

Understanding and Selecting Fruit Types to Grow

Many types of fruit, such as apples for example, can be divided into different subgroupings based on botanical, horticultural, or source-of-origin differences such as flowering and fruiting characteristics. If prospective producers understand these different groupings within a fruit type, selecting appropriate varieties within subgroups will become much easier.

By establishing several fruit types, growers can have a continuous supply of fruit during the spring, summer, and fall months. For example, strawberries can be harvested from March to June, followed by blackberries in May to June, peaches in May to

September, grapes in July to September, and apples in July to October.

The normal harvest periods for most fruit grown in Alabama are shown in Table 1. The table indicates when harvest begins in the southernmost area of production and when it concludes in the northern sections of the state. Thus, a given fruit may be available in the state for 2 to 4 months but only in a particular area for 3 to 6 weeks. Most of the minor fruit crops are grown mainly for home use.

Characteristics of the subgroupings of fruit grown in Alabama are described in Table 2.



Growing kiwifruit in Alabama is possible in home gardens, but certain problems must be overcome before this crop will prove worthwhile commercially.

Table 2. Characteristics of Different Fruit Types

Fruit Type	Subgroup	Description
Tree Fruit		
Apple	Reproductive growth habit: nonspur and spur	<p>Nonspur trees refer to the normal, larger mature trees found in many older orchards. They require 4 to 6 years to begin cropping.</p> <p>Spur-type trees are slow-growing and begin developing spurs and producing fruit at only 2 to 3 years of age. They may be planted at closer spacings and will remain smaller than nonspur trees.</p>
	Skin color: red, green, and yellow	Red, green, or yellow skin color occurs on varieties of both spur and nonspur trees.
Pear	Reproductive growth habit: spur and nonspur	<p>Although some spur-type trees (as described above for apples) may exist, none are generally available to commercial or home fruit producers.</p> <p>All common varieties are the larger nonspur type.</p>
	Flesh characteristics: soft and firm; susceptible to fireblight	<p>European-type pears and their Oriental hybrids can be subdivided into soft and firm flesh types. The standard European pears (like Bartlett) have soft fruit with a sweet, butterylike texture, but trees are usually highly susceptible to fire blight.</p> <p>Pears more commonly grown in the Southeast are the European x Oriental hybrids (like Orient) usually referred to as hard pears. They have very firm fruit with many stone cells in the flesh, which give them a gritty texture and limit their use mainly to processing. However, the hard pears are much more tolerant of fire blight.</p>
Asian pear	Source of origin: Japanese or Chinese (different fruit shapes and variable skin color)	<p>Japanese types are generally round and similar to apples in shape.</p> <p>Chinese types are typically pyriform in shape like European pears.</p> <p>Within each of the two subtypes, varieties may have smooth skin (green to yellow in color) or russeted skin (green to brown in color).</p>
Quince	Horticultural characteristics: ornamental or fruiting type	<p>There are basically two types of quince: the small, bush-like, very early flowering plants used as ornamentals and the larger tree form of fruiting quince. Orange is the primary variety of fruiting quince grown.</p> <p>Plant characteristics are somewhat like the apple and pear, but fruit are quite hard and normally used only for processing into jellies and jams.</p>
Peach, nectarine	Fruit shape: round to oblong or flat	<p>Standard peaches have the normal “peach shape” while “peento” subtypes are very flat and saucerlike in shape. Not many peento varieties are grown, but new ones are being introduced.</p>
	Type of flesh: melting or nonmelting	<p>Peach subtypes may have melting flesh, which is the soft flesh of most fresh varieties, or nonmelting flesh, which is typical of the rubbery clings used in canning.</p>
	Flesh color: yellow or white	<p>Peach subtypes may have yellow or white flesh.</p>
	Stone freeness: cling or freestone	<p>Peach subtypes may have cling (flesh adheres to pit) or freestone characteristics, although many varieties are somewhat in between a full cling or freestone.</p>
Plum	Source of origin: Japanese, European, or American	<p>Many plum varieties grown today resulted from crosses of two or all three common subtypes available.</p>

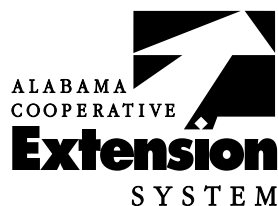
Fruit Type	Subgroup	Description
Plum (contd.)	Type of flesh: soft, sweet dessert-type (Japanese and American) or very firm, prune-type (European)	The standard varieties produced in western states for fresh market are usually referred to as “Japanese dessert-type fruit,” which are quite tasty and have several skin and flesh colors. Most Southeastern varieties are similar but have more American germ plasm in them to instill more disease resistance. They usually consist of crosses of two or three subtypes. European (prune-type) plums have very firm flesh and are mainly used for making prunes or as processing fruit rather than for eating fresh.
Cherry	Flesh flavor: acid or sweet	Cherries can be divided into varieties with sour flesh, which is used for processing, or sweet flesh, which is used mainly for fresh consumption. A third category has been developed by crossing sweet and sour types and is referred to as Duke cherries, which are mainly used for processing.
	Other horticultural characteristics	Sour types are very self-fruitful, and sweet types are highly self-unfruitful. Because of early flowering habit and crop loss to freezes, sweet cherries are not recommended in Alabama. Where sweet cherries are grown, special attention must be given to arrangement of varieties to ensure cropping.
Persimmon	Source of origin: American or Asian	American persimmon fruit are not very flavorful, and the primary use of the American persimmon tree is for timber. The large, tasty persimmons found in supermarkets are of Asian origin and are commonly referred to as “Oriental” or “Japanese” persimmons.
	Flesh tannin level: astringent or nonastringent	Oriental or Japanese persimmons can be divided into nonastringent, which are low in tannins and can be eaten before fully ripe (such as the Fuyu variety), and astringent, which must be fully ripened (usually off the tree) to avoid a disagreeable bitter taste.
	Pollination needs	Some are self-fruitful, and others need cross pollination. Varieties may be strongly or weakly self-fruitful and produce fruits with or without seeds.
Pomegranate	Horticultural application: either as ornamental plant or for fruit production	Many varieties of pomegranates are grown as ornamentals and usually fruit rather poorly. Other varieties have been specifically bred for superior fruit production. Wonderful is an example of a “fruiting-type” pomegranate.
Fig	Flowering and fruiting characteristics: production of seedless fruits, which require no pollination, or production of seeded fruits, which require pollination	There are basically 3 types of figs: common, Smyrna, and San Pedro. Common types, which produce seedless fruits, are grown in the Southeast. Smyrna types, which produce seeded fruits, are grown in California. They require a special type of cross-pollination (called <i>caprification</i>) by specific insects found only in that area to produce fruits. These insects transfer pollen from male plants to Smyrna-type varieties. San Pedro types produce both types of fruit described above.

Small Fruit

Grape	Source of origin: European and American	Fresh grapes grown in California are of European origin, mostly the <i>Vitis vinifera</i> type which produce large fruit clusters. Fresh and processing grapes grown in the eastern United States are mostly <i>V. labrusca</i> (American) and <i>V. rotundifolia</i> (muscadine). Both are native to America. There are a number of European (French) × American hybrids also being grown for juice, wine, and fresh use.
	Type of fruit cluster produced: bunch grapes or muscadines	Bunch grapes, which include varieties of <i>Vitis labrusca</i> and <i>V. vinifera</i> , produce large fruit clusters. Muscadines produce small clusters.
Blackberry	Erectness of canes: erect and trailing subtypes	Blackberries are easily classified into those having rigid, erect canes and those having trailing canes, which require trellises to keep plants aboveground. Home gardeners may grow either type, but commercial growers prefer varieties with erect canes for ease of management and highest net income.
	Thorniness: thorny and thornless canes	Until recently, the few thornless varieties that have been available were all trailing types, and growers have generally preferred the erect, thorny types for maximum income per acre. However, there are two recently introduced, erect, thornless varieties—Navaho and Arapaho—that look promising for the Southeast. Initial studies indicate that Arapaho may prove best because of certain disease problems affecting Navaho.
Raspberry	Time of fruiting: spring or fall	All raspberry selections can be classified into types that produce fruit in the spring only or in the spring and the fall.
	Fruit color	Raspberries can be divided into groups that produce either black, purple, or red fruit.
Blueberry	Species and growth habit	Blueberries commonly used in home and commercial plantings are classified into highbush and rabbiteye types. The lowbush blueberry is a native type usually harvested from the wild. Lowbush grow very low, only 12 to 15 inches; highbush usually grow 6 to 8 feet tall; and rabbiteye may grow to 10 to 15 feet tall or taller if not pruned. All three types are different species of <i>Vaccinium</i> . The latest type of blueberry introduced is the southern highbush, which is a hybrid of several cultivated and wild species.
	Chilling requirement and fruiting habit	Rabbiteye varieties have low chilling requirements and are usually self-incompatible, requiring cross-pollination. Highbush varieties are generally more self-fruitful and have very high chilling requirements. Some recent varieties referred to as southern highbush types combine the low-chilling rabbiteye characteristics with the more cold-hardy, earlier-fruiting northern highbush attributes.
Strawberry	Photoperiodic nature (How plants react to day length)	There are three subgroupings of strawberries based on their photoperiodic nature: spring-bearing, everbearing, and day-neutrals. Strawberry varieties commonly produced commercially and in home gardens in the Southeast are spring-bearing. (These may be referred to as short-day varieties.) These selections flower, fruit, and produce runners in that order. Everbearing varieties flower and fruit in the spring but then initiate flower buds under longer summer days. The two crops (spring and fall) produced by this type have been poor in quality and yield in the Southeast. Day-neutral selections flower, fruit, and produce runners at the same time. They tend to produce a normal spring crop and a rather small fall crop. To date, varieties of this type have not proven superior to spring-bearing selections.

Subtropical and Exotic Fruit

Satsuma	There is no subgrouping of satsumas.	Satsumas are mandarin-type fruits that are the most cold hardy of the sweet, low-acid-type citrus grown commercially.
	Fruit characteristics and time of harvest: small differences among varieties	Owari is the primary variety grown and produces fruits of very high quality. Armstrong Early matures its fruit 3 to 4 weeks ahead of Owari. It tends to have smaller fruit, not as high in quality, although very acceptable. Brown Select is a promising new variety.
Kumquat	Fruit characteristics: fruit shape and flavor based on species	Kumquats are the most cold hardy of the acid-type citrus that produce edible fruits. Three <i>Fortunella</i> species comprise the most common varieties grown. Varieties can be divided into those that produce oblong (Nagami) or round (Meiwa and Marumi) fruit. Varieties are also divided into those producing sweet (Meiwa) or semisweet/tart fruit (Nagami and Marumi).
Kiwifruit	Fruiting characteristics: based on species	The standard kiwifruit of the industry is <i>Actinidia deliciosa</i> . Hayward is the most common female variety. This type produces large, tasty fruit with fuzzy skin. <i>Actinidia arguta</i> , the "cold-hardy kiwi," produces very small fruit about grape size that are smooth (no fuzzy skin) and very sweet. Both species are dioecious, having male and female varieties.
	Cold hardiness: based on species	Hayward is only moderately cold hardy. It is especially sensitive to freeze damage through 3 years of age. There are cold-hardy relatives of kiwifruit, such as <i>Actinidia arguta</i> , called "cold-hardy kiwi," that may have promise for home and commercial production. Plants of <i>A. arguta</i> have resumed spring growth before <i>A. deliciosa</i> some years, and more evaluation of these promising kiwifruit relatives is needed.
Feijoa	Fruiting characteristics: fruiting and ornamental types	Feijoas have been bred to develop varieties with superior fruiting characteristics. The two varieties commonly used in Alabama, Mammoth and Triumph, are capable of producing large, high-quality fruit; however, they often produce small fruit not acceptable on the commercial market. Reportedly, fruit size increases substantially when Collidge is used as a pollinator with these varieties. The pineapple guava is the ornamental version of feijoa that generally produces low yields of poor-quality fruit.



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