

Classify Fruits by Type and Intended Use

FRUITS are delicious and nutritious. They are available in an almost endless variety, with uses that are almost as endless. What most people do not know is that fruits are classified into different groups, and they are not as obvious as you might think. Some people, if asked to describe or sort between fruits and vegetables, might say that fruits are sweet and that vegetables are not. Let's find out if that way of sorting is accurate. We will also examine the five types of fruit and look at common uses.



Objective:



Identify fruits by classification and common uses.

Key Terms:



chutney	garnish	pulp
citrus fruits	jam	seeds
compote	juice cocktail	summer fruits
coulis	macerated	tropical fruits
drupe	pectin	vegetable fruits
fiber	pit	winter fruits
fructose	pith	zest
fruit	preserves	

Classifications of Fruit

Botanists define **fruit** as the mature ovary of any growing, seed-bearing plant, including nuts. By definition, nuts are fruits. Culinary artists (e.g., chefs, bakers, and cooks) would remind botanists that fruits add beauty, color, and intricacy to food, which spark an artist's creativity. Nutritionists point out the benefits (vitamins and minerals) of fruits. For example,

fruits quench our thirst due to the high ratio of water to flesh. There are many ways to categorize fruits.

SIMPLEST CLASSIFICATIONS

The simplest classifications of fruits include only three groups: winter, summer, and tropical. Two subgroups are commonly used in the culinary arts: drupes and vegetable fruits.

Winter Fruits

Winter fruits are fruits that come into season from late autumn to mid-winter, and they include all varieties of apples, pears, cranberries, and citrus fruit. **Citrus fruits** are highly acidic fruits, such as oranges, lemons, limes, grapefruits, tangerines, kumquats, clementines (a type of tangerine), and minneolas (tangelos). All citrus have a peel, especially a thin outer colored skin called **zest**. The zest is found over a white membrane under the skin that protects the delicate flesh called **pith**. The skin and membrane protect the tender juicy sections that make up the fruit. Apples, pears, and most citrus fruit have multiple seeds in the fruit or within their core.

Apples come in many varieties, all with slightly different sweetness, juiciness, textures, and uses. For example, Rome Beauty is a large apple with a strong flesh. It is best for baking. In contrast, a Granny Smith is green and quite tart. It is good for eating or baking. Red Delicious is a common eating apple, with a mealy texture generally not used for baking. Other varieties include Fuji, Gala, McIntosh, Winesap, Honeycrisp, and Golden Delicious.

Summer Fruits

Summer fruits are seasonal types of fruit that ripen from late spring through late summer. All melons, berries (except cranberries), grapes, peaches, nectarines, cherries, rhubarb, and plums fit in this group. Melons include watermelon, cantaloupe, honeydew, muskmelon, and Santa Claus. Common berries are strawberries, raspberries, blackberries, currants, and boysenberries. Most berries, melons, and some grapes have multiple seeds. The red, fleshy part of a strawberry is technically not the mature ovary of the plant—the fruit. The Carnegie Science Center describes a strawberry as a multiple fruit (or false fruit) in that the tiny brown or white specks (commonly considered seeds) are the actual fruits.

Tropical Fruits

Tropical fruits are a large group of fruits (e.g., pineapple, banana, mango, papaya, kiwi, coconut, guava, figs, pomegranate, prickly pear, quince, and many



FIGURE 1. Star fruit is an example of a beautiful fruit available from the tropics.

more) indigenous to hot and humid locations. Exotic tropical fruits are a subgroup and include breadfruit, star fruit, cherimoya, and loquats. The varieties are endless, and there are no commonalities between them. Some have multiple seeds, and some have no seeds at all.

Drupes

Drupe is a subcategory of fruits that denotes those with a single major pit within the fruit. The **pit** is the hard core in the center of fruit. The flesh of the fruit grows around the pit, and the pit generally has no nutritional value. **Seeds** are plant parts formed within the fruit that are the reproductive elements. Seeds are edible. If planted under the right conditions, seeds would germinate and grow into the fruit from which they came. Drupes cross between the three categories above and include cherries, peaches, mangoes, dates, and apricots.

Vegetable Fruits

Vegetable fruits are a subgroup of fresh produce that has properties of vegetables and fruit. This type of produce is not as high in sugar as most fruit, but it contains more sugar than other vegetables. All vegetable fruits have multiple internal seeds, which is an element most like fruit and atypical of vegetables. Vegetable fruits include tomatoes, peppers, cucumbers, squash, and avocados—the only drupe in this category. Squash types are numerous and include pumpkin, Santa Claus, zucchini, butternut, acorn, and spaghetti.



FIGURE 2. Look at the cluster of seeds in this pepper. It exemplifies what makes this a vegetable fruit.

COMMON USES FOR FRUIT

The most common use of fresh fruit is eating it without any processing. Whether cut into a salad or used as individual servings, consumption of fresh raw fruit is the most common use of all fruits worldwide.

Fresh fruit is a common ingredient in ice creams and sorbets. In addition, it is a common plate garnish for salads, appetizers, and entrees. A **garnish** is an edible adornment to serve on or with plated food. Baked goods of all descriptions include fresh fruits. For instance, fruit is a common addition to muffins and quick breads, stuffing, pizza topping, finished sauces, or plated entrees.

Oils, Extracts, and Sweeteners

Flavorings from fruits are the basis for the oils and extracts used in a variety of foods and beverages. Additionally, citrus fruits have quality oils in the zest. These oils offer intense fragrance and flavor for candies, beverages, and other food products. Fruit is also the source of **fructose**, the natural sugar found in all fruits. In recent years, fructose has been used as a nat-

ural sweetener, replacing granulated sugar. However, it has no nutritional benefit over standard sugar. It is available in granulated or powdered form.

Canned or Jarred Fruit

Canned or jarred fruit is processed and preserved for later consumption. It is an extremely common use for the abundance of fruits available during the summer months. Delicate fruits that are high in moisture (e.g., berries, melons, and oranges) are seldom canned.

Freezing Fruit

Freezing is an acceptable storage method for later consumption, but it has serious drawbacks for many types of fruit. The freezing process ruptures the cells within the fruit. As a result, when the fruit thaws, it tends to be mushy with juices running out. Frozen fruits are best used in cooking, in baking, or in other processed products.

Jellies, Jams, and Preserves

Jellies, jams, and spreadable fruit preserves are common ways to “save” fruit for later use. All three products are prepared by cooking fruit with sugar and **pectin** (a natural fiber thickener that comes from fruit), which results in a thick spreadable preserved fruit product.

While jelly is transparent, **jam** is a sweet substance that includes fruit pulp or fiber that makes it look cloudy, and jam may contain tiny seeds from the fruit.

Fiber is the solid non-digestible matter that is part of all plant life; pectin is an example. **Preserves** are a chunkier spreadable sweet substance. They include a higher percentage of solid fruit matter compared to jam, usually with visible small chunks of fruit in the gel. Marmalade is a type of sweet jellied preserve that contains bits of fruit and rind.



FIGURE 3. It is obvious this is a jam or a preserve, not a jelly. Can you see the bits of fruit and seeds?

Juice

Juice is one of the most typical uses for processed fruit. It comes fresh, bottled, or frozen. Fresh juice may be squeezed and packaged without further processing. When water is removed from fruit juice, the result is a thick and intense syrup product (concentrate) that is frozen in small containers. Though juice is always strained after squeezing, sometimes pulp is left in the juice to add fiber and texture. **Pulp** is tiny bits or flecks of fruit fiber or membrane that are already part of the fresh squeezed fruit juice.

Fruit **juice cocktail** is an item made from fruits that are low in sugar and almost bitter in taste. The beverage may be only 20 or 30 percent actual juice and 80 percent added water and sugar. For

instance, apple or tomato juice cocktail is bottled or canned with no refrigeration needed until it is opened. In addition, wine is a major beverage industry resulting from fruit juice. It can be processed from most fruit juice. However, grapes represent the largest wine source.

Dried Fruit

Drying or dehydrating fruit is a common preservation method and provides a great snack or ingredient for other uses. Common dried fruits are raisins (formerly grapes), prunes (formerly plums), figs, dates, mangoes, papayas, bananas, and berries. Dried fruits can be used in baking, salad dressings, ice cream mixtures, and **chutney** (an intensely flavored chopped relish of various fruits and/or vegetables and spices). Dried fruits can be **macerated** (soaked in a liquid) to bring them back to a softer form. The liquid used to rehydrate the dried fruit can be water, but commonly a juice, wine, or liquor is used as the macerating liquid to add additional flavor.

Sauces

Sauces are common uses for fruits. Gently cooked fresh fruit that has been lightly sweetened and is served in its softened form is called **compote**. Fruit cooked to the point of becoming mushy and then puréed into a sauce, and those that have liquid added before the mixture is strained, produce a sauce called a **coulis**.



FIGURE 4. This fresh cranberry sauce is a good example of compote.

Baked, Poached, and Grilled Fruit

Baking fruit is common. They are often the focal point of a baked dish or pastry, such as pies, tarts, cakes, cookies, or cobblers. Baked fruits are used as part of non-baked dessert presentations, such as cherries jubilee or as a topping for ice cream.

Poached fruits must be firm and meaty enough to gently simmer in a flavorful liquid until tender. Poached fruit should hold its shape after cooking and should be fork tender. Fruits that are commonly poached include apples and pears.

Grilled fruits must be firm and meaty enough to grill. Since fruit has a high sugar level, care has to be taken not to burn the fruit as it cooks to just tender. Commonly grilled fruits include pineapple, apples, and pears.

Summary:



Fruits are typically classified into five types: winter fruits (e.g., apples and citrus), summer fruits (e.g., berries and melons), vegetable fruits (e.g., squash and toma-

toes), tropical fruits (e.g., pineapples and coconut), and drupes. Each classification contains many varieties of fruit, all with unique tastes, colors, and uses.

Fruit can be eaten fresh or cooked. It is used as a garnish for other plated foods. In addition, it is turned into sauces, squeezed for juice, dried, processed into extracts or sweeteners, used as ingredients in baking and cooking, used in ice creams and sorbets, and turned into sweet or spicy spreads and dips.

Checking Your Knowledge:



1. Why is a plum considered a summer fruit and a drupe?
2. What is the difference between a jelly and a preserve?
3. Cranberry sauce is an example of compote. What are other examples?
4. Why is a cucumber considered a vegetable fruit?
5. Name four different types of apples.

Expanding Your Knowledge:



Our supermarkets are filled with fruits all year long, but the growing season in the United States is relatively short. Where are the fruits coming from? We import fresh fruit from many countries, but if they are picked fresh, how can they not be overripe by the time they arrive? Do some research to find out what countries are exporters of fruit to the United States. Look for information about the condition of the fruit being picked. If it is not yet ripe, what methods (if any) are used to ripen fruit during shipping? How does shipping affect the cost of fruit in the United States? While climate affects our growing season, does it mean that the United States does not ship any fruit to the rest of the world? If we do, what fruits are exported? And what picking and shipping techniques are used?

Web Links:



Fruit and Tree Nuts

<http://www.ers.usda.gov/briefing/fruitandtreenuits/trade.htm>

Fruit Information

<http://www.fruitsinfo.com>

Tropical Fruits Database

<http://www.tradewindsfruit.com/fruitscommon.htm>

Fruit Recipes

<http://homecooking.about.com/library/archive/blfruitindex.htm>