


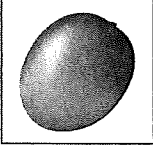





Tropical Fruits

Tropical fruits are named for the climatic conditions under which they are grown. None of these fruits can tolerate frost. Tropical fruits include figs, dates, kiwis, mangos, bananas, papayas, pomegranates, guava, star fruit, and passion fruit. Table 9.3 lists the characteristics of each type of tropical fruit.

Name	Characteristics	Sample varieties
Bananas 	<ul style="list-style-type: none"> • Unlike most fruits, bananas are picked almost green and allowed to ripen as they travel from the farm to the buyer. • Flavors range from sweet to mild. • Bananas are rich in carbohydrates, fiber, vitamins, and minerals (such as potassium). • Some varieties of tree-ripened bananas are juicy. • USES: Fully ripe bananas are excellent for eating and baking. Green bananas can be used for cooking. 	<ul style="list-style-type: none"> • Cavendish • Burro • Plantain
Figs 	<ul style="list-style-type: none"> • A very versatile fruit, figs are green or black. • They are best when eaten raw. • Figs have a sweet, delicate flavor and edible seeds. • USES: They are often used in baking pies, cookies, and cakes. 	<ul style="list-style-type: none"> • Mission • Kadota • Brown Turkey
Kiwis 	<ul style="list-style-type: none"> • Kiwis are also known as Chinese gooseberries. • Kiwis have fuzzy skin and bright, green-colored flesh. Their insides have tiny edible seeds. • Their flavor is similar to that of strawberries. • USES: Kiwis are excellent as a garnish or for adding color and texture to fruit salads. 	<ul style="list-style-type: none"> • Hayward • Chico • Golden
Mangos 	<ul style="list-style-type: none"> • Mangos are medium-sized, thick-skinned fruits with a light-yellow flesh. • They have a spicy, sweet flavor. • USES: They are an excellent addition to fruit salads, and they go well with spices, such as curry. 	<ul style="list-style-type: none"> • Tommy Atkins • Ataulfo • Keitt

(continued)

Table 9.3: Tropical Fruits <i>continued</i>		
Name	Characteristics	Sample varieties
Papayas 	<ul style="list-style-type: none"> • Papayas have a soft, juicy, pink-orange flesh with a central mass of black seeds. • They have a sweet-tart flavor. • Freezing them destroys their flavor and texture. • USES: Ripe papayas can be eaten raw, and unripe papayas can be cooked and served like vegetables. 	<ul style="list-style-type: none"> • Solo • Rainbow • Maradol
Pineapples 	<ul style="list-style-type: none"> • Pineapples have a diamond-pattern skin and golden flesh. • They are very juicy when ripe, with a tangy sweet-tart flavor. • USES: Pineapples are often used in baking, and can be puréed to make fresh juice. 	<ul style="list-style-type: none"> • Red Spanish • Cayenne • Sugarloaf
Coconuts 	<ul style="list-style-type: none"> • The coconut has several layers. Its outermost layer is a smooth, light brown covering that is usually removed before shipping. Next is the familiar dark brown, hairy shell. Beneath that is a thin, brown skin covering the bright, white meat. • A ripe coconut should be heavy and sound full of liquid when shaken. Mold at its eyes indicates poor quality. • USES: Coconut meat is eaten raw, cooked in many recipes, and pressed to make coconut oil. In the center is the juice, called coconut water. Coconut milk is not the juice from the center, but is a mixture of warm water and coconut meat. 	<ul style="list-style-type: none"> • Dwarf and tall varieties, named after their place of origin, such as Fiji dwarf and Panama tall

How do you know when fruits and vegetables are fresh and of a high quality? Characteristics of freshness vary from one item to another, but there are some

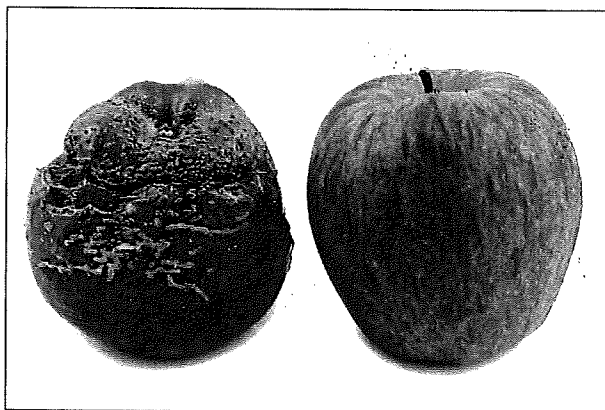


Figure 9.1: Damaged fruit (left) has bruises and mold. Fresh fruit (right) has a clear appearance free of bruises, mold, or soft spots.

common traits. See Table 9.4. Fruits and vegetables should be plump and free of bruises, mold, brown or soft spots, and pest damage. Any attached leaves should be firm and not wilted. Overall, the color and texture should be appropriate to the particular type of fruit or vegetable. Figure 9.1 shows an example of damaged fruit and good fruit.

Table 9.4: Characteristics of Fresh Fruits		
Fruits	Signs of Good Quality	Signs of Poor Quality
Apples	Firmness; crispness; bright color	Softness; bruises (Irregularly shaped brown or tan areas do not usually affect quality).
Apricots	Bright, uniform color; plumpness	Dull color; shriveled appearance
Bananas	Firmness; brightness of color	Grayish or dull appearance (indicates exposure to cold and inability to ripen properly)
Blueberries	Dark blue color with silvery bloom	Moist berries
Cantaloupes	Stem should be gone; netting or veining should be coarse; skin should be yellow-gray or pale yellow	Bright yellow color; mold; large bruises
Cherries	Very dark color; plumpness	Dry stems; soft flesh; gray mold
Coconuts	Liquid inside when shaken; hard shell	Cracks; wet "eyes"
Figs	Plumpness	Soft areas; dull color
Grapefruit	Should be heavy for its size	Soft areas; dull color
Grapes	Should be firmly attached to stems; bright color and plumpness are good signs	Drying stems; leaking berries
Honeydew	Soft skin; faint aroma; yellowish white to creamy rind color	White or greenish color; bruises or water-soaked areas; cuts or punctures in rind
Lemons	Firmness; heaviness; rich yellow color	Dull color; shriveled skin
Limes	Glossy skin; heavy weight	Dry skin; molds
Mangos	Plumpness; firmness	Clear color; blemishes
Nectarines	Plumpness; firmness	Green skin; very hard or soft skin
Oranges	Firmness; heaviness; bright color	Dry skin; spongy texture; blue mold
Papayas	Firmness; symmetry	Dark green skin; bruises
Peaches	Slightly soft flesh	A pale tan spot (indicates beginning of decay); very hard or very soft flesh
Pears	Firmness	Dull skin; shriveling spots on the sides

(continued)

Table 9.4: Characteristics of Fresh Fruits *continued*

Fruits	Signs of Good Quality	Signs of Poor Quality
Pineapples	"Spike" at top should separate easily from flesh	Mold; large bruises; unpleasant odor; brown leaves
Plums	Fairly firm to slightly soft flesh	Leaking; brownish discoloration
Raspberries	Stem caps should be absent; flesh should be plump and tender	Mushiness; wet spots on containers (signs of possible decay of berries)
Strawberries	Stem cap should be attached; berries should have a rich red color	Gray mold; large uncolored areas
Tangerines	Bright orange or deep yellow color; loose skin	Punctured skin; mold
Watermelon	Smooth surface; creamy underside; bright red flesh	Stringy or mealy flesh (spoilage difficult to see on outside)

[nutrition]

Drupes, Anyone?

Drupes are a type of fruit with a center stone. Orange drupes have no relationship to oranges (citrus fruits) at all. Orange drupes are peaches, nectarines (which are actually a type of peach), and apricots. They are all good sources of beta-carotene, which gives them their orange color. Beta-carotene is present in both fresh and cooked fruit.

Beta-carotene is pro-vitamin A, which the body can convert to vitamin A. It is also an antioxidant. Antioxidants can prevent or slow the oxidative damage to our body. When our body cells use oxygen, they naturally produce free radicals (by-products) which can cause damage. Antioxidants can prevent and repair damage done by these free radicals.

In addition to beta-carotene, these fruits are rich in fiber and glucose. Apricots contain a whopping 2 grams of dietary fiber in every 100 grams of fruit, with peaches and nectarines close behind at 1.5 and 1.7 grams, respectively. And all three are very low in calories: per 100 grams of fruit, an apricot contains 50 calories, a peach 40 calories, and a nectarine 44 calories. They are naturally fat-free and cholesterol-free. Best of all, they taste great! They can be used in a variety of recipes—fresh, cooked, or dried.

Purchasing Fruits

Some fruits, such as bananas, apples, pears, and grapes, are available all year. The quality, degree of ripeness, and price vary with the season. Other fruits, such as peaches, plums, mangos, and berries, have a specific growing season. Knowing the growing season for a particular fruit is important. During its growing season, the fruit is plentiful, the quality is higher, and the price is usually lower. Some operations have seasonal menus that are based on what is fresh and

locally available. Many customers today have shown interest in eating local produce and supporting the restaurants that serve it.

Other factors that could affect the purchasing decisions an operation makes include the following:

- **Recipe requirements:** Many standardized recipes identify specific varieties and market forms needed.
- **Staff skills:** Highly skilled employees can handle natural, uncut produce efficiently. Employees with fewer skills in peeling and cutting will often need to use processed products.
- **Available equipment:** Operations must consider what types of equipment are available before choosing fruits.
- **Vendor limitations:** Purchasers must spend time to find the vendor that best meets an operation's needs.

Grading

The U.S. Department of Agriculture (USDA), has developed quality grades for fresh fruits and canned fruits. **Quality grades** are like a rating system based on quality standards—the better the quality, the higher the quality grade assigned to it. The quality is based on a combination of size, color, shape, texture, and defects. The price is also usually higher for the best grades.

Fresh fruits are graded before shipping. USDA grades (from highest to lowest) for fresh fruits include U.S. Extra Fancy, U.S. Fancy, U.S. No. 1, U.S. No. 2, and U.S. No. 3. Most fruits purchased for foodservice operations are U.S. Fancy. Fruit with lower grades can be used in dishes such as baked pies, puddings, jams, jellies, and cobblers, where their appearance is not important.

Canned products rated U.S. Grade A Fancy have the highest quality among canned goods. This means that the fruits' colors and flavors are excellent and their sizes and shapes are perfectly uniform. U.S. Grade B Choice are rated second best, which means that their overall colors and flavors are average. U.S. Grade C Standard means that the quality is poor. Some of the pieces may be bruised and mushy and have several imperfections.

[fast fact]

Did You Know...?

Sneezing from hay fever is not unusual, especially in the springtime. There are pollens in the air that cause allergy symptoms in many people. However, eating certain fruits can also cause an allergic reaction, even in a person who isn't truly "allergic" to the fruit. It can be worse during the pollen season. It's called oral allergy syndrome.

The body recognizes protein in the fruit as the pollen that causes hay fever. It's a mistake the body makes, but it causes symptoms just the same. The most obvious is itching in the mouth right after eating the fruit.

The most common culprits are melons, kiwi, and apples. The symptoms don't usually last a long time. If the fruit is cooked, there may be no symptoms at all. If a person was truly allergic to the food itself, cooked fruit would cause symptoms, too.

In rare cases, OAS may cause severe allergic symptoms including asthma and even anaphylaxis. Anaphylaxis is a life-threatening allergic reaction. Keeping an EpiPen on hand, especially during allergy season, may save a life. An EpiPen is an automatic injection device that administers epinephrine. It can help stop allergic reactions quickly and allow you to get the medical help necessary.

Storing Fruits

All fruits must be properly stored. Many ripe fruits, except for bananas, can be stored at 41°F or lower. Under the best circumstances, fruits should be stored in their own refrigerator, separate from vegetables.

Certain fruits (including apples, bananas, melons, and avocados) emit **ethylene (ETH-el-leen) gas**, which causes fruits to ripen. While this increases ripening in some unripe fruits, it also causes ripe fruits and vegetables to spoil. Ethylene-producing fruits should be stored in sealed containers if separate refrigeration or storage is not available. Another reason to store fruits and vegetables separately is because some produce, such as onions or garlic, give off odors that taint the natural, delicate flavors of dairy items. Most fruits need to be kept dry because excess moisture causes produce to spoil quickly. To keep moisture down, use the fruit bins in refrigerators, which have lower humidity than the rest of the refrigerator; don't wash fruit until just before using it; and don't store it in tightly closed plastic bags.

Fruit that needs to ripen should be stored at room temperatures of 65°F to 70°F. Some citrus fruits have a longer life, but most restaurants limit the storage of citrus produce items to three weeks.

Preparing Fruits

Cleaning

Cleaning is the first step in preparing fruits. It is important to wash fruit for the following reasons:

- The skin on fruit can carry a number of pathogens.
- Fruits are exposed to chemicals, dirt, animals, and pests while growing and while being prepared for sale.

There are special solutions available for cleaning fruits. Wash fruits as close to preparation time as possible.

Use cold water and a gentle touch to avoid bruising fruits while handling them. Fragile berries such as blackberries and raspberries are not always washed. Use a brush on fruits with heavy rinds to scrub away any residue on the skin.

Peeling, Seeding, Trimming

Fruits often need to be prepared before they are served. Different fruits get prepared different ways. Preparation includes removing skins, removing cores, removing seeds and stones, zesting, and removing stems:

- **Remove skins:** Some fruits, such as berries and cherries, are not peeled. Others, such as oranges and bananas, can be peeled by hand: simply grasp an edge of the peel and pull. Still other fruits, such as papayas and apples, must be peeled with a paring knife: carefully cut into the fruit, just below the skin, and cut away long strips of peel. Sturdier fruits like pineapples are stood on end, and the peel is cut away with a utility or chef's knife. Figure 9.2 shows a prep cook using a paring knife to peel an apple.
- **Remove cores:** Most fruits do not have cores. Pineapples are halved lengthwise, and the core is cut out with a knife. To core apples and pears, scoop out the seeds with a parisienne scoop and use a paring knife to remove the slender core that runs from the stem end to the blossom end.

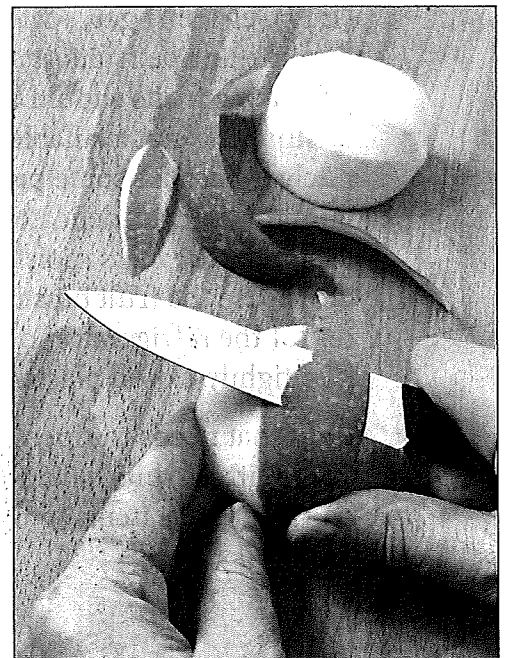


Figure 9.2: Use a paring knife or peeler to remove skin.

- Remove seeds and stones:** To seed fruits with large cavities, like papayas or melons, cut the fruit in half and scoop out the seeds with a spoon, taking care to remove as little flesh as possible. To seed citrus fruits, such as oranges or lemons, cut the fruit horizontally and remove the seeds with the tip of a paring knife. To remove cherry stones, use a cherry pitter. Both hand tools and larger hopper-based devices are available. For other stone fruits, cut vertically through the fruit and twist the two sides of the fruit apart. The stone can then be pulled or cut from the flesh. To remove a pit from a mango, cut off each flat side on the fruit, and then cut away the remaining flesh from the pit.

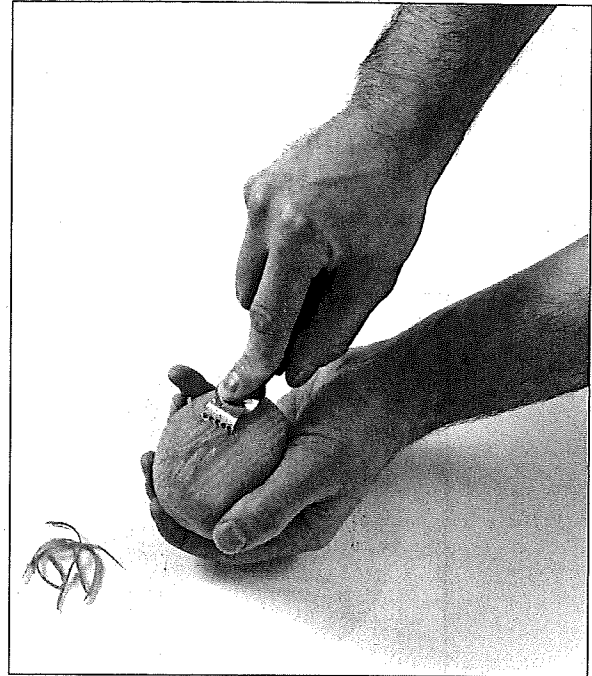


Figure 9.3: Zest is the outermost layer of a citrus fruit.

- Zest:** This technique is primarily used to obtain the aromatic oils in the skins of citrus fruits. Only the surface of the skin is removed, leaving behind the bitter, white pith. Use either a microplane or a zester to zest the fruit; alternately, cut and julienne strips of peel. Figure 9.3 shows an orange being zested using a zester.
- Remove stems:** There are two common ways to remove stems. For harder fruits, twist the stem from the fruit; for softer items, pull the stem directly out of the fruit. A few fruits, like figs, demand that the stem be cut away from the fruit.

Cutting Fruits

Use a sharp knife to cut fruit to ensure that your cuts are clean. This gives the fruit a nice, clean appearance and maintains the fruit's quality because you lose fewer juices. Fruits are often cut into wedges, slices, chunks, or cubes for service. Figure 9.4 shows lemon wedges.

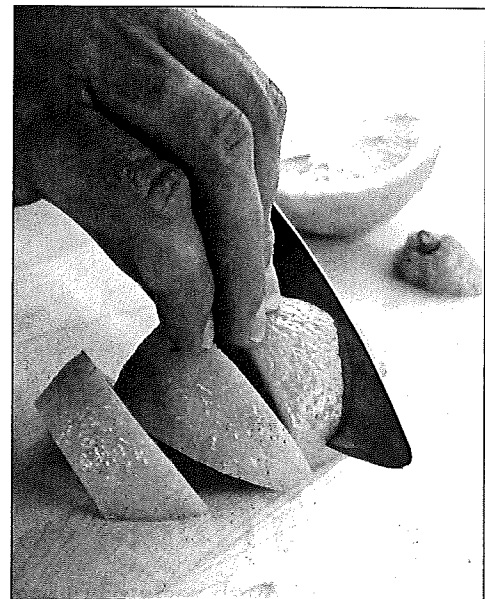


Figure 9.4: For service, fruits are cut into wedges, slices, chunks, or cubes.

Juicing and Puréeing

Fresh fruits can be juiced and puréed. Handheld juicers can be used to juice citrus fruits. Fruit purée is made by putting prepared fruit (peeled, trimmed, or seeded as necessary) into a blender or food processor. If the fruit is soft and juicy, you can make the purée without adding more liquid.

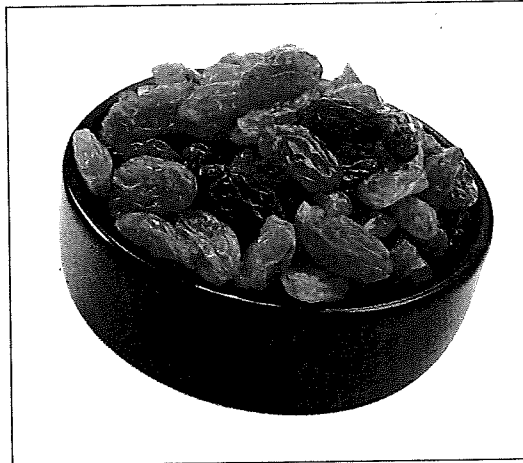


Figure 9.5: Popular dried fruits include raisins, apples, and figs.

Preparing Dried Fruits

Dried fruit can be served as is, without any advance preparation. However, when it is an ingredient in a dish or baked item, rehydrate or soften dried fruit before adding it. Put dried fruit in a bowl, cover it with warm or hot liquid, and let it sit until it is ready to use. Be sure to drain all liquid before using the fruit. Figure 9.5 shows a bowl of dried fruit.

[ServSafe Connection]

Fruit and Cross-Contamination

Wash fruit before using it, and use standard food safety practices to avoid cross-contamination from fruit to the cutting board, knives, or your own hands.

Be particularly careful with melons. Scrub the rind with a sanitized brush under running water before cutting. Melons are considered TCS foods once the rind has been penetrated. Pathogens can enter through the stem end, other openings, or bruises.

Cooking Fruits

Although restaurant and foodservice operations commonly serve fruit raw, many varieties can be cooked. These varieties of fruit can be served hot or cold,

as part of the main entrée, as a snack, or as a dessert.

Preparing fruits for cooking involves washing them with water and then peeling, slicing, and cutting them. Some fruits, such as citrus fruit, melons, pineapples, and kiwi, keep their attractive appearance after they have been cut. Others, such as apples, pears, bananas, and peaches, turn an unappealing dark color when their flesh has been exposed to air.

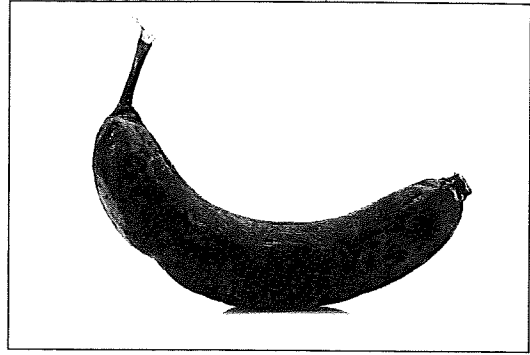


Figure 9.6: Enzymatic browning can be seen in fruits such as bananas, apricots, pears, and grapes.

A chemical process called **enzymatic** (en-zi-MAT-ick) **browning** occurs when the oxygen in the air comes in contact with the flesh of cut fruit. This is what causes the fruit to turn brown. Figure 9.6 shows a photo of enzymatic browning. The reaction occurs more quickly in fruits that contain the enzyme **polyphenol oxidase** (pol-lee-feen-nole OX-ee-days), also referred to as PPO. Enzymatic browning is a fruit's survival technique to protect it from the environment.

[fast fact]

Did You Know...?

Enzymatic browning actually develops the color and flavor in dried fruits, such as figs and raisins. This is a chemical process involving polyphenol oxidase or other enzymes that create melanins, resulting in a brown color.

To keep cut fresh fruits from discoloring, coat them with some form of acid, such as lemon juice, as soon as they are cut. These acids lower the pH on the surface of the fruit, which helps to slow down discoloration.

It is always important to avoid overcooking fruit. Even minimal cooking can make fruit overly soft or mushy. When fruit is cooked with sugar, the sugar is absorbed slowly into the cells, firming the fruit. **Acids**, such as lemon juice, help fruit to retain its structure. **Alkalis**, such as baking soda, cause the cells to break down more quickly, making the fruit soft.

While every recipe and method is slightly different, most cooked fruit is done when it is tender and easily pierced with a fork. The following are just some of the methods used to cook fruit:

- Grilling and broiling
- Poaching
- Sautéing

- Baking
- Frying (with or without batter)
- Microwaving

[trends]

Quince

Quince? No, this isn't the number 15 in Spanish, but a fruit, pronounced "kwince".

Quince is a type of pome fruit (the same family as apples and pears). It is very sour, so it is not eaten raw. It is yellow when ripe and looks like a squatty pear. Quince grows on trees, and is fairly common in Mediterranean Europe and Asia Minor. See Figure 9.7.

When sweetened and cooked, quince is a flavorful and aromatic fruit for jams and jellies. Interestingly, when cooked, it turns from yellow to rosy pink.

The landmark restaurant Chez Panisse in Berkeley, California, has used quince sauce as a glaze for apple or pear tarts. Stewed quince has a unique flavor that blends nicely with cinnamon and allspice in a winter fruit compote or as an accompaniment to pork.

When grilling or broiling fruits, you must cook them quickly to avoid breaking down the fruit's structure. Pineapples, grapefruits, bananas, and peaches are all good fruits to grill or broil. Cut the fruits into slices, chunks, or halves, and coat with sugar or honey to add flavor and **caramelization** (a browning process). Place fruits to be grilled or broiled on an oiled sheet pan or broiling platter. Only thick fruit slices need to be turned or rotated to heat fully. Figure 9.8 shows grilled pineapple.

Fruits that are poached are cooked in simmering liquid. Therefore, use fruits that are firm enough to hold their shape during **poaching**. This includes plums, apples, peaches, and pears. Apples and pears can be cut in large pieces, but other small fruit should remain whole. Some famous poached fruit dishes include Peach Melba and Pears Belle Hélène. Poached fruits are also often used in other desserts as fillings or toppings.

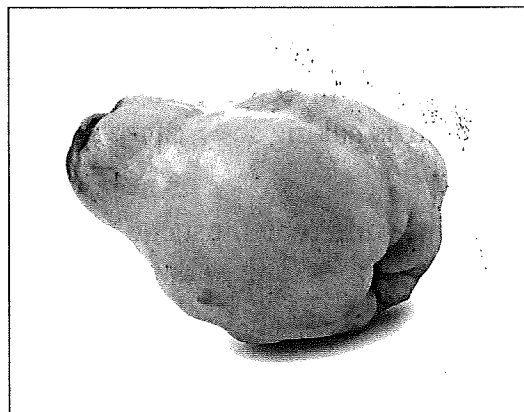


Figure 9.7: The quince is one of the earliest known fruits.

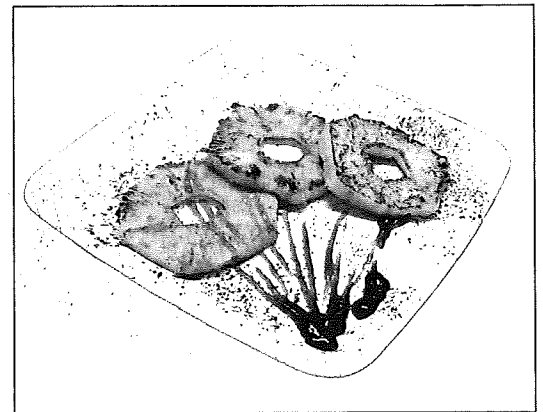


Figure 9.8: Fruits such as apples, pears, and pineapples are great to grill for dessert.