

Getting Started With Tree Fruits

Growing tree fruit successfully in the home landscape is challenging and potentially rewarding. Tree fruits are subject to many problems (insects, diseases, weather extremes, wildlife) which can frustrate the novice grower.

If you intend to grow organically, start out with small fruits such as blueberry and blackberry. Tree fruits, especially apple and peach, are more prone to diseases and insect pests than small fruits. Fig, Asian pear and Japanese persimmon are the tree fruits with the fewest pest problems. However, the knowledgeable and dedicated gardener can successfully grow tree fruits without chemical fertilizers or pesticides.

If you have the space, desire and commitment to grow tree fruits consider these points before selecting your cultivars:

- Consult with neighbors who grow fruit. Which trees and varieties grow well in your area?
- When possible, select varieties that have resistance to diseases you are likely to encounter.
- Avoid fad trees like the “5-in-1” apple.
- “Container” varieties tend to be disappointing.

TIPS FOR PURCHASING FRUIT TREES

The old adage “you get what you pay for” holds true when buying fruit trees. Bargain plants may not be healthy or may be a variety not adapted to your area. Buy trees of recommended varieties from a reliable source.

- Order your trees during the winter and have them delivered right before you’re ready to plant in early spring.
- Be sure that you understand your suppliers terms, return policy and guarantees.
- Most tree fruits are grafted onto a separate rootstock that is hardier and more pest resistant than the root system of the desired cultivar (see graphic on page 2). Rootstocks may also dwarf the tree (see Table 2 for a list of apple rootstocks). Make sure that you know the precise rootstock that your tree is grafted to.
- A healthy one-year-old tree or “whip”, approximately four

to six feet tall with a good root system, is preferred.

- Trees that are two years or older frequently do not have enough buds on the lower portion of the trunk to develop a good framework.

When Your Trees Arrive...

- Check the label closely to make sure that you are getting the variety and rootstock that you desire.
- Call the supplier if trees appear stunted, poorly grown, diseased, or insect injured.
- **If the plants can not be set out immediately:** wrap them loosely in a plastic bag with some holes cut for ventilation and store them at a temperature just above freezing. Surrounding the tree roots with moistened sawdust, shredded newspaper or peat moss will prevent them from drying out. You can also plant your trees in a temporary trench of moist soil in a shaded location (this is called “heeling in”). Pack soil around the roots to eliminate air pockets and prevent root drying.

PLANTING

Transplant your trees as soon as the soil can be worked in the spring or from mid- to late September. Select a full-sun location with deep, well-drained soil. Avoid wet locations. The soil pH should be in the 6.2 to 6.8 range. Incorporate well-rotted manure, compost or peat moss throughout the eventual root zone. Make the planting hole three times the rootball width so the roots can be spread out. Water trees deeply and regularly the first year after planting. Soak the root system in a bucket of room temperature water for a few hours prior to planting.

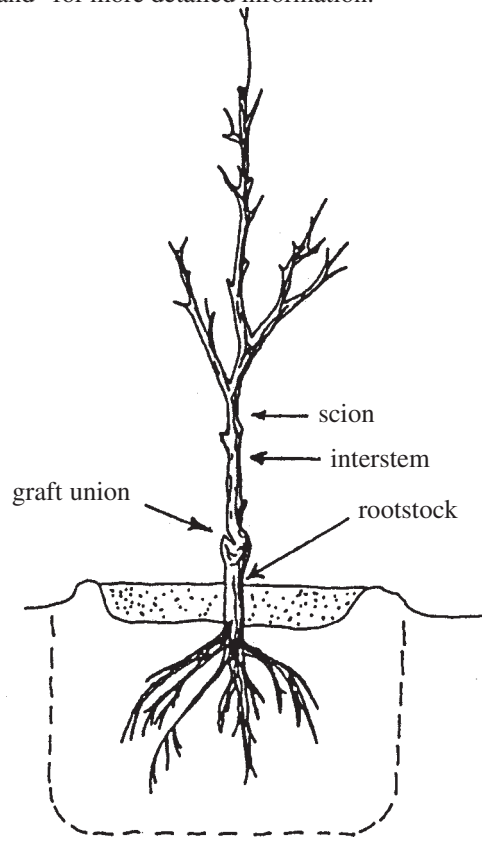
Trees should be planted so that the graft union (the point where rootstock meets scion wood) is 2- to 3-inches above ground level after the ground settles. Generally, trees should be set out 1-inch deeper than they were planted in the nursery. The diameter of the hole is much more important than the depth of the hole. The hole should be big enough to lay the roots out without crossing over or bending any back. Before planting, remove any roots that are broken or damaged with sharp pruners. Backfill the hole, firmly packing the soil around the root system and water in well. Do not add fertilizer to the planting hole or leave a depression around the tree. Place a 3-inch layer of organic mulch under the tree's dripline tapering to "0" inches at the trunk.

Remove all fruits that grow the first two seasons. This will help divert your trees energy to root establishment.

PRUNING NEW TREES

Approximately one-quarter of your tree's root system was removed when it was dug at the nursery. After planting, remove the top quarter of your non-branched whip to re-establish the proper "shoot-to-root" ratio. This will also encourage new lateral shoots.

On branched trees, remove poorly spaced and narrow-angled branches. Leave branches that are wide-angled and arranged spirally about 6- to 9-inches apart up the leader (trunk). Those branches left on the tree should be reduced by up to one-half their length and the leader should be cut about 12- to 15-inches above the top limb. Consult EB-197 "Pruning Fruit Plants in Maryland" for more detailed information.



Parts of a fruit tree.

Rootstocks and Dwarf Trees

- Fruit trees are vegetatively propagated by grafting a bud or shoot of the desired variety ("scion wood") to a clonal rootstock chosen for specific characteristics.
- **Rootstocks influence the size of the tree, age of bearing, winter hardiness and susceptibility to some diseases and insects.** A wide range of rootstocks exist for apples (see **Table 2**). Only a few are available for other fruits. There are no widely accepted dwarfing rootstocks for stone fruits (peach, cherry, plum). Trees on dwarf and semi-dwarf rootstocks are ideally suited for home fruit production. The smaller trees are easier to prune, spray, and harvest, and begin producing fruit at an earlier age than full-sized trees.

PREVENTING WILDLIFE DAMAGE

Surround the bottom 4 ft. of your trees with hardware cloth or woven mesh fencing to prevent vole and deer feeding. Some gardeners also surround their trunks with pea gravel to discourage voles. Hanging small deodorant soap bars or applying a commercial odor-based repellent will also help prevent deer feeding.

Can I Grow My Fruit Trees From Seed?

Yes, you can. But you will probably be pretty disappointed with the results. Tree fruits, especially apple and pear, are genetically complex. So, trees grown from seed will not be true to the variety- their fruits will look and taste different from those of the parent tree. Most temperate fruit tree seeds need special treatment- moist, cool conditions- to germinate reliably. Furthermore, most of our supermarket fruits are shipped from distant states, and are not adapted to Maryland conditions. Saving and planting such seeds will lead to poor results.

Fruit trees are propagated vegetatively; they are grown from tissue taken from a known variety, and are often grafted onto special rootstocks. There are many advantages to buying a young disease-free tree from a reputable nursery:

- They will be true to cultivar.
- They will bear more quickly than trees grown from seed.
- The rootstocks that fruit trees are grafted onto in the nursery can make the trees more compact, disease and insect resistant, cold hardy, and precocious (bear fruit more quickly).

TABLE 1**Bearing Age, Height and Pollination of Tree Fruit**

<i>Fruit</i>	<i>Bearing Age (yrs)</i>	<i>Tree Height (ft)</i>	<i>Pollination^a Requirement</i>	<i>Notes</i>
Apple	2 - 10 (See Table 2 for details)	6 - 25 (See Table 2 for details)	Mostly self-sterile; requires a pollinizer (a second cultivar)	Golden Delicious is self-fertile. Mutsu, Jonagold, Winesap and Arkansas Black produce sterile pollen. They must be grown with two additional cultivars.
Pear	4 - 5	15 - 18	Mostly self-sterile; requires a pollinizer (a second cultivar)	Asian and domestic cultivars are compatible. Seckel and Bartlett are incompatible. Magness produces sterile pollen and must be grown with two additional cultivars.
Peach Nectarine	3 - 4	20	Mostly self-fruitful	J.H. Hale is self-sterile and requires a pollinizer.
Sour Cherry	3 - 5	15	Self-fruitful	
Sweet Cherry	4 - 7	25	Mostly self-sterile; requires a pollinizer (a second cultivar)	Stella, Lapins and Starkrimson are self-fertile.
Plums ^c	3 - 5	10 - 20	Mostly self-sterile; requires a pollinizer (a second cultivar)	Stanley, Damson, Italian, Lombard and Reine Claude are self-fertile, European type cultivars. Most Japanese cultivars listed as self-fertile will produce larger crops when planted with a pollinizer. Plant 2 or more European cultivars or 2 or more Japanese cultivars, but not one of each type. Apricot-plum crosses (pluots, apriums and plumcots) can be pollinated with suitable Japanese plum cultivars.
Apricots	3 - 4	20	Self-fruitful	Trees bloom early and blossoms are often damaged by late spring frosts.
Figs ^d	2 - 3	5 - 10	Seedless and parthenocarpic ^b ; no pollinizer required	

^a To ensure cross-pollination, be certain that the selected varieties are pollen-compatible and share a similar bloom time. Crabapple trees, callery pear trees (e.s. Bradford) and ornamental plum and cherry trees will cross-pollinate their respective fruiting “cousins”, provided bloom time is similar.

^b Fruits develop without fertilization of seed.

^c Japanese type plums may not be hardy in parts of Western Maryland.

^d Fig trees require winter protection in Central, Northern and Western Maryland.

TABLE 2**Apple Tree Spacings and Probable Yields on Various Rootstocks**

	Approximate size when fully grown (ft.)	Age bearing (years)	Approximate lifespan (years)	Suggested spacing (ft.)	Average yields for trees at least 10 years old (bushels)
Apple:					
<i>Dwarf</i>					
Malling 9 ^{a*}	8-10	2 - 3	15	6 x 14	1 to 2
EMLA 26 ^{b*}	12-14	3 - 4	15	8 x 16	3 to 4
<i>Semi-Dwarf</i>					
EMLA Malling 7	15-16	3 - 4	20	12 x 20	10 to 12
EMLA 111 ^c	20	5 - 6	20	12 x 20	20 to 25
<i>Standard</i>					
Seedling	25	6 - 10	40	20 x 28	25 or more
Interstem trees ^d	10-12	4 - 5	15 - 20	18 x 26	10 to 12

* Require support.

^a Attractive to rodents.

^b Fireblight susceptible. **For cultivars with fireblight resistance, M-26 is a recommended root stock.**

^c EMLA trees require extremely well-drained soils to perform as advertised. Do not plant them where drainage is slow or the soil is heavy clay.

^d Apple interstem trees are composed of a rootstock (e.g. EMLA 111) a 6 - 8 inch stem peice of interstock (e.g. Malling 9) and the scion cultivar on top.

TABLE 3**Tree Fruit Variety Selection Chart****APRICOTS**

<i>Variety</i>	<i>Comments</i>
Harcot	Early ripening, productive trees
Veecot	Medium to large fruit with orange, freestone flesh.
Harlayne	Medium sized fruit with orange, freestone flesh. Productive and cold-hardy.

APPLES

<i>Variety</i> ^{a,b}	<i>Comments</i>
Redfree	Earliest scab and cedar-apple rust resistant variety; moderately resistant to fireblight and powdery mildew. Red apple with cream-colored flesh. Excellent flavor; ripens mid-late August.
Liberty	High quality desert apple. Red fruit; sub-acid to tart flavor. One of the most disease resistant varieties available.
Freedom	Slightly less disease resistant than Liberty. Thin-skinned, red fruit with sub-acid flavor.
Jonafree	Dark, hard red fruit that is crisp and slightly tart. Resistant to fireblight and cedar apple rust.
Spartan	A McIntosh x Newton Pippin cross with small to medium sized fruit. High quality desert apple that keeps well. Good disease resistance (not to apple scab).
Empire	A McIntosh x Red Delicious cross. Dark red fruits of excellent quality. Good keeper; very vigorous, early bearing trees.
Golden Delicious	Good all-purpose apple. Self-fertile, heavy producer. Fruit from spur strains tends to russet more than non-spur strains.
MacFree	Large fruit with 90% red blush over tough, green skin. Flavor similar to McIntosh. Immune to scab, resistant to other diseases.
Enterprise	Recent introduction. Red fruit, good keeping qualities. Immune to scab and highly resistant to fireblight, and cedar apple rust.
Goldrush	Recent introduction. Yellow fruit, good keeping qualities. Scab and powdery mildew resistance.
Mutsu	A golden Delicious x Indo cross. Very large, light green to yellow fruit. It is a triploid and produces sterile pollen. Ripens mid-October.

^a Listed in order of ripening

^b Bolded varieties have some resistance to fireblight, apple scab, cedar-apple rust, or powdery mildew and are highly recommended for the backyard grower.

EUROPEAN PEARS

<i>Variety</i> ^b	<i>Comments</i>
Harrow Delight	Juicy, medium-sized fruits. Smooth flesh, no grit cells. Productive trees.
Moonglow	Medium to large, dull green fruits with pink blush. Smooth, fine flesh; excellent quality.
Harvest Queen	Hardier and earlier but very similar to Bartlett.
Honeysweet	Firm fruit with cream-colored flesh very similar to Seckel.
Seckel	Can be nearly "tree-ripened". Very sweet, small fruits. Referred to as the "sugar pear".
Magness	Medium-sized fruits of excellent quality. Pollen is sterile; must be grown with two other varieties.

^a Listed in order of ripening

^b All listed varieties have some fireblight resistance. Bartlett, Bosc, Comice, Anjou and Clapp are all fireblight susceptible.

ORIENTAL PEARS

<i>Variety</i> [*]	<i>Comments</i>
Shenseiki	These are high quality, hardy varieties but are susceptible to fireblight.
Hosui	Has solid russet with pronounced lenticels. Sweet, juicy and mild.
Olympic	Large nad heavily russeted. Vigorous, hardy tree with good fruit quality.

* All Asian pears are susceptible to fireblight

PEACHES

<i>Variety^a</i>	<i>Comments</i>
Candor	Early, medium sized fruits. Semi-freestone, resistant to bacterial spot but susceptible to pit splitting.
Garnet Beauty	A sport of Redhaven. Medium to large, fuzzless, red fruit. Firm, yellow, semi-freestone flesh. Vigorous and productive.
Reliance	Buds are relatively cold hardy. Good for gardeners in Northern and Western areas of Maryland.
Redhaven	Most popular peach in Mid-Atlantic region. Red, semi-freestone fruits. Requires thorough thinning.
Raritan Rose	Large, red fruits with white flesh; excellent quality. Vigorous and productive trees.
Loring	Medium to large red fruits over a yellow background. Can produce heavy crops but blooms early.
Newhaven	Similar to Redhaven. Very reliable with good disease resistance.
Cresthaven	Medium to large golden fruits overlaid with red fruits. Vigorous trees require thorough thinning.
Summerglo	Large, yellow fruits. Vigorous and productive trees with above average cold hardiness.
Sunhigh	Large, oblong fruits turn red over an orange background. Important commercial variety. Susceptible to bacterial spot.
Redskin	Large fruit, very high quality. Blooms over a long period. Vigorous tree developed at the University of Maryland in 1931.
Red Rose	Medium sized, red fruits with white flesh. Vigorous, hardy trees.
White Hale	Similar to J.H. Hale but with white flesh. Large, high quality fruits; productive trees.

^a Listed in order of ripening

EUROPEAN PLUMS

<i>Variety</i>	<i>Comments</i>
Stanley	Medium sized, dark blue freestone oval in shape. Greenish-yellow flesh. Good for fresh eating, drying and canning. Ripens mid-August
Bluefree	Later and larger than Stanley. Yellow, freestone flesh.
Italian Prune	Medium to large, purple-black fruits. Excellent quality, freestone flesh. Productive trees.

JAPANESE PLUMS

<i>Variety^a</i>	<i>Comments</i>
Shiro	Round, yellow fruits sometimes with pink blush. Very juicy clingstone that ripens late July.
Santa Rosa	Very large, round, red-purplish fruits. Very high quality, clingstone flesh
Methley	Round, purple fruit with red blush. Ripens early to mid July. Vigorous tree.
Ozark Premier	Large red fruit with yellow clingstone flesh. Harvest early to mid August.

^a Japanese cultivars are more susceptible than European cultivars to brown rot.

SWEET CHERRIES

<i>Variety</i>	<i>Comments</i>
Ulster	Medium sized fruit with dark skin and flesh.
Hedelfingen	Very productive trees that come into bearing quickly. Good quality, black fruit with some cracking resistance.
Van	Fruit similar to Bing but firmer. Vigorous, productive tree can tolerate harsh weather.
Sam	Early ripening, large black cherry. Large, vigorous, upright trees. Blooms later than most other varieties.
Stella	Self-fertile, vigorous large trees (25-30 ft.). Large, dark red fruit.
Lapins	Self-fertile, heavy producer. Fruit have good crack resistance and ripen mid July.
Starkcrimson	Self-fertile tree that only reaches 12-14 ft. in height. Large red fruit ripen in early June.
Royal Ann	Very old yellow cherry with pink blush. Large, productive trees.

SOUR CHERRIES

<i>Variety</i>	<i>Comments</i>
Montmorency	Very old, standard variety. Red fruits with yellow flesh. Tree reaches 15 ft. at maturity with a spreading habit. Ripens in mid to late June.
Meteor	Genetic dwarf; reaches 8-12 ft. at maturity. Fruit similar to Montmorency.
Northstar	Genetic dwarf, reaches 6-12 ft. Heavy producer that often begins bearing in second year. Mahogany-colored fruit are crack resistant and can remain ripe on the tree for up to two weeks.

FIGS

<i>Variety*</i>	<i>Comments</i>
Celeste	Firm, sweet fruit with white flesh and violet skin. Very hardy. Restrict roots in rich soil.
Brown Turkey	Widely adapted and productive. High quality, medium-large fruit.
Marseilles	Produces huge crops at Jefferson's Monticello. Large, roundish fruits.
Brunswick	Large, sweet fruits with reddish-brown skin and amber flesh.
Hardy Chicago	Very hardy with small, black fruits.

* Fig trees require winter protection in Central, Northern and Western Maryland.

MAIL ORDER SOURCES FOR TREE FRUIT PLANTS

Adams County Nursery
26 Nursery Rd.
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(Continued next page)

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Author: Jon Traunfeld, Regional Specialist, Home and Garden Information Center, Maryland Cooperative Extension, University of Maryland
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