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Fruit Trees: Thinning Young Fruit

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Fruit trees often set more fruit than they can support or develop adequately, especially if the trees were not properly pruned during the previous season. Excessive fruit compete with each other for carbohydrates (stored energy) and remain small. This carbohydrate drain, or “sink,” can also weaken the tree and make it more susceptible to pests and sunburn damage. Leaving too much fruit on a tree can also lead to alternate bearing (a cycle in which the tree bears excessively in one year and little the next year) or limb breakage. Thinning the fruit helps prevent these problems from developing.

BENEFITS

Thinning immature fruit at the appropriate time allows each remaining fruit to develop to its maximum size, with little reduction of tree vigor. Less-crowded fruit receive more sunlight, so fruit color and flavor may be improved. Fruit thinning also reduces alternate bearing.

Reducing the fruit load through proper pruning and fruit thinning, especially near the ends of branches, lessens the chances of limb breakage. To make thinning fruit easier, prune trees adequately to keep them small and lower to the ground.

Fruit thinning can also reduce the spread of some diseases. For example, if the fruit are touching each other, brown rot can quickly spread from one fruit to another just before harvest. Air movement around tightly clustered fruit is minimal, so the surface of unthinned fruit doesn't dry quickly, allowing disease organisms to multiply and spread.

NATURAL FRUIT DROP

Flowers and fruits naturally thin themselves, often at distinct time periods. Blossoms that were not pollinated turn yellow and drop off just after flowering. Small, immature fruits often drop naturally during what is known as “June drop,” which usually occurs in May in California. Fruits that are diseased or infested with insects, such as apples or pears infested with codling moth, may drop prematurely.

In some types of trees, natural thinning is sufficient; other species need additional thinning to produce high-quality fruit. Cherries, figs, persimmons, pomegranates, citrus, and nut trees do not usually require thinning. However, branches of persimmon trees can break from the weight of a heavy crop and may benefit from some fruit thinning or branch propping.

SPECIES THAT REQUIRE THINNING

All stone fruits (peaches, apricots, nectarines, cherries, plums, etc.) require thinning. Of pome fruits, all apples and Asian pears as well as most European pears

require thinning. Bartlett pears often thin themselves, and harvesting larger fruit early (early to mid July) allows the smaller fruit to increase in size for a second pick 1 to 2 weeks later.

TIMING OF THINNING

Fruit should be thinned when they are fairly small—typically from early April (for early-ripening fruit) to mid-May (for late-ripening fruit). Stone fruits are thinned when they are about $\frac{3}{4}$ to 1 inch (1.9 to 2.5 cm) in diameter, and pome fruits (apples and pears) are thinned at $\frac{1}{2}$ to 1 inch (1.3 to 2.5 cm), or within about 30 to 45 days after full bloom. Thinning too early can result in split pits in stone fruits, especially peaches; thinning too late reduces the chances that fruit size will increase.

HOW MUCH FRUIT TO THIN

The amount of fruit to thin depends on the species and the overall fruit load on the tree. For example, stone fruits such as apricots and plums are fairly small, so they should be thinned to 2 to 4 inches (5 to 10 cm) apart on the branch. Peaches and nectarines should be thinned to about 3 to 5 inches (7.5 to 12.5 cm). If spring conditions for pollination were ideal, excessive fruit may have set, requiring even more thinning. If the fruit load is light, but one or two branches have a large amount of fruit, less thinning is required because the total number of fruit is low.

Unlike stone fruits, which produce one fruit per bud, pome fruits (apples and pears) produce a cluster of flowers and fruit from each bud. Thin to no more than one to two fruit per cluster, depending on the total fruit set and growing conditions. Retain the largest fruit whenever possible. When the crop is heavy, fruit should be spaced no less than 6 to 8 inches (15 to 20.5 inches) apart.

METHODS OF THINNING

There are two main ways to thin fruits: by hand or by pole. Thinning by hand is more thorough and accurate than the pole method, but it is much slower.

Hand-thinning involves removing enough fruit to leave the remaining fruit with sufficient space so they do not touch at maturity (fig. 1). On short spurs, this may mean leaving only two or three fruit per spur. If a long branch produces fruit on its entire length, thin more heavily, especially near the terminal end. Remove “doubles” (two fruit fused together) and small, disfigured, or damaged fruit when you have the option. Many times, it is possible to leave more fruit by selecting those on alternating sides of the branch.

Pole-thinning is used mainly on large trees where hand-thinning would be cumbersome or impractical. Pole-thinning is much faster, and although it is less accurate, the results are often acceptable. Attach a short rubber hose, cloth, or thick tape to the end of the pole to reduce scarring or bruising of branches. Strike individual fruit or clusters to remove a portion of the fruit. With experience, you will be able to strike a cluster once or twice with just enough force to adequately break up the cluster.

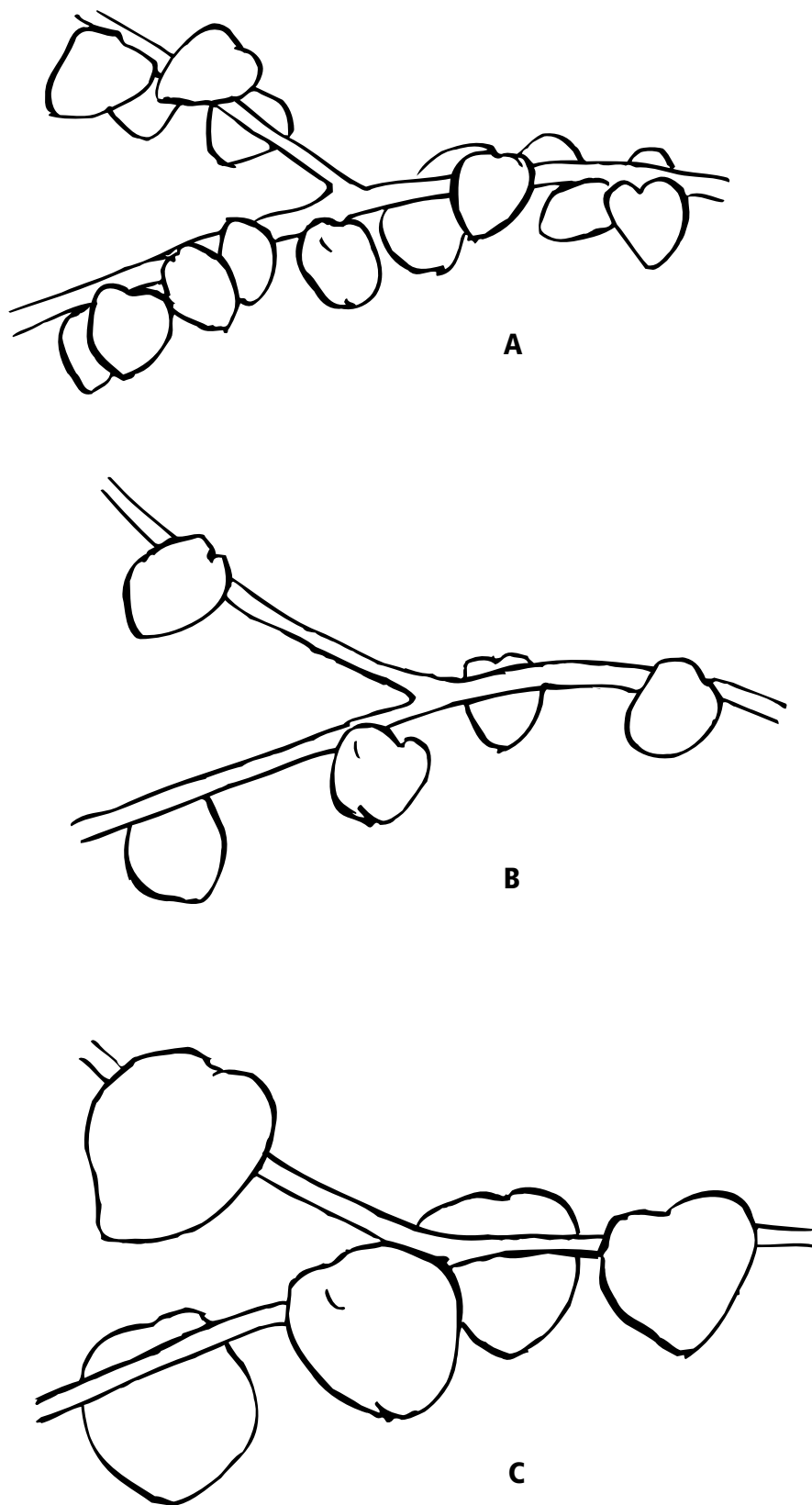


Figure 1. (A) Immature stone fruit before thinning. (B) Immature stone fruit immediately after thinning. (C) Thinned stone fruit at maturity.

FOR MORE INFORMATION

You'll find more information on planting and care of fruit trees in the following ANR products:

California Master Gardener Handbook, Publication 3382, due to be published in 2002.

Integrated Pest Management for Apples and Pears, 2nd ed., Publication 3340, 1999.

Integrated Pest Management for Stone Fruits, Publication 3389, 1999.

Pests of the Garden and Small Farm, 2nd ed., Publication 3332, 1998.

UC IPM Pest Management Guidelines for many pests of fruits, available online at <http://www.ipm.ucdavis.edu>.

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