Pruning and Training Pear Trees in the Willamette Valley

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Pruning is important in the successful management of a pear orchard. The severity or amount of pruning on any one tree will depend on age and vigor of trees, moisture supply, type of soil, fertility of soil, and quality of fruit. The recommendations in this leaflet apply especially to the Bartlett variety, which is the chief variety grown in the Willamette Valley.

No specific pruning system is recommended, except that annual pruning should be light—aimed at keeping the tree open to permit spraying and picking. Heavy pruning removes too much fruiting wood and stimulates growth of many "sprouts," but may be useful for stimulating new wood in an old tree.

Heavy pruning can be avoided by following a plan of light, balanced pruning throughout the life of the tree. Therefore, proper attention must be given to the initial structure or framework of the young tree.

**Pruning and Training Young Trees**

The primary objective in pruning trees during their first few years is to train and shape them for future fruit production. It is undesirable to prune young trees any more than is absolutely necessary, because any pruning in early years delays the start of fruit production.

When trees are moved from the nursery, a part of the root system is unavoidably destroyed. To balance this loss, tops of young trees should be cut back at planting. Cutting height can vary, but growers should remember that lateral branches from the main trunk will develop below the point of cutting. From these lateral branches three to five of the best will be kept as scaffold branches. Good scaffold branches usually will develop if the point of initial cutting is 24-30 inches from the ground.

Select the scaffold branches in the first pruning season after planting. They should be at wide angles to the main trunk and evenly distributed around the tree. Try to avoid having branches of the same size develop opposite each other on the trunk. Also, remember that the distance from the center of a scaffold branch to the ground remains the same as the tree grows.

Remove branches or cut back to let scaffold branches become dominant. Further branching from the main trunk can be discouraged by shoot removal during summer. Summer shoot removal usually causes very little sprouting. Excess branches that are cut back during the dormant season will sprout and continue to be in the way. If possible, delay complete removal of these branches until after the tree has begun to fruit.

Although extra branches are always cut back, do not automatically cut back the 3-5 main scaffold branches. If you must cut the scaffolds to stimulate branches, make the cuts near the points where you want branching. Scaffolds can be cut back to prevent undue bending, as well as to cause branching. This calls for careful study of the tree by the pruner.

After the third year *any* pruning will delay the start of fruiting. Undesirable branches and limbs that develop after the third year can be removed after the tree is bearing fruit.

**Pruning Bearing Trees**

After bearing begins, the objective of pruning is to maintain fruitfulness and to shape the tree for ease of spraying and picking. This is done by removing weak wood and sprouts, maintaining a desirable height, and keeping the tree open.

When cutting to maintain a certain height, make all cuts to an outside lateral. In the next few seasons, sprouts will grow near the cuts. These should be thinned each season, leaving only one or two near the cuts to shade the upper branches and help prevent sunscald.

Bartletts produce twigs and shoots on terminal branches and along side branches. Pruning should be distributed evenly over the whole tree, aimed at keeping lower branches vigorous by preventing the top from getting too dense. Do not cut lower branches back to laterals every year, as this will eventually shorten them and they may shade out.

Practically all the fruit on a pear tree is borne on the ends of spurs, which remain good for 8-10 years. A renewal program should remove about 10 to 15% of these spurs annually, cutting long, many-branched,
old spurs in favor of newer, more vigorous spurs. Spurs can be removed while thinning out sprouts and weak wood, with cuts distributed evenly over the entire tree.

While pears should be pruned lightly, a complete absence of pruning is not recommended as it may cause a decrease in the quality of fruit. Lack of pruning also leads to a dense tree in which insect and disease control are difficult.

Summary

Here are some things to remember about training young trees:

- Unpruned trees come into bearing earlier than similar trees that have been pruned.
- Pear trees should have their tops cut back at planting time.
- Three to five main scaffold branches should be kept. There is no reason to keep more than five.

Keep trees bearing by observing a few principles:

- Certain diseased and dead wood should be removed first.
- The thinning type of pruning should remove some old fruit spurs as well as general wood to admit light throughout the tree.
- Height of the tree can be controlled by cutting back the highest shoots to strong, outside laterals.
- Pruning is important, but no more important than disease and insect control, cultivation, fertilization, and irrigation.