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Dwarf Fruit Trees For Home Gardens

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Many kinds and varieties of fruits can be grown in home orchards in Oregon. In recent years the use of dwarfing stocks and improved disease and insect control chemicals have made fruit growing in the home garden easier. But even with these developments, fruit trees require considerably more effort than do most ornamentals.

Extension Circular 631, *Spray Schedule for Home Orchards*, lists seven seasonal sprays for apples and pears, about nine for peaches, and three or four for cherries. This leaflet is available from your county Extension office. Many dwarf trees can be sprayed with a three-gallon, hand-pump garden sprayer. Spraying must be timely in order to maintain healthy trees and harvest good quality fruits.

Most dwarf fruit trees require as much space as a very large shrub or a small ornamental tree. Furthermore, all fruit trees need sunshine. Dwarf fruit trees sometimes bear in the second year after planting; but more often sizable crops are not obtained until the fifth or sixth year. One should recognize these limitations before deciding to grow fruit trees in the home garden.

Fruit trees require a soil that is deep and well drained. Low-lying soils that are wet during the winter months are not suitable for fruit gardens. Fruit trees do well on a variety of soil types provided they meet depth and drainage requirements.

Dwarf fruit trees are usually obtained by grafting a selected scion variety (such as Red Delicious apple) onto a dwarfing rootstock. Sometimes a dwarfing interstock is used. The degree of dwarfing depends not only on the rootstock used but also on the inherent vigor of the scion variety, the site on which the tree is grown, and the care it receives. Not all dwarfing rootstocks produce satisfactory trees. Some rootstock-scion combinations are unproductive or short-lived.

VARIETIES

Selection of fruit varieties is a matter of personal taste, knowledge of local success or failure, and availability. Your county Extension office can provide variety information for your area.

APPLES

East Malling IX is the only fully-dwarfing apple rootstock that we can recommend at present. Its chief limitation is root brittleness, which results in poor

anchorage and necessitates tree support. Mature trees on this stock are usually from 8 to 10 feet tall and occupy a space about 10 feet in diameter.

The best varieties to grow on EM IX are those which combine early production with vigorous growth. Golden Delicious on EM IX, for example, produced three boxes of fruit per tree in the sixth season after planting at Corvallis. Red Delicious produced slightly less than one box at the same age. Furthermore, Golden Delicious is self-fruitful, while Red Delicious requires a pollinizer. Golden Delicious has superior flavor and texture eaten fresh and are better for sauce and pies. Gravenstein, a popular early-season variety, grows quite large even on EM IX. It also requires a pollinizer. Jonathan is a weak grower and relatively unproductive on EM IX, but Rome Beauty, which also forms a small tree, is equally as productive as Golden Delicious. Other apple varieties are available on dwarf stock.

Dwarf apple trees must be planted with the graft union above ground to prevent scion rooting. If the scion (top variety) is permitted to produce roots, the dwarfing effect will be lost.

Solitary trees must be staked for support. A steel fence post or a strong cedar post is satisfactory. A stake 18 to 24 inches above ground provides support enough to keep the main trunk from breaking off or bending over, but does not provide vertical support for the central leader as it grows taller. Tall stakes often seriously injure the trunk and branches growing next to them. Two stakes can be used with the tree tied between them. The most difficult problems in staking are overcome with the use of a wire trellis. Sometimes apple trees are grown in an espalier form against the side of a house or fence. This requires special care in training and pruning. Solitary trees on EM IX should be trained to a central leader or Christmas tree shape. Otherwise the scaffold limbs will become long and willowy and will not support the heavy crops produced without excess limb breakage or propping. Side branches should be cut back annually to keep them stiff and to provide for renewal of the fruiting wood.

PEARS

Dwarf pear trees are obtained by grafting pear onto quince. Many quince selections have been used as rootstocks for pear. Some pear-quince combinations are incompatible and require a compatibility bridge (stempiece) of a compatible variety. Other pear-quince



This is one of a series of *Fact Sheets* reporting Cooperative Extension work in agriculture and home economics, F. E. Price, director. Printed and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914. Oregon State University, Oregon counties, and U. S. Department of Agriculture cooperating.

combinations have resulted in dwarf trees which are both productive and long-lived. The only quince root known well enough to be recommended for use in Oregon is East Malling Quince A.

The Bartlett variety is incompatible with EM Quince A. Therefore, a bridge of Hardy or Old Home pear is required between them.

Anjou and Comice are compatible with EM Quince A and can be grafted directly onto it.

Bartlett is an excellent variety either fresh or canned and is the pear most widely grown in the Pacific Coast states. It is picked from mid-August to early September. Anjou, an important winter variety, is a good pollenizer for Bartlett. It ripens a month after Bartlett and is not good for canning. Comice, another pollenizer for Bartlett, is noted for its outstanding flavor. It is harvested about three weeks after Bartlett. The tree is exceptionally vigorous, bears at a later age, and is larger on EM Quince A than either Bartlett or Anjou.

Pear flowers are not as attractive to bees as most other flowers, so for optimum pollination of pear trees, no ornamental plants which bloom at the same time should be planted near them.

Pear trees are generally less spreading in growth than apples and may require less space. Pears on EM Quince A may be planted as close as four feet in hedgerows. Solitary dwarf pear trees require a space about 10 feet in diameter. In France pears are often grown in espalier form against the sunny side of a house or fence.

Dwarf pear trees should be planted so that the pear-quince graft union is above ground. As with dwarf apple trees, support in the form of a stake or wire trellis is required.

There are many systems for training dwarf pear trees, including both the espalier and arch-types developed in France. The central leader system in which all side branches arise from a single central trunk or leader is easiest to follow. Usually the top of the leader will fruit and bend over before it becomes too tall, but if it does not, then it can be modified by cutting to a side limb. Branches that form narrow angles with the central leader are likely to compete and should be tied at an angle to one of the support wires (if a trellis is used) or else removed.

PEACHES

Several different rootstocks have been used for peaches. The Western Sand Cherry (*Prunus besseyi*) used as a rootstock produces a very small tree. However, it is suspected that some seedlings of the Western Sand Cherry are laden with a virus which weakens and may eventually kill the peach variety grown on it. At any rate, trees on this rootstock have frequently been unsatisfactory.

Nanking Cherry (*Prunus tomentosa*) has been used as a dwarfing stock for peach. Little is known about the performance of peach trees on this rootstock in Oregon.

Selected types of St. Julien Plum (*Prunus institia*) have been used to produce semi-dwarf trees. Such trees

have been found to be well anchored and good producers in rather limited tests. Peach trees on St. Julien rootstock are from one half to one third smaller than trees on vigorous stocks. They will require an area of 15 to 18 feet in diameter when mature.

The Flory dwarf peach (*Prunus persica*) reaches a height of about 5 feet when fully grown. The fruit is white fleshed and does not color well. This peach should be planted primarily for its ornamental effect and not for the fruit alone.

The Bonanza peach is a new variety with dwarfish growth habits inherited from its Chinese ancestors (*Prunus persica*). Bonanza was developed by David L. Armstrong, Armstrong Nurseries, Ontario, California. The patented Bonanza is a true dwarf, normally having very short internodes which are only about $\frac{1}{4}$ inch in length. The medium sized, yellow freestone has a moderately red skin. It ripens early, a few days before Coronet and a few days after June Gold.

Peach trees need annual dormant pruning. Three or four primary scaffold branches are enough. All cuts should be made to a side limb. In no case should one stub back shoots.

PRUNES AND PLUMS

The Western Sand Cherry (*Prunus besseyi*) has been used as a dwarfing rootstock for Stanley prunes in experimental plantings. Such trees were one third the size of trees on Myrobalan stocks grown for comparison. In the New York test, Stanley prunes started to bear 2 years after planting and never failed to bear during the 12-year test period. Italian prune, Pacific plum, American Mirabelle, and Sweet Damson did not do well on Western Sand Cherry roots.

Selected types of St. Julien plum have also been used as rootstocks to produce semi-dwarf prune and plum trees. St. Julien A, a vegetatively propagated selection, is suitable for most plum varieties.

CHERRIES

Stockton Morello is a sour cherry rootstock that has a dwarfing influence on sweet cherry varieties propagated on it. This stock is more tolerant of heavy, slowly draining soils than other stocks for sweet cherry. Mature trees are about one half the height of the same varieties grown on Mazzard or Mahaleb. Most of the old sources of this rootstock were virus laden. Recently, however, virus-free Stockton Morello has been made available to nurserymen.

Commercial sour cherry varieties have been used as trunk and/or body stocks with sweet cherries grafted onto the scaffolds. Limb breakage often occurs in these trees because the sour cherry wood is brittle and not strong enough to support the heavy sweet cherry branches.

No completely satisfactory dwarfing stocks for sweet cherry are available at present. Horticultural scientists are attempting to develop such stocks.

All commercially available sweet cherry varieties require pollenizers. The three most frequently grown varieties, Bing, Lambert, and Royal Ann (Napoleon) will not pollinize each other.