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FRUIT TREES: Pruning Overgrown Deciduous Trees

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Many people have one or more large, neglected fruit trees in their yard. Because the trees may be very tall, a majority of the fruit must be picked using ladders, or it may not be picked at all. It is difficult to prune or spray these overgrown trees, and the higher branches often break due to the weight of unthinned fruit. Diseases, borers, and other insect pests frequently invade these trees.

Before deciding to prune an overgrown fruit tree, first decide whether the tree is worth the time and effort. Ask yourself whether

- you like the fruit from the tree
- new, improved varieties (disease-resistant, dwarf, etc.) of the tree are available
- you would rather have a different species of fruit tree
- you would rather have a shade tree instead of a fruit tree

If you choose to work with an existing overgrown fruit tree, use one of these three basic methods of pruning:

1. Maintain the tree height and make mostly thinning cuts (for definitions of pruning terms, see the glossary at the end of this publication).
2. Reduce the tree height slowly over a 3-year period.
3. Drastically cut back all main branches but one.

If you must cut large branches, wait until about early April to do so to allow wounds to close more rapidly and to reduce the chance of decay in the large wounds (see “Method 2,” below). Do not paint the pruning wounds with any kind of sealant. When thinning, cut branches back to a lateral whose diameter is at least 50 percent larger than the diameter of the branch being cut; or, cut back to the point of branch origin. If pruning exposes branches to prolonged periods of hot afternoon sun (which usually happens with severe pruning), protect the branches from sunburn by painting them with whitewash or a 50-50 mixture of white interior latex paint and water.

METHOD 1: MAINTAIN THE TREE HEIGHT AND MAKE MOSTLY THINNING CUTS

This method assumes that the tree is structurally sound and not much taller than you can easily manage with an available ladder. If the tree has been neglected, many branches will need to be removed, especially high in the tree. Begin by removing any dead, diseased, broken, or damaged limbs. Branches that cross or rub against each other should be pruned out, as should redundant limbs and branches that grow toward the interior of the tree.

Thin enough of the remaining canopy to allow sunlight to penetrate to the lower fruiting branches, but don't create such big gaps that the main branches can be sunburned. (If branches do become exposed to afternoon sun, paint white as discussed above.) Remove any branches growing beyond the height at which you are able to pick the fruit. Prune the tree to the same height annually. The tree will produce new, vigorous shoots, especially near the top of the tree, that must be removed each year, preferably through summer pruning.

METHOD 2: REDUCE THE TREE HEIGHT SLOWLY OVER A 3-YEAR PERIOD

If the tree is structurally sound but taller than you can manage with an available ladder, reduce the height of the tree to a manageable level over 3 years. Determine how tall you would like the permanent (fruit-bearing) structure of the tree to be and reduce the excess height of the tree by one-third each year for 3 years until the desired height is reached. Major cuts can be made during the growing season, but to reduce the chances of disease infection at the pruning wounds, cuts should be made in early spring. At this time, rainfall is less and active growth is occurring, which hastens the healing process and provides shade by early summer. Avoid major cuts during summer, as the exposed branches will sunburn and attract borers. Any large branches that are exposed to the sun should be painted with a 50-50 mixture of white interior latex paint and water. Avoid leaving large stubs; when possible, cut back to a lateral branch that is at least one-third the size of the main branch. Because large cuts stimulate new growth, remove or head back watersprouts once or twice during the summer to avoid shading the lower fruiting wood. Thin additional branches as needed to allow some sunlight to penetrate into the canopy.

METHOD 3: DRASTICALLY CUT BACK ALL MAIN BRANCHES BUT ONE

This is an extreme method of reducing tree height in a single season. Not all trees are capable of resprouting from large lower branches: apples and pears will usually do so, as will citrus and avocados. However, old stone fruit trees (peaches, cherries, apricots, nectarines, etc.) may not resprout effectively because lower buds may not be able to grow through the thick bark. Also, many trees do not have small, low branches or twigs that can be used to form a new framework. If the tree has no main branches below 6 to 8 feet (1.8 to 2.4 m) from the ground, it is better to use method 1 or 2 above or remove the tree completely, since a major cut low in the tree would leave just a stump, which may not regrow.

To use this method, cut back main branches to a height that will result in a tree of the desired size. Branches may be cut to a length of only 1 or 2 feet (0.3 to 0.6 m), or they may be cut to 4 to 6 feet (1.2 to 1.8 m). Branches more than 2 inches (2.5 cm) in diameter should be removed using three cuts to prevent tearing the bark. With a saw, cut about one-quarter of the way through the underside of the branch, 1 to 2 feet (30 to 60 cm) from its point of attachment. Then remove the limb with a cut on the upper side of the branch about 1 inch (2.5 cm) beyond the first cut. Finally, cleanly remove the remaining stub just outside the branch collar. Preserve and cut back lateral branches where possible, even if the laterals are small. These laterals, along with shoots arising from buds on the main branches, will form the framework for the new, smaller tree. As noted above, a good time for major pruning is early April, when active growth is beginning. To prevent sunburn, paint all exposed scaffold branches with whitewash or a 50-50 mixture of white interior latex paint and water.

Because this method removes a great deal of leaf area yet maintains a large root system, leave one smaller main branch or a large side branch (“nurse branch”) unpruned to absorb the tree’s growth energy and provide foliage so photosynthesis can occur. Remove or cut back the nurse branch the following year, after new branches have arisen from the other branches. Follow-up summer pruning and dormant pruning are essential to reshape the tree in the desired manner.

GLOSSARY OF PRUNING TERMS

- bare root.** Nursery stock in which the plant is sold without soil around the roots.
- canopy.** The part of the tree composed of leaves and small twigs.
- central leader.** The main stem, or bole, of the tree; a method of training trees that consists of a single dominant trunk and tiers of lateral branches.
- crown.** The aboveground parts of the tree, including the trunk.
- dormant pruning.** Pruning that takes place when the tree is not actively growing, such as in winter for apple trees.
- heading cut.** Removing a portion of a shoot or branch, leaving only buds or a tiny twig on the remaining portion; results in an increased number of branches. Compare with **thinning cut**.
- internode.** The part of a stem between two nodes.
- latent bud.** A dormant bud that is more than 2 year old but has grown enough each year to that its growing point remains at or near the surface of the bark.
- lateral.** A secondary branch arising from scaffold limbs.
- leader.** A dominant upright branch. The central leader is the trunk that extends from the root to the top of a tree.
- open center.** A method of training trees in which scaffold branches are trained upward and outward from the trunk and the center is kept free of vigorous upright shoots.
- primary scaffold limb.** One of the major limbs arising from a tree trunk.
- rootstock.** The plant that provides the root system upon which the desired fruiting variety has been budded or grafted.
- scaffold.** Main branches that form the structure of an open center tree.
- shoot.** The growth that emerged from a bud in the current growing season.
- spur.** Short twig that is specialized for bearing flower buds and fruit on many fruiting trees.
- sucker.** Vigorous upright shoot that arises below the bud union from the rootstock or roots.
- tier.** Arrangement of three or more buds at the same level around the stem.
- thinning cut.** Removing branches at their point of origin or to a lateral whose diameter is at least one-half larger than the diameter of the removed branch. Thinning results in a reduced number of branches.
- topping.** Reducing the height of a tree by heading large branches (generally considered poor practice); also, removing upright shoots to maintain a tree at its desired height. Compare with **heading cut**.
- watersprout.** Vigorous upright shoot that arises from latent or adventitious buds above the growth or graft union on older wood.

FOR MORE INFORMATION

You'll find detailed information on many aspects of tree management in these titles and in other UC ANR products:

California Master Gardener Handbook. UC ANR publication 3382, 2002.

Pests of Landscape Trees and Shrubs. UC ANR publication 3359, 1994.

Pruning Citrus Trees. UC ANR publication 2449, 1976.

Pruning Fruit Trees. UC ANR video V85-A, 1985.

Fruit Trees: Training and Pruning. Online publication not yet available. UC ANR publication 8057.

See also: *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*. 3rd ed. R. W. Harris. Englewood Cliffs, NJ: Prentice-Hall, 1999.

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