THINNING PEACHES

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The value of thinning peaches has been known for centuries and has been encouraged as a commercial practice since the early 1800's. It is only in comparatively recent years, however, that it has become a standard practice among commercial fruit growers.

Although an expensive operation in many orchards, thinning is essential for the production of attractive, high quality peaches of a size acceptable on a highly competitive market.

Experimental results have shown that thinning not only allows for an increase in size of the fruits remaining on the tree, but it improves fruit color and quality, reduces limb breakage, and promotes general tree vigor. It also permits more thorough spraying or dusting for effective disease and insect control.

When to Thin

The time of thinning peaches has considerable influence on the ultimate fruit size and time of ripening. Experimental results indicate that the earlier the thinning the earlier the ripening and the larger the fruits at harvest.

Weather conditions, particularly frost hazards, should be considered in determining not only when to thin, but also the amount of thinning to be done. Many growers have found an advantage in partially thinning heavy setting varieties very early and completing the job after the danger of frost is past.

It is a good practice to thin peaches according to the ripening sequence—beginning with the earliest and finishing with the later maturing varieties. Early maturing varieties have a much shorter period of fruit development than does Elberta and other later-ripening varieties, and for this reason they must be thinned very early for the greatest benefit. In fact, it is doubtful that the final size of the fruits of any variety will be greatly increased by thinning if it is delayed much after the pits begin to harden. This is especially true if a period of dry weather prevails during the early part of the growing season and at the time of harvest.

How Much to Thin

The amount of thinning to be done or the number of peaches to be removed from a tree is largely dependent upon the size of the tree and its bearing capacity. Tree vigor, variety, and availability of adequate nutrients and soil moisture throughout the growing season are also factors to be considered in spacing the fruits on the tree.

Six to eight inch spacing between fruits is the usual practice. There are varietal differences in the ability to size properly under close spacing. Varieties that have a tendency for small size should be thinned more heavily. Also, there is some evidence to support the theory that the early maturing varieties should be thinned heavier due to the fact that the leaves have a much shorter period in which to mature fruit of good size and quality. Whether or not this is true, the fact remains that those commercial growers who thin the early maturing varieties to not less than 8” between fruits have little difficulty in producing peaches of 2½” in diameter and up.

In most cases it is best to thin according to leaf area and bearing capacity and not according to a fixed spacing. It takes about 40 healthy, green leaves to produce a peach of good size. Estimate the number of bushels of fruit the tree
should be able to support, consider the size of fruit you want to produce, and thin accordingly. The figures in Table I should be helpful in determining your fruit spacing.

Table I—Size of Peaches and the Number per Bushel

<table>
<thead>
<tr>
<th>Diameter in inches</th>
<th>Peaches per bushel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>380</td>
</tr>
<tr>
<td>2 1/4</td>
<td>315</td>
</tr>
<tr>
<td>2 1/2</td>
<td>280</td>
</tr>
<tr>
<td>2 5/8</td>
<td>225</td>
</tr>
<tr>
<td>2 3/4</td>
<td>190</td>
</tr>
<tr>
<td>2 7/8</td>
<td>165</td>
</tr>
<tr>
<td>3</td>
<td>145</td>
</tr>
</tbody>
</table>

How to Thin

Numerous methods of thinning have been tried. Many growers combine thinning and pruning in one operation — delaying some of the detailed pruning until blossoming time when crop prospects can be more easily determined. Heavy setting varieties, like Redhaven, can be partially thinned by use of a brush or even a gloved finger moved rapidly along the underside of the twigs to dislodge open blossoms.

Another method, quite successful but little used, is to knock the blossoms off with a stream of water using an orchard sprayer with a wide open spray gun under 400 to 500 pounds pressure. In each case it is necessary to follow later with hand thinning to complete the job.

Hand thinning, even though slow, tedious, and expensive, is still the most frequently used method of removing excess fruits. It should be begun as soon as practical after bloom and be completed before the pits begin to harden. When thinning by hand, the stem of the fruit is grasped firmly between the thumb and forefinger and the fruit snapped off by a quick motion of the second and third finger.

Pole thinning is the method used by many growers. This system is not new, having been used frequently during World War II when labor was scarce. Pole thinning greatly reduces both the time necessary to do the job and the cost involved.

The tool most frequently used in pole thinning consists of a 4- or 5’ section of bamboo or other light wood with a piece of 3/4” garden or spray hose about 16” long forced tightly onto the end of the pole, leaving some 8 to 10” of the hose extending beyond the end of the pole. A snug fit is necessary in order that the hose remain in place while being used.

Many modifications of this tool are in use. One of the most common is a 30” section of plastic pipe 1” in diameter. Advocates of the plastic pipe say it fits the hand better and is not as tiring to use, is lighter in weight, and remains usable longer than does spray hose.

Pole thinning is relatively simple. Peaches are removed by striking the limbs of the tree about 18” from their tips with the flexible part of the hose. A sharp, firm blow shatters many or most of those fruits which would normally fall with the so-called “June drop”, and those not firmly attached. With sharp, well directed blows, the remaining clusters and doubles can be broken and even single peaches removed without injury to others growing alongside. The average workman can, with practice, become quite proficient in the use of this method. In fact, 10- and 12-year olds can do just as good a job, and in many cases better, than can adults.

Where care is used pole thinning causes very little permanent damage to trees. Far more damage is done in the pruning operation and in the careless handling of equipment during cultivation. Some peaches are bruised and still left attached to the tree, but with practice and care these can be kept to a minimum.

Some growers prefer to do a “rough job” with the hose and a “touchup” by hand. Even this saves considerable time and money as the removal by hose of only those peaches which would normally fall during the June drop eliminates the hand labor needed for the removal of such fruits.

Unfortunately, pole thinning cannot be used to advantage on all varieties. There is a varietal difference in the ease with which thinning can be accomplished—some thin easily, others with difficulty. For example, Elberta, Golden Jubilee, Early Red Fre, and Georgia Belle are relatively easy to thin by this method. Redhaven is a little difficult until it is at just the right stage of development. Halehaven is unusually difficult regardless of the stage of fruit development.

It has been reported that certain varieties are easier to pole thin in some areas than in others. Perhaps the greatest difference in the ease of thinning of any particular variety lies in the stage of fruit development at which thinning is attempted. It has been found that most of the later maturing varieties thin most easily at, or just before, the June drop.

Early thinning is essential if maximum benefits are to be obtained. As the very early varieties ripen so quickly, the grower cannot afford to wait until the pole method can be used most
effectively and must thin either by hand or by the use of chemicals.

Chemical thinning of peaches is still in the experimental stage. Although considerable research has been devoted to the problem, there is no completely satisfactory chemical thinner for peaches available at the present time.

Two dinitro compounds—Elgetol and DN-289—have been used successfully in the Pacific Northwest. As these chemicals are effective as thinners only when applied just before full bloom, their use is limited to those areas free from postbloom frosts. Also, they are caustic in action and cool, damp weather following application of the sprays has resulted in severe foliage injury and excessive thinning.

Research in the East has been conducted with the hope of finding a chemical suitable for peach thinning which could be used later than full bloom. Most of these have been of the hormone type of which naphthaleneacetic acid (NAA) was among the first to be tried. Generally, NAA has been effective in reducing the set of peaches when applied as late as 5 weeks after petal fall. Results, however, have been too erratic to warrant recommendation as a commercial peach thinner at this time. In many cases distribution of the remaining fruit was poor and injury to foliage and terminal shoots was observed. Similar results were obtained with other chemicals of this type. Such compounds as naphthaleneacetamide (NAAmide), triiodobenzoic acid, maleic hydrazide (MH-30), and isopropyl N-3-chlorophenyl carbamate (Chloro IPC) have been tried in most of the eastern peach growing areas and generally abandoned as unsuited for commercial use.

A few of the above chemicals have given good results in some areas. For example, certain formulations of Chloro IPC have performed very well in research plots in Virginia without the foliage damage, delayed fruit drop, and deformed fruits reported in other areas. MH-30 is reported as a promising material in some areas in the Southeast and NAA in sections of the Mid-West.

When applied over a range of 10 to 30 days after full bloom, 2-chlorophenoxy alpha propionic acid (2-CP) and 3-chlorophenoxy alpha propionic acid (3-CP) have been effective as peach thinners. However, severe foliage injury and some fruit malformation has resulted from the use of 3-CP. Thinning has been less successful with 2-CP and, in addition, "thinned" fruits have a tendency to hang on the trees for several weeks after spraying. Neither material is recommended for commercial use.

Based on its promise as a chemical thinner of apples, the insecticide Sevin was used experimentally in 1960 to determine its effect on peaches. Results indicate the material has little value as a peach thinner.

More favorable results have been obtained with naphthylphthalamic acid (NPA) than with any other chemical used for thinning peaches in the East. While it is generally conceded that NPA is not the final answer, it is probably the best material available at the present time.

For best results NPA must be used 3 to 5 days after full bloom. Unfortunately this is still too soon for chemical thinning in those areas subject to late frosts. Also, there have been reports of overthinning where NPA was applied within 48 hours of a period of low temperatures (32°-50°F). Other factors such as variety, tree age and vigor, and concentration and volume of the thinning spray greatly influence the amount of thinning accomplished.

Although thinning results have not been entirely satisfactory, only minor foliage injury and fruit abnormalities have been reported in commercial orchards where NPA was used according to directions on the label.

In practice, a complete thinning job with the use of chemicals cannot be expected. Some hand thinning will be necessary. By partially thinning chemically, the amount of hand labor involved and the total cost of thinning can be greatly reduced.

Research is being continued to find a chemical peach thinning procedure sufficiently reliable to justify general recommendation. The grower can help by trying those materials currently available on a small block under his own orchard conditions and reporting his results. Accurate records are essential if the true value of a chemical thinner is to be determined.
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