

Fruit and Nut Cultivars for Home Plantings

Success in growing fruits and nuts in home plantings largely depends on the type or cultivar selected. Midwestern growing conditions (cold winters, frosty or rainy springs, hot-dry summers) make it difficult to grow some of the well-known fruits and nuts. Every gardener should be realistic and discriminating about what fruits to plant. Many problems with winter injury, diseases and insects can be avoided by choosing a fruit or nut cultivar that is well adapted to your site conditions.

Adaptability

Performance of fruiting plants depends in part on how well their growth requirements are met. Mere survival of the plant is not enough. The climate must be adequate in all respects, including the length of the growing season, extremes of temperature, likelihood of late spring frosts, and amount of rainfall or availability of supplemental irrigation.

Localized situations often have recognizable microclimates; places where a small area has an environment differing noticeably from that of the area in general. The most troublesome microclimate for fruiting plants is a low area or "frost pocket." This may simply be low ground such as a stream bottom where late spring frosts are more prevalent than on surrounding hills or upper slopes. In low places, gardeners must be more cautious in selecting fruit trees.

Fruit and nut trees should be given ample space for development where they are not in competition with shade trees and receive full exposure to sun.

How much to plant

Beginners tend to plant more fruits than they need or want. A few trees or plants will provide a family with needed fresh and preserved fruits if properly cared for.

Table 1 lists the expected yields for mature producing plants that are given proper care.

Credits

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Obtaining plants

Most fruit trees produced from seeds differ from their parents in fruit type and quality. The most dependable plants are those produced from cuttings, division, or by budding and grafting to ensure trueness to cultivar. Trees and plants for producing the family fruit supply should be obtained from reliable nurseries or garden centers.

The purpose of dwarfing is to produce trees of smaller, more manageable size than standard trees. Dwarf trees produce full-sized fruits typical of the cultivar and usually begin bearing at a younger age.

Table 1. Expected yields of fruits.

Kind of fruit unit	Potential yield	
	Dwarf	Standard
Apple, per tree	2–6 bu	10–20 bu (N.R.)*
Blueberry		4–8 qt
Peach, per tree	1–2 bu (N.R.)*	4–6 bu
Pear, per tree	2–4 bu	8–15 bu
Plum, per tree	15–40 lb (N.R.)*	40–120 lb
Nectarine, per tree		3–5 bu
Sour cherry, per tree		40–120 lb
Grape, per vine		10–20 lb
Blackberry, per 50 ft row		50–80 qt
Raspberry, per 50 ft row		30–50 qt
Gooseberry, per plant		3–5 qt
Strawberry, per 50 ft row		20–45 qt

Note: Higher figures represent the more productive varieties in their most productive mature years, grown on adequate sites with proper care.

*N.R. – not recommended.

Dwarf fruits

Apples and pears, because of their large size as standard trees, are most in need of dwarfing. Among the tree fruits, they are the most successfully dwarfed. After selecting a dwarf tree, it is important to provide support for the tree at planting. A six- to eight-foot stake that is buried two feet into the ground is commonly used to support the top of the tree. Tie the main trunk or central leader of the tree to the stake to prevent the top of the tree from breaking.

Peaches and other stone fruits are less in need

of dwarfing because of their naturally smaller size at maturity. Standard or natural dwarf trees of stone fruits are not recommended unless the space available for trees is severely restricted.

Pollination needs

Requirements for pollination vary among kinds of fruits. The majority of apple, pear, plum and nut trees, as well as blueberries, require cross-pollination. Two cultivars that bloom at the same time can be used for cross-pollination. Sour cherry, peach, nectarine, grape and raspberries, blackberries and strawberries will bear acceptable crops with self-pollination. Refer to MU Extension publication G6001, *Pollinating Fruit Crops*, for more information.

Insects and diseases

All major kinds of fruits are subject to damage by insects and disease organisms. Often, apples, peaches and grapes are productive only under the careful use of a regular spray program. Spraying at specific times throughout the growing season is necessary because of the many kinds of pests that attack different fruits at different times. Protection of the foliage and bark is often necessary to keep plants healthy and productive.

See MU Extension publication G6010, *Fruit Spray Schedules for the Homeowner* for detailed information about spraying of home fruits.

Certain cultivars of fruits are susceptible to problems that cannot be prevented by sprays. For example, certain cultivars of pear, blackberry and black raspberry should generally be avoided in preference to other, more tolerant varieties. For this reason a few well-known or commonly available cultivars of these fruits are omitted from the following lists.

The following cultivars are suggested on the basis of vigor, productivity, climatic adaptability, fruit quality and relative freedom from the most destructive diseases. Wherever practical, several cultivars of each kind of fruit are listed to help satisfy personal preferences.

In addition to information given in the following cultivar lists, a few points are emphasized to help family fruit growers achieve success:

- Plant only two or three kinds of fruits; those which the family most prefers and has the best capability to care for.
- Consider fruits that ripen early in the season to reduce the number of sprays.
- Select self-pollinating kinds or cultivars to reduce the number of trees to care for.
- Select the most disease resistant cultivars to minimize the amount of spraying, especially if you decide to grow apple, cherry, grape, peach, plum, nectarine or raspberry.
- If you cannot spray, plant fruits that are most

likely to bear some edible fruits without spraying: blackberry, raspberry, gooseberry or strawberry.

Apples

See MU Extension publications G6021, *Home Fruit Production: Apples*, G6022, *Apple Varieties and Their Uses*, and G6026, *Disease-Resistant Apple Cultivars* for selection, planting, continued care and recommended cultivars of apples.

Pristine. Immune to apple scab, very resistant to cedar apple rust and to mildew. Moderately resistant to fire blight. Yellow, medium to large fruit are tart and ripen in late July.

Redfree. Immune to apple scab and cedar apple rust. Moderately resistant to fire blight and mildew. Medium-sized, bright red fruits of excellent quality for the season — early August.

Liberty. Immune to apple scab and cedar apple rust. Resistant to fire blight and powdery mildew. Fruit medium, red semi-stripe and of good quality. A good general-purpose apple for eating fresh, cooking or processing. Matures in early September.

Golden Delicious. An all-purpose medium to large apple with yellow fruit of excellent quality. Self-fruitful and a good pollinator for other cultivars. Matures in mid-September.

Enterprise. Immune to apple scab, resistant to cedar apple rust and mildew. Moderately resistant to powdery mildew. Fruit medium to large, red over yellow. Mild, sub-acid, spicy flavored fruit that ripens in early October.

Pears

Pears are well adapted to Missouri growing conditions except that the disease fire blight often kills blossoms, shoots and branches of susceptible cultivars. Several popular and desirable pears are not recommended for home planting because of susceptibility to this disease.

Many cultivars believed to be of poor quality are quite good when properly ripened. Most should be picked while firm and green, as soon as the seeds turn brown. They may be stored in refrigeration or a cold cellar and brought out to ripen as needed in a dark place at about 65 degrees F.

Harrow Delight. Resistant to fire blight. Fruit is smooth, yellow and medium-sized with excellent flavor. Matures in early August. Needs a pollinator.

Seckel. Also known as Sugar Pear. Resistant to fire blight. Small yellow-brown fruit. Excellent for cooking and preserving. Matures in August. Needs a pollinator.

Honeysweet. Resistant to fire blight. Yellow fruit with a flavor similar to Seckel, but is larger in size. Matures in late August. For best production, cross-pollinate with Starking Delicious.

Starking Delicious. Resistant to fire blight. Clear yellow color. Juicy white flesh. Good all-around quality. Matures in early September. Needs a pollinator.

Kieffer. Resistant to fire blight. Large fruits are yellow-green at maturity in October. Excellent for cooking or preserving. Good fresh when properly ripened. Needs a pollinator.

Peaches

Peaches are among the most rewarding fruits to grow because of their high quality for fresh eating as well as for cooking and preserving. They ripen early compared to apples. Standard-sized trees are relatively small. See MU Extension publication G6030, *Peach and Nectarine Culture*, for more information.

The major factors in selecting for home use is cold hardiness, disease tolerance and season of ripening. Peaches are best planted on high ground and in well-drained soils. Nearly all peaches are self-fruitful.

Redhaven. The most popular yellow freestone cultivar. Fair hardiness and frost tolerance. Good red skin color and excellent flavor. Good fruit size if thinned. Ripens in mid-July.

Madison. Yellow freestone type with firm, fine-textured flesh. Skin bright yellow with a red blush. Excellent hardiness and good frost tolerance. Ripens mid-August.

Reliance. Yellow freestone. Fruits of good size; fair quality. Excellent hardiness and fair frost tolerance. Ripens in late July.

Cresthaven. Yellow freestone. Flesh is resistant to browning during processing. Excellent for canning or freezing. Fair winter hardiness and frost tolerance. Ripens in mid-August.

Belle of Georgia. White freestone. Medium large fruits of excellent, mild flavor. Excellent winter hardiness. Ripens in late August.

Biscoe. Yellow freestone. Medium-sized fruits of excellent quality. Fruit buds winter hardy. Needs fruit thinning. Ripens in late August.

Nectarines

Nectarine trees are almost identical to peach trees in appearance, growth habit and frost tolerance. The fruits are smooth and generally smaller than peaches. The flesh is firm and they generally must be quite ripe for the flesh to be free from the stone. Most nectarines are self-pollinated.

Not all nectarines have been adequately evaluated under Missouri growing conditions. Performance can be expected to vary from one area to another. The cultivars listed below are among those with adaptation to areas similar to Missouri.

Mericrest. Hardy, yellow-fleshed freestone with full, red skin color. Tolerant of bacterial spot and brown rot. Ripens in late July.

Sunglo. Tree hardy and vigorous. Fruit large, free-

stone, yellow-fleshed with red skin. Matures in early August.

Redgold. Hardy, yellow-fleshed freestone with deep, red skin. Tree vigorous. Matures in mid-August.

Apricots

The apricot would be an excellent fruit crop for Missouri, but it blooms too early. Perhaps four out of five years, spring frosts or freezes are likely to take the crop. However, the apricot makes a nice ornamental tree, and a crop of fruit every five years or so should be considered a bonus.

Goldcot. Fruit is medium-sized with a smooth golden skin and firm, orange flesh. Ripens in early July.

Wilson Delicious. An all-purpose apricot for eating fresh, canning, freezing or drying. Fruit is medium-sized (two-inch diameter), has salmon-orange flesh with orange-yellow, red-spotted skin. Matures in early July.

Plums

Few of the many plum cultivars offered by nurseries are well suited to Missouri growing conditions. Some of the more attractive are limited in productivity because of sunscald, winter injury, late spring frosts, difficulty of pollination and other problems.

Japanese plums

Shiro. Round, yellow fruit, medium in size. Pollinate with a red plum such as Ozark Premier, Redheart or Starking Delicious. Ripens in mid-July.

Ozark Premier. Large, bright red fruit with thick skin. Yellow flesh. Ripens in early August. Pollinate with Shiro plum.

Redheart. Medium-sized semi-freestone fruit with dark red skin and blood red flesh. Self-unfruitful. Best pollinator for other Japanese plums. Ripens in early-August.

European plums

Earliblue. Earliest of the prune-type plums. Tree hardy and self-fruitful. Cross-pollination improves fruit set. Matures early August.

Stanley. Number one prune-type plum. Tree hardy and self-fruitful. Cross-pollination improves fruit set. Matures in mid-August.

Bluefre. Ripens about a week after Stanley. A large prune-type plum. Tree hardy and self-fruitful. Cross-pollination improves fruit set.

Damson. A small to medium blue plum best suited to making preserves. Fruit ripens in mid-August. Tree is hardy and self-fruitful.

Sour cherries

Sour cherries are reasonably well adapted to Missouri but should be planted only on soils that drain

quickly after rainfall. Standard cultivars make trees the size of peach trees. There are also some natural dwarf cultivars.

Montmorency (Spur type). A red sour (pie) cherry, large size. Excellent for pies and preserving. Heavy bearing, vigorous tree. Requires several sprays to control fungus diseases. Ripens in mid to late June. Self-pollinated.

North Star. A natural dwarf tree about half the size of Montmorency. Trees bear at an early age. Dark red fruit of the sour or pie type. Ripens in early to mid-June. Self-pollinated.

Meteor. A semidwarf tree about two-thirds the size of Montmorency. Bears light red sour or pie-type fruit. Ripens in mid-late June. Self-pollinated.

Sweet cherries

Sweet cherries are marginal fruit trees for Missouri. They must have a *well-drained* soil. The best soils in Missouri are the river hill (loessal) soils. River hill soils also provide the best spring frost protection by draining cold air away from the trees. Sweet cherries usually bloom early enough to be damaged by spring frosts or freezes unless they are planted on most frost-free sites. And finally, most sweet cherries need cross-pollination for fruit set (with the exception of the self-pollinating types listed below), so two or more cultivars must be planted.

Self-pollinating types

Stella. Fruit large, heart-shaped, moderately susceptible to cracking. The skin and flesh are black. Fruit ripens in June. Hardiness questionable north of Interstate Highway 44.

Compact Stella. Same as Stella, but tree more compact, reaching a height of about 12 feet. (Note hardiness comment regarding Stella.)

Starkrimson. Fruit large, skin black-red, flesh red, excellent quality. Tree compact, vigorous, productive and hardy.

Cross-pollinating types

Hedelfingen. Fruit is glossy, black and large. Cross-pollinate with Van, Gold or Stella.

Van. Medium to large fruit that's ruby red. Cross-pollinate with Stella or Hedelfingen.

Gold. Fruit is firm, yellow and medium-sized. Often used to make maraschino cherries. It can be pollinated by most other sweet cherry cultivars.

Black walnuts

Black walnut is native to most of Missouri and is perfectly hardy against cold weather. It is intolerant of thin or dry soils, however, and should be planted only on deep, well-drained soils.

Self-pollination is seldom adequate. A single tree usually bears some nuts; however, better crops are

usually obtained by having other cultivars or seedlings nearby.

Thomas. A grafted cultivar that bears at an early age and produces good yields of thin-shelled nuts. Somewhat susceptible to leaf diseases and sunscald.

Seedlings. Nursery-grown seedlings or trees grown from seeds of outstanding native trees usually produce good nuts. Yields and earliness of bearing will usually not equal those of grafted cultivars.

Hardy English walnuts

Hardy strains of the Persian or English walnut are mostly called Carpathian walnut. They originated in Poland and have superior tolerance to Midwestern winters, whereas the Persian or English types freeze back severely or are winter-killed. Carpathian cultivars produce acceptable quality nuts when adequately cross-pollinated. Two or more cultivars should be planted.

Champion. A grafted cultivar that produces medium-sized nuts. Nuts crack easily, and kernels are of good flavor and quality. Trees usually begin to bear in six or more years. Pollinate with Lake English.

Lake English. A grafted cultivar that bears at an early age (four or more years after planting). Nuts crack well. Best pollinated with Champion or a seedling Carpathian walnut.

Seedlings. Nursery-grown seedlings from superior trees are generally productive and reliably hardy.

Pecans

Most of Missouri is too far north for proper ripening of the "papershell" or "Southern" cultivars of pecan. In areas other than extreme southeast Missouri, only the cultivars selected and grafted from the best of the northern pecans should be planted.

Pecans are not adequately self-pollinated. Several cultivars or native seedling trees are necessary for adequate cross-pollination.

Pecans require a deep, fertile soil capable of supplying moisture throughout the season. They can tolerate flooding for short periods of time.

Colby. Produces good crops of medium-sized, long, oval nuts. Trees bear early in six to eight years.

Major. Produces good crops of small to medium near-round nuts regularly, starting at a relatively early age in six to 10 years. The nuts are of outstanding quality and crack well.

Hardy Giant. A superior grafted cultivar producing good crops of medium-sized nuts. The kernel is of good quality and the shells are thinner than other northern cultivars. Bearing begins in eight to 10 years.

Peruque. A superior grafted cultivar. Missouri native selection producing heavy crops on favorable soils. Nuts are of medium size and have excellent kernel quality.

Giles. Produces good crops of thin-shelled, good

quality nuts. A bit late in maturity. Best adapted south of the Missouri River.

Extreme southeast (Delta) counties only

Stuart. A large, long-season cultivar with resistance to scab. Normally produces well-filled, good quality kernels. Not a truly “paper shell,” but can be cracked without difficulty.

Cheyenne. A smaller-sized tree that can grow to 35 to 45 feet tall. Compatible with Stuart for cross-pollination.

Grapes

For details on selection, planting and continued care of grapes, see MU Extension publications G6085, *Home Fruit Production: Grape Culture*, and G6090, *Home Fruit Production: Grape Training Systems*.

Table grapes with seeds

Buffalo. An early, blue-black slip-skin grape that is of excellent quality. Flavor is very sweet, spicy-tart, vinous. Vines are hardy.

Concord. A late midseason grape excellent for table, juice, jelly and wine. Large blue grapes with medium to large bunches. Hardy.

Niagara. A midseason golden grape with large berries and medium large clusters. Excellent for table, juice and wine. Hardy.

Steuben. A late bluish-black grape, medium to large berries and long, tapering compact bunches. Very sweet, spicy flavor. Hardy.

French hybrids for wine

Seyval. An early midseason-maturing hybrid with white berries on medium-sized clusters. Used to make high-quality white wine. Vines are only moderately hardy but have medium vigor and are highly productive.

Blanc. A late hybrid with long, narrow clusters. Berries golden, small, with characteristic “freckle spots.” Vine vigorous, moderately hardy and productive.

Villard Blanc. Midseason maturing hybrid with large golden berries and large, compound, compact bunches. Vines are only moderately hardy.

Seedless grapes

Canadice. Small, pinkish berries on medium-sized, tight clusters. Excellent quality. Fruit ripens in early August. Vine medium in vigor; one of the hardiest.

Glenora. Small, black berries on medium clusters. Flesh firm, (not slip-skin) and very sweet. Ripens in mid-August. Vine medium in vigor.

Reliance. Berries pink, medium size, on medium clusters. Ripens in late August. Has some disease resistance. Vines are productive, vigorous and relatively hardy.

Catawba. Medium-sized, coppery red berries. Used for juice, wine and jellies. Ripens two weeks after Concord. Vines are susceptible to mildew.

Note: Most seedless cultivars lose primary fruit buds below 0 degrees F and experience vine damage at temperatures below -15 degrees F.

Blackberries

The blackberry is native to all of Missouri. It is unfortunate that a barren condition known as blackberry sterility affects many native stands and some nursery stock. Sterility increases the vigor of the plants. Bloom is profuse but no fruit sets. Plants infected with sterility should be rogued out — roots and tops — and burned. Plant only disease-free plants in another location.

Thorned

Darrow. Berries medium, firm and of good quality. Ripens late June to early July. The hardiest of all blackberries.

Shawnee. Very productive. Large, shiny black, high quality berries that can be harvested over a four week period. Less hardy than Darrow, but can tolerate temperatures to -9 degrees F. Canes may die back after a cold winter, resulting in a partial loss of crop. However, fruit is generally produced the following year.

Thornless

Arapaho. An erect-growing cultivar that does not require trellising. Fruit is less sweet than Navaho, but has better flavor than Shawnee. Berries have small seeds and ripen in early July. Canes are hardy to -11 degrees F.

Navaho. An erect-growing cultivar. Medium-sized fruit that is glossy, black and stores well. Excellent sweet flavor. Matures in mid-July. Canes are hardy to -13 degrees F.

Raspberries

All raspberries require a well-drained soil to avoid root rot. Black raspberries are susceptible to anthracnose and cane blight. Fruit size is also small. Purple raspberries generally have larger fruit than purple cultivars. Black and purple raspberries grow more vigorously and require more pruning than red-fruited cultivars. All canes of fall-fruiting or primocane-fruiting red raspberries are pruned just above the soil surface during the dormant season.

Jewel. Black, medium-sized firm fruit with good flavor. Fruit ripens in midseason. Plants are cold-hardy and productive under good care. Resistant to anthracnose fungus and more disease resistant than many black raspberries.

Royalty. Produces large purple fruit that matures in June. More productive than red raspberry cultivars. Very susceptible to root rot.

Heritage. Bears a fall crop of red fruit. Ripens in August. Fruit good for fresh uses or for preserving. Bears a good fall crop.

Redwing. Produces a fall crop of red fruit about 10 days later than Heritage. Fruit quality is slightly better than Heritage, as it is more heat resistant.

Latham. Red, medium-sized, firm fruit of good quality. Good preserved or frozen. Ripens in June.

Blueberries

Blueberries require an acid soil (pH 4.8 to 5.2). Incorporate sulphur to lower the soil pH if necessary before planting and incorporate peat moss into the planting hole. After planting, use ammonium sulfate fertilizer to maintain a low pH. Use an organic mulch over the row and irrigate routinely during dry periods. Birds are a real problem. Use netting over a structure to enclose plants and prevent fruit loss.

Duke. Ripens very early (in mid-June). Fruit is mild-flavored, medium-sized with very firm skin. Best for eating fresh. Berries have long stems and loose clusters.

Blueray. Berries large, light blue, and have good flavor. Good all-purpose berry. Fruit ripens in late June to early July. Bushes are vigorous and productive.

Blucrop. Fruit ripens a few days later than Blueray. Large fruit (about 65 berries per cup) with bright blue color and good flavor. Good all-purpose berry. Very productive.

Strawberries

Strawberries are one of the best adapted fruits for Missouri. Weed control is a major task when growing strawberries. It is wiser to maintain a small planting that is well tended than a large planting that is neglected. No cultivar of strawberry will perform well in competition with weeds or grass.

See MU Extension publication G6135, *Strawberry Cultivars and Their Culture* for selection, planting, care and recommended cultivars of strawberries.

Everbearing or day-neutral cultivars fail to produce a good crop under warm Missouri temperatures.

Early

Earliglow. Berries medium-sized with excellent flavor. Shows resistance to leaf and root diseases. Good plant producer. Berries dark red, sweet and good for freezing.

Midseason

Surecrop. Berries large, light colored, tart and of fair quality. One of the most productive, vigorous and disease-resistant cultivars available.

Honeoye. Berries very large with good red color throughout the fruit. Under certain conditions, it is not as flavorful as other cultivars. Consistently produces a heavy crop.

Redchief. Berries medium-large to large, dark colored, sweet and of excellent quality. Disease resistant, good plant producer and excellent for freezing.

Late midseason

Allstar. Berries large, glossy, orange-red color, firm. Resistant to leaf and root diseases. Good freezing cultivar.

Jewel. Large firm berries of excellent color and quality. Very good eaten fresh or for freezing.

Gooseberries

The gooseberry, though not especially popular, is worth considering because of the small amount of care and space required. Plants are adapted to a wide range of soils. Improved cultivars produce berries twice the size of most native plants. Among the best are **Welcome** and **Pixwell**.

Also from MU Extension Publications

- G6001 *Pollinating Fruit Crops*
- G6010 *Fruit Spray Schedules for the Homeowner*
- G6020 *Fire Blight*
- G6021 *Home Fruit Production: Apples*
- G6022 *Apple Varieties and Their Uses*
- G6024 *The Vertical Axis System: A Training Method for Growing Apple Trees*
- G6026 *Disease-Resistant Apple Cultivars*
- G6030 *Home Fruit Production: Peaches*
- G6085 *Home Fruit Production: Grape Culture*
- G6090 *Home Fruit Production: Grape Training Systems*
- G6135 *Strawberry Cultivars and Their Culture*

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