

# Recommended Rootstocks

All tree fruits, including citrus, are propagated onto the root system of another plant. This root system is commonly referred to as the *understock* or *rootstock*. The upper part of the grafted or budded plant that bears fruit is referred to as the *scion variety*.

Rootstock varieties are not as plentiful as scion varieties, so selecting the proper rootstocks to use with fruit types grown in a particular area is easier. However, growers should become familiar with the rootstocks of choice for their particular needs.

Rootstocks are used for a number of reasons:

- Rootstocks allow the easy propagation of trees of the same variety. Most tree fruits do not come true-to-type from seed.
- Rootstocks allow faster fruiting. Fruit trees grown from seed require 3 to 8 years to begin bearing.
- Rootstocks influence cold hardiness, overall fruit quality, yields, and disease and insect resistance.
- Rootstocks help control tree size (dwarf, semi-dwarf, or normal).

The only highly effective dwarfing rootstocks available are for apples. Except for apple, the home gardener should purchase tree fruits on standard rootstocks and control tree size through judicious pruning and balanced fertilization. Dwarfing rootstocks for other tree fruits are either mediocre performers or are still being researched. The Flying Dragon dwarfing trifoliolate orange rootstock is showing promise for satsumas and is recommended for home gardens or containerized plants.

Home gardeners have no way of determining the rootstocks used on plants purchased from some retail outlets. Therefore, successful home gardeners can arrange to purchase their fruit plants from local or distant sources that can supply the desired scion varieties and rootstocks.

Information to help producers select varieties of fruit types on appropriate rootstocks can be found in Table 1. If a fruit type is not listed, graftage is not the primary method of propagation, and rootstocks are not necessary. Most small fruit types—blueberry, blackberry, strawberry—are propagated on their own roots without using rootstocks. Grapes are the exception. See Extension publication ANR-402, "Budding and Grafting Fruits and Nuts," for further information.



Well-developed 2½- to 4-foot peach trees are recommended for planting.

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**For more information**, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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**Table 1.** Rootstocks Recommended for Fruit Types Grown in Alabama

<b>Fruit Type</b>	<b>Rootstock</b>	<b>Description</b>
Apple, full size, vigorous	Seedling apple	Do not plant trees on this rootstock.
Apple, semivigorous	MM106 apple	MM106 has proven to be the best of the semivigorous rootstocks. Trees usually reach 14 to 18 feet tall and produce 7 to 12 bushels per tree. Performance of MM111, another semivigorous rootstock, has generally not been satisfactory.
Apple, semidwarf	M7A and M26 apples	M7A and M26 are the preferred semidwarfing rootstocks for high-density, trellised orchards. M7A produces the largest size trees of the two rootstocks and can be used in developing freestanding orchards (much like MM106), although some type of tree support may prove beneficial.
Apple, dwarf	M9 and M27 apples	Trees planted using these rootstocks are not freestanding and must be trellised or otherwise supported. Usually, trees grow to a height of 7 to 9 feet and produce 2 to 5 bushels per tree. Trees on M9 have performed fairly well, but M26 or M7A is preferred when trellis plantings are made. Trees on M27 are usually too dwarfish and are not satisfactory. Mark is being investigated as a potential rootstock.
Pears, common, European, and Asian pears	Calleryana pear	Calleryana pear, <i>Pyrus calleryana</i> , is the preferred rootstock for pears and Asian pears. Both types of pears are also propagated onto <i>Betulaefolia</i> , <i>Pyrus betulaefolia</i> , but tend to be more susceptible to fire blight on this rootstock.
Peach, nectarine, and plum	Lovell, Halford, Nemaguard, Nemared, and Guardian peach	Lovell is the preferred rootstock across the state; Halford is also very acceptable. Nemaguard is only suggested for South Alabama on sites where peaches and other stone fruits have not been grown. Nemared was released as a red-leaf peach rootstock several years ago. It is similar to Nemaguard in performance but has not been used much in the Southeast yet. It may prove valuable in the future. Guardian is a new release in 1995 and may become the preferred rootstock over all of these. Supply of trees on this rootstock is limited at this time.
Quince	Angers quince	All varieties of quince are usually propagated on Angers rootstock. Most varieties can also be propagated by cuttings.
Apricot	Lovell peach or other peach rootstocks listed above	Apricots are not recommended because their earlier flowering habit results in crop loss from freezes. If they are planted, however, use Lovell or other rootstocks listed for peaches.
Plum, European (prune type)	Lovell peach and Myrobalan plum	Lovell peach is preferred, but both rootstocks are acceptable. Other peach rootstocks listed above are also satisfactory.
Cherry, sweet and sour	Mahaleb and Mazzard cherry	Mahaleb is preferred. Some promising new rootstocks are being researched.
Oriental persimmon	Lotus, <i>Diospyros lotus</i> , and native American persimmon, <i>D. virginiana</i>	Oriental (Japanese) persimmon, <i>Diospyros kaki</i> , performs well on both rootstocks. Most grafted trees bought from nurseries are on Lotus, especially if the trees are from California. Sometimes grafted trees are on Kaki.
Pomegranate	Graftage is not practiced; no rootstocks are used.	The easiest and best method of propagating pomegranates is by hardwood cuttings taken in the winter from the previous season's growth. Plants can be grown from softwood cuttings placed in greenhouses, but this method is seldom used.
Muscadine grape	Graftage is not practiced; no rootstocks are used.	Muscadines are most commonly propagated from mound layerage of new canes and softwood stem cuttings rooted in greenhouses.
Bunch grape, European and American	Tampa, Lake Emerald, and DogRidge grape	Bunch grapes can be propagated using stem cuttings or by graftage. If grafted plants are desired, Tampa and Lake Emerald rootstocks are well adapted to the Southeast, although DogRidge is also satisfactory. DogRidge is very advantageous where soils are alkaline, as in parts of west Alabama.
Satsuma and kumquat	Trifoliolate orange, <i>Poncirus trifoliata</i>	Trifoliolate orange is by far the preferred rootstock for satsuma and kumquat varieties. A dwarf form of <i>Poncirus trifoliata</i> , Flying Dragon is being tested. It may prove valuable as a dwarfing rootstock and is worthy of at least home garden use.