from ground corn, is primarily used as a thickening agent in sauces and custards, though it is also used with flour to produce a tender crumb in cakes and other baked goods. Cornstarch is also used as an anticaking agent in confectioners' sugar.

**TAPIOCA** is a starch derived from the root of the cassava (or manioc) plant and is used worldwide as a thickening agent. It is available as flour, flakes, granules, and pearls.

## Dairy Products

**MILK** is sold today homogenized and pasteurized, and it is labeled according to its milk-fat content.

**WHOLE MILK** contains at least 3 percent milk fat.

**REDUCED-FAT MILK** contains 2 percent milk fat.

**LOW-FAT MILK** contains 1 percent milk fat.

**FAT-FREE MILK** contains less than 0.1 percent milk fat.

**NONFAT DRY MILK** is made by removing the water from defatted milk.

**EVAPORATED MILK** is whole or fat-free milk that is heated in a vacuum to remove about 60 percent of its water content.

**SWEETENED CONDENSED MILK** is evaporated milk with added sugar, which yields a very thick, sweet product that is sold in cans.

**BUTTERMILK** was originally the by-product of churning milk into butter, but is now usually made by adding a bacterial strain to nonfat milk. Buttermilk has a thick texture and slightly sour flavor.

**YOGURT** is a cultured milk product that is made from whole, low-fat, or nonfat milk and is available plain or flavored. Greek yogurt is yogurt that has been strained to remove the whey, giving it a very thick consistency.

**CREAM** contains at least 18 percent milk fat and, like milk, is also homogenized and pasteurized. It is sometimes ultrapasteurized to extend its shelf life. Many pastry chefs prefer cream that has not been ultrapasteurized because it reaches a greater volume when whipped.

**HEAVY** or **WHIPPING CREAM** must contain at least 35 percent milk fat.

**LIGHT CREAM** contains between 16 and 32 percent milk fat.

**SOUR CREAM** is cultured cream that contains 16 to 22 percent fat.

**CRÈME FRAÎCHE** is made by adding a bacterial culture to cream that has about 28 percent butterfat. It has a higher fat content and is less thick than sour cream.

## Eggs

Eggs bring richness and moisture to baked goods, as well as structure. Egg yolks, rich in fat, are generally used in baking as a thickener and binder, but they also make cakes tender. Egg whites, high in protein, are often whipped and used to add volume and air to cakes and other baked goods.

Eggs are graded for quality and freshness as AA, A, or B. Grade AA is best for baking; it has a thick white and strong yolk. Eggs should be stored in the coldest part of the refrigerator, in their original carton, with the more pointed end down. Because of the potential threat of salmonella poisoning, keep eggs refrigerated until shortly before using them. Bring the eggs to room temperature by setting them in a bowl of very warm water for 10 to 15 minutes (dry the shells before cracking the eggs). Do not use eggs with cracked shells.

Pasteurized eggs are available as whole eggs, yolks, or whites, and in refrigerated or frozen liquid form. They are also available in dried or powdered form.

# Fats

Fats make baked goods rich and tender and provide aeration to help leaven batter or dough. They also add flavor and moisture, act as emulsifiers, and lubricate the gluten in flour. There are several types of fat, each with its own properties that result in particular flavors and textures.

**BUTTER** has great creaming abilities and flavor that make it the most important fat for baking. It is produced in salted and unsalted forms. Always use unsalted butter in baking, as it permits you to control the salt content in a recipe. Butter can be stored, wrapped in plastic, in the freezer for up to 6 months.

By law, American butter must contain at least 80 percent butterfat. Some pastry chefs use butter with a higher butterfat content—up to 86 percent—and some of the recipes in this book specify this higher-fat butter.

**SOLID VEGETABLE SHORTENING** is 100 percent fat and contains no water or minerals. It is soft and has the ability to surround air bubbles well, providing good aeration in batters. Since it is flavorless, shortening should be used in combination with butter.

**VEGETABLE OIL** is used in many cakes, notably the chiffon cake, and makes for a very tender crumb.

# Chocolate

To store chocolate, wrap it first in plastic wrap, then in heavy-duty aluminum foil, and place it in an airtight container. Ideally, chocolate should be stored in a cool, dry place with a consistent temperature of around 65°F (18°C). White chocolate must be stored away from light because of the milk solids it contains. Light will accelerate its oxidation, so that the chocolate may turn rancid overnight. Store it, well wrapped, in a dark place. Properly stored, unsweetened and dark chocolate may keep for as long as 2 years. Milk chocolate will keep for 1 year and white chocolate for 7 or 8 months.

**CACAO NIBS** are edible, crunchy bits of roasted cacao bean. They can add taste and texture to a variety of baked goods and confections.

**COCOA BUTTER**, the natural fat of the cacao bean, is responsible for the incomparable mouthfeel of chocolate. It is frequently used by the pastry chef, along with equal parts of chocolate, for spraying the exterior of desserts to give them a velvet finish.

**COCOA POWDER** is the result of a hydraulic press operation in which virtually all of the cocoa butter is separated from pure chocolate liquor. The cake that results is then ground into fine powder. To produce alkalinized (or Dutch-process) cocoa powder, an alkali such as potassium carbonate is added to the powder in order to neutralize the astringent qualities of the cacao beans.

**UNSWEETENED CHOCOLATE**, also known as baking chocolate, consists of pure chocolate liquor (ground cacao nibs) and lecithin (a stabilizer). It has a cocoa butter content of at least 50 percent.

**BITTERSWEET** and **SEMISWEET CHOCOLATE** must contain at least 35 percent chocolate liquor. These dark chocolates are manufactured with a variety of cacao beans and with different amounts of added ingredients, including extra cocoa butter, sugar, lecithin, and vanilla, so their taste profiles and characteristics vary considerably from brand to brand. While bitter-sweet chocolate generally contains less sugar than semisweet chocolate, there is no standard technical distinction between the two.

**COUVERTURE** is a term that applies to professional-quality coating chocolate with a high percentage of cocoa butter—from 32 to 39 percent. This extra cocoa butter makes it easier to work with the chocolate in melted form, and it can be used to form a thinner shell for enrobing chocolates and confections.

**MILK CHOCOLATE** must contain at least 10 percent chocolate liquor plus a minimum of 3.7 percent milk fat and 12 percent milk solids. Manufacturers also add sugar, cocoa butter, lecithin, and vanilla.

**GIANDUJA** is a blending of pulverized hazelnuts and milk chocolate that is very popular in Italy.

**WHITE CHOCOLATE** is composed of cocoa butter, butterfat, sugar, milk solids, lecithin, and flavorings.

## Leaveners

**BAKING POWDER** is composed of baking soda, cream of tartar, and cornstarch. When combined with a liquid, it releases carbon dioxide. Always use double-acting baking powder, the most common type, which releases some carbon dioxide when it is combined with a liquid and the rest when exposed to oven heat. Baking powder has a shelf life of about a year, after which it loses its strength. To test it, sprinkle some over hot water. If it fizzes, it is still active.

**BAKING SODA** is sodium bicarbonate, which produces carbon dioxide bubbles when combined with an acid such as buttermilk or yogurt. It has an almost indefinite shelf life if stored in a dry place.

**ACTIVE DRY YEAST** is composed of dehydrated, dormant yeast cell granules. It must be proofed or rehydrated to become active before using.

**RAPID RISE YEAST** is dehydrated yeast granules that become extremely active once rehydrated, and then die quickly.

**INSTANT DRY YEAST** is a yeast product that can be used without rehydration, and will cause dough to ferment through all phases of production.

**FRESH YEAST** is sold as a compressed, moist, firm block. It is highly perishable and should be stored in the refrigerator.

## Salt

**TABLE SALT** is available with or without added iodine. It has small, dense grains and is most commonly available to diners in salt shakers around the world. Table salt does not adhere easily to food and it does not dissolve easily in liquid, which is why it is not popular with chefs.

**KOSHER SALT** has a much larger grain size than table salt, dissolves more easily in liquid, and adheres well to food.

**SEA SALT** is derived from the evaporation of seawater. It has a flaky texture that allows it to adhere well to food, and it dissolves easily in liquid. Because it contains various minerals that are present in the waters from which it comes, sea salt has a more complex flavor than table salt. It also varies in flavor, depending on its origin.

**FLEUR DE SEL**, “flower of the salt” in French, is a type of sea salt that is hand harvested by workers who collect only the top layer, the best part of the salt, before it sinks to the bottom of the pans. Because it is so labor-intensive to collect, fleur de sel is one of the most expensive sea salts. It is frequently paired with dark chocolate and caramel in desserts and confections.

## Spices

**ALLSPICE** is the dried berry of the *Pimenta dioica* plant. The small berries are brown and resemble peppercorns. The flavor of allspice is similar to a combination of cinnamon, nutmeg, and cloves.

**CARDAMOM** comes from a plant in the ginger family. It has a distinctive aroma that is both spicy and sweet, and is available in whole pods or ground.

**CINNAMON** is the dried inner bark of evergreen trees from the genus *Cinnamomum*. Its flavor is hot and aromatic, and it is available in whole sticks or ground.

**CLOVES** are the dried flower buds of a tropical evergreen tree. They have a strong aromatic flavor, and are available whole or ground.

**GINGER** in its fresh form is the subterranean plant stem of the aromatic rhizome ginger. It has a strong, slightly hot flavor, and is available fresh, dried, crystallized, or ground.

**NUTMEG**, though it resembles a nut, is actually the egg-shaped seed of the nutmeg tree. It has a delicate, slightly sweet flavor, and is always used grated. It is available whole or ground, but is best grated fresh.

**VANILLA** comes from the pod of the orchid flower. It is possibly the most important flavor of the pastry world because of its delicate, perfume like flavor. It is available in whole beans, and as an extract, powder, and paste.

## Nuts and Seeds

**ALMONDS** are the seeds of the almond tree, which are encased in a pale tan, woody hull. They are available whole, in the shell or shelled, blanched or raw, sliced, slivered, or as almond flour or paste.

**ANISE SEEDS** are small, grayish seeds with an intense licorice flavor.

**CARAWAY SEEDS** are small, brown, crescent-shaped seeds with a distinctive flavor. They are usually used in rye bread.

**CASHEWS** are kidney-shaped nuts that are buttery and slightly sweet. They are grown throughout the world, but especially in India. Because they have a high fat content (48 percent), they can turn rancid quickly and should be stored in an airtight container in the refrigerator.

**CHESTNUTS** have glossy brown shells encasing a soft, roundish nut. They are available whole, in the shell or shelled, canned (in syrup or water), candied, frozen, vacuum-packed, or as a purée.

**HAZELNUTS**, also known as filberts, are grown in Spain, France, and Turkey, but production is now also thriving in the U.S. in the states of Washington and Oregon. They are sweet and rich and pair beautifully with chocolate. Hazelnut paste, with or without added sugar, is a common ingredient used in pastry.

**MACADAMIA NUTS**, rich and buttery, are grown primarily in Hawaii. Macadamias are expensive because they are labor-intensive to cultivate and process, and because they are relatively scarce—a 100-pound harvest yields a mere 15 pounds of edible nuts. They are available salted or unsalted.

**PEANUTS** are grown throughout the southern United States. Though there are several varieties, the most common ones are the Virginia and Spanish peanuts. Store shelled peanuts in an airtight container in the refrigerator for up to 3 months, or in the freezer for up to 6 months.

**PECANS** are sweet, rich nuts. The pecan is a member of the hickory family. The best pecans are from Georgia and Texas; their peak season is fall. Be careful how you store pecans, as they will turn rancid quickly. They can be refrigerated for up to 3 months or frozen for up to 6 months.

**PISTACHIOS** are sweet nuts that originated in Turkey and are now grown in central Asia, the Near East, the Mediterranean, and California (a latecomer, as the first decent crop was not harvested there until 1978). Shelled, they will keep for 3 months in the refrigerator, or up to 6 months frozen. Unshelled, they can be refrigerated for 6 months or frozen for a year.

**POPPY SEEDS** are tiny, round, blue gray seeds with a nutty, slightly musty flavor. They are available whole or as a paste.

**PUMPKIN SEEDS** are flat, oval, green-colored seeds that are sold whole in the shell or shelled.

**SESAME SEEDS** are small, flat, oval seeds that can be either cream-colored, tan, or black. They have a rich, nutty flavor and are oily. They are sold whole, hulled or unhulled, and as a paste, known as tahini.

**WALNUTS** are grown in temperate areas throughout the world. American black walnuts have the richest flavor, which is faintly buttery and woody. The English, or Persian, variety is most common, and comes in three sizes: large, medium, and baby. Walnuts in the shell should not have any cracks or holes; out of the shell, walnuts should look healthy, not shriveled. They can be stored in a cool, dry place for several months, in the refrigerator, tightly covered, for 6 months, or in the freezer, well wrapped, for up to a year.

## Fruit Purées and Concentrates

**FRUIT PURÉES** are made from puréed raw fruit and sometimes added sugar (up to 10 percent), which acts as a preservative. Some delicate fruits also require the addition of ascorbic and citric acid to preserve them. Fruit purées offer chefs the luxury of having the flavor of a variety of perfectly ripe fruits available to them at any time of the year.

**FRUIT CONCENTRATES** are obtained by evaporating part of the water from fresh fruit juices in a vacuum at a low temperature. They offer a highly concentrated flavor, and are suitable for a variety of pastry preparations, from sauces to custards and mousse fillings.

## Fruits

### POME FRUITS

**APPLES**, the pomaceous fruit of the apple tree, are one of the most widely cultivated fruits, and extremely popular in the pastry kitchen. There are hundreds of varieties of apples grown throughout the United States. Apples that are popular for baking include Granny Smith, Red and Golden Delicious, McIntosh, and Rome Beauty. Other good choices include Northern Spy, Jonathan, Fuji, Braeburn, and Gala varieties.

**PEARS**, the fruit of the pear tree, are available in hundreds of varieties in the United States and thousands worldwide. Popular baking varieties include Bartlett, Bosc, Comice, d'Anjou, and Seckel.

### BERRIES

**BLACKBERRIES**, also known as bramble berries, are a deep purple black color with a sweet-tart flavor.

**BLUEBERRIES** are small and round, with a blue purple color and a flared crown shape at one end. They have a mild, sweet flavor; smaller berries tend to be sweeter than larger ones.

**CLOUDBERRIES** are similar in shape to raspberries and blackberries, but they are amber in color with a distinctive tart flavor.

**RASPBERRIES** are small, red berries that have a distinctive sweet-tart flavor. Though less common, they are also available in white, golden, or black varieties.

**RED CURRANTS** are crimson-colored round berries with a very tart flavor. Because they are so tart, they are an ideal foil for sweet components in plated desserts.

**STRAWBERRIES** are heart-shaped red berries with tiny seeds on their exterior. Their sweet flavor and pretty appearance make them one of the most popular berries in the pastry



world. Generally, the smaller the strawberry, the sweeter the taste. **FRAISES DES BOIS**, also known as wild or woodland strawberries, are small strawberries that are prized for their intensely sweet flavor.

**GOOSEBERRIES** are round, smooth-skinned berries surrounded by a papery husk. They are generally green, but can also be white, golden, red, or purple.

## STONE FRUITS

**APRICOTS** resemble small peaches, though they are not as juicy and their color is yellow orange. They have a thin skin covered with a light fuzz and a sweet interior with a hard stone in the center.

**CHERRIES** can be found in many varieties, from the yellow-colored Royal Ann to the light red Queen Anne to the blackish red Bing. Textures range from soft and juicy to firm and crisp, and flavors run from sweet to sour. Cherries are available fresh, canned, dried, candied, or frozen.

**NECTARINES** look very similar to peaches in shape and color, but their skin is smooth.

**PEACHES** have a thin, yellow-orange-rose skin that is covered with a light fuzz. They come in many different varieties, and their sweet, juicy flesh ranges from white to yellow to red.

**PLUMS** have a sweet and very juicy flesh with a tart, shiny, smooth skin. They come in many varieties and range in color from light yellow to dark purple.

**PLUOTS** are a cross between a plum and an apricot. They have a smooth, purple exterior that resembles a plum. Their flesh is sweet, very juicy, and intensely flavored.

## MELONS

**CANTALOUPE**s are round melons with a tan and dark green variegated rind. Their flesh is firm, orange, juicy, and fragrant.

**CHARENTAIS MELONS** are an exceptional variety of cantaloupe. They are sweetly perfumed, with a succulent orange flesh surrounding a core of inedible seeds.

**HONEYDEW MELONS** have a cream-colored rind with a pale green flesh that has a sweet, delicate flavor.

**WATERMELONS** are large, oval melons that can weigh up to 30 pounds. They have a light and dark green striped rind and, as their name suggests, a very juicy interior. There are many different varieties of watermelon available; the most common kind has a deep pink color and is studded with black seeds, though other varieties may be white, yellow, or pink, with or without seeds.

## CITRUS FRUITS

**BERGAMOT ORANGE**, also known as sour orange, is the size and shape of an orange, with lemon yellow skin. Its juice is astringent, so the fruit is not eaten raw. The juice is used for sauces and in marmalade, and the peel is frequently candied.

**BLOOD ORANGES** look similar to ordinary oranges, but they are slightly smaller and have a crimson-colored flesh. They range from tart to sweet, depending on the variety.

**BUDDHA'S HAND** is a bright yellow citron with lobes that resemble a human hand. It is also known for its pleasant fragrance.

**CITRONS** range in size from medium to very large, and vary in shape, though they are usually oblong. Their skin is very thick and bumpy, and they are hard to peel. The flesh is firm, and slightly dry, with lots of seeds in it. Candied citron peel is very popular in baking, and is a key component of fruitcake.

**CLEMENTINES** are a cross between the sour orange and the Mediterranean mandarin. They have a deep orange color, and their flesh has notes of apricot.



**GRAPEFRUITS** come in two types: white fleshed and pigmented. White grapefruits have a yellow skin with a green blush, and their flesh is pale yellow. Seedless varieties are available. Pink grapefruits have yellow skin with a pink blush, and their flesh is pink. Red grapefruits have a reddish blush and a deep red flesh.

**KUMQUATS** are the smallest citrus fruit; they measure about 1½ inches in diameter and are either round or oval in shape. They have a thin, edible skin and a juicy, tart flesh.

**LEMONS** have a deep yellow skin and very tart flesh with seeds.

**LIMES** have darkish green, smooth skin and flesh that is tart and without seeds.

**KEY LIMES** are smaller and more acidic than common limes and have light green yellow skin and seeded flesh.

**MEYER LEMONS** are not true lemons; they are a cross between a lemon and an orange. Their skin is yellow, and they are rounder than a true lemon. Their flesh is light orange yellow and sweeter than a lemon's.

**ORANGES** are divided into four types: eating, juice, bitter, and mandarin. Eating oranges, such as the navel, are generally large and easy to

peel and segment. Juice oranges are smooth-skinned, sweet, plump, and juicy; they are difficult to peel. Bitter oranges are used to make marmalade, and mandarin oranges, which include tangerines and clementines, are seedless and have thin skins that are easy to peel.

**POMELOS** are one of the largest of the citrus fruits; they range from large grapefruit to melon-sized. They have very thick, yellow to pink skins, and their flesh varies in color from yellow to pink to red. Most varieties are sweet, juicy, and slightly acidic.

**TANGERINES** are a variety of mandarin orange; they are smaller and less tart than oranges.

## SUBTROPICAL FRUITS

**ASIAN PEARS**, also known as Chinese, sand, or apple pears, are round, rather than pear-shaped, with a speckled yellow or green skin. Their flesh is crisp and juicy with the texture of an apple and a sweetness similar to a pear.

**CHERIMOYA**, also known as the custard apple, is a cone-shaped fruit with a thick, shingled, pale green rind. Its flesh is creamy white and studded with large, black, inedible seeds. Its flavor is sweet, with notes of banana, vanilla, and mango.

**DATES** are the fruit of the date palm. They have a thin, papery skin and a very sweet, sticky flesh. Fresh dates are yellow, golden brown, or black, but they are usually available semidried and are brown.

**FIGS** are thin-skinned and either round or pear-shaped. Depending on the variety (of which there are over 600), they range from pale greenish yellow to purple, with a flesh that ranges from white to red. When ripe they have a soft, juicy texture and a sweet, musky flavor.

**GRAPES** are smooth-skinned, small orbs that grow in bunches. They range in color from pale green to deep purple and in flavor from sour to sweet. **CONCORD GRAPES** are dark blue or purple with a light-colored bloom which can be rubbed off. They are prized by pastry chefs for their highly aromatic, sweet flavor.

**GUAVA** can be either round or oval shaped, and has an edible skin that is white, yellow, green, or pink. The flesh can be white, yellow, or pink. Different varieties have different flavors, and may taste like strawberry, pineapple, or lemon.

**LYCHEE** or **LITCHI** have a rough, leathery pink or red shell, encasing a sweet, juicy white flesh. Its flavor is similar to grapes.

**PERSIMMONS** have a smooth, orange skin and a custard-textured flesh that has a sweet and tangy flavor similar to a cross between banana and mango.

**POMEGRANATE** has a reddish brown shell with a pink flesh that contains a multitude of edible crimson seeds that are sweet-tart.

**PRICKLY PEAR**, also known as cactus pear, is the fruit of the desert cactus and contains a large number of crunchy, edible seeds. The skin and flesh can range from orange to red to purple and its flavor is similar to kiwi, though not as acidic.

**UNIQU FRUIT**, also known as **UGLI FRUIT**, is a hybrid of the grapefruit, tangerine, and sour orange. Its orange yellow flesh has a sweet-tart flavor similar to a combination of orange and grapefruit.

## TROPICAL FRUITS

These fruits, all of which are intolerant to frost, are too numerous to name. Below is a listing of the most popular tropical fruits used in the pastry kitchen.

**COCONUT** is the fruit of the palm tree. The coconut has a woody brown outer shell covered with fibers and a creamy white, rich interior. Used extensively in the pastry kitchen, coconut is sold as a whole nut, or flaked or shredded (sweetened or unsweetened), frozen, or desiccated. Other coconut products include coconut milk, cream of coconut, and coconut oil.

**BANANAS** are a highly versatile fruit, and are available in a variety of sizes and colors, including yellow, purple, and red. Their flesh is soft and sweet, and can be used in a variety of pastry preparations.

**CARAMBOLAS**, also known as star fruit, have a unique shape and, when sliced, they look like a perfect star. They have a golden, waxy skin that is edible, and their flesh is sweet and succulent.

**DURIANS** are the fruit of an evergreen tree and are covered with a green, semihard shell with small spines on it. The shell of many varieties has a very strong fetid odor, which discourages vendors from selling this fruit in the United States. The flesh of the durian is rich, yellow, and sweet, with a desirable custardlike consistency.

**FINGER BANANAS** look like miniature versions of the standard banana, though they are sweeter with a more concentrated flavor.

**GUANABANAS**, also known as soursops, are the heart-shaped fruit of an evergreen tree, with a thin, spiny, green skin. Its delicious white flesh is pulpy, aromatic, and slightly acidic. Its seeds are toxic.

**KIWIS**, also known as Chinese gooseberry, are egg-shaped fruit with brown skin covered with tiny hairs. The flesh of the fruit is bright green and succulent with edible black seeds. The flavor of kiwi is sweet, slightly tart, and reminiscent of strawberry and banana.

**MANGOES** come in many different varieties. Generally, they have a thin skin that ranges in color from red to yellow to orange to purple. The flesh of the mango is firm and sweet with a bright yellow color that surrounds a large, oval pit in the center.

**MANGOSTEENS** have a thick, purple brown hard shell that encases a waxy white flesh that is divided into segments. Their flavor is sweet and delicate.

**PAPAYAS** are pear-shaped and grow in clusters on a herbaceous tree. When unripe they are hard and green, but turn golden or rose when ripe. Their flesh is an orange rose color, smooth, and aromatic. At its center is a large cluster of edible black seeds.

**PASSION FRUIT** are round or slightly oval, with a tough, bumpy skin that ranges from yellow to red to dark purple. Its flesh is composed of yellowish green seeds and pulp that have a sweet-tart floral flavor.

**PINEAPPLES** grow on a cactuslike plant and have a rough, bumpy skin that is a greenish yellow when ripe. Its flesh is yellow and juicy with a tangy, sweet flavor.

**PLANTAINS**, also known as cooking bananas, are physically similar to bananas, but are larger and wider with a thicker skin. Their flesh is starchier and less sweet than bananas, with a texture similar to squash. They are not eaten raw.

**RAMBUTANS** have a spiny red shell covering a sweet, white flesh with a single seed. Its flavor is mild and refreshing.

## Extracts

Extracts are used extensively by pastry chefs to add flavor to a variety of dessert components, from cakes to sauces to mousses. They are alcohol-based, and can lose their potency over time or when exposed to heat, light, or air. Store extracts tightly capped in dark glass jars, away from light and heat.

## Liqueurs

Liqueurs are alcoholic beverages that are flavored with fruit, herbs, flowers, or spices and combined with sugar. They generally have a lower alcohol content than spirits. Because they are sweet, liqueurs are commonly used in the pastry kitchen.