



FactSheet

Extension

Ohio State University Extension Fact Sheet

Horticulture and Crop Science

2021 Coffey Rd., Columbus, Ohio 43210-1086

Pruning Mature Apples and Pears

HYG-1150-93

Pete Lane

A good fruit tree should not make a good shade tree. However, when pruning is neglected, many apples and pears become better shade producers than fruit producers. Standard-sized trees often outgrow the reach of ladders or pruning hooks. Backyard and commercial growers have come to prefer dwarf or semi-dwarf trees which are not as tall and are easier to prune, spray, and harvest without the use of ladders.

A neglected but otherwise healthy tree will usually show a marked improvement in fruit quality as a result of pruning. Fruit buds begin developing in the growing season previous to the one in which they mature into fruit, and more are initiated than can be fully developed into fruit. Growing conditions during the season of bud initiation and the subsequent winter will affect the number of buds which flower, and certain cultivars are "alternate bearers" that seldom initiate many buds during a year with a heavy fruit crop. In any case, by late winter the buds for the coming summer's crop will be very evident. Buds only appear on two or three year-old twigs or spurs which are no thicker than a pencil.

The primary purpose of pruning is to increase sunlight penetration, remove less productive wood, and shape the crown into an efficient, stable form. If left unpruned, the quantity of fruit produced might be greater, but the quality much lower. Pruning increases fruit size, promotes uniform ripening, increases sugar content, and decreases disease and insect problems by allowing better spray coverage and faster drying following rainfall. It also allows easier access for timely harvesting.

The following points apply to pruning all fruit trees:

1. Prune late in the dormant season to minimize cold injury.
2. Prune heavily on neglected trees or vigorous cultivars, less so on less vigorous cultivars.
3. Make all heading back cuts just beyond a bud or branch.
4. Make all thinning cuts just beyond the base of the branch being removed.
5. Avoid pruning too close (See Figure 1.)
6. Don't prune a "shade tree" back to a fruit tree in one year. Spread the thinning over several years.
7. Wound dressings are unnecessary for trees pruned in dormant season.
8. Match pruning tools to the size wood being removed. Use hand shears for small twigs, lopping shears for medium branches, and a saw for larger limbs.

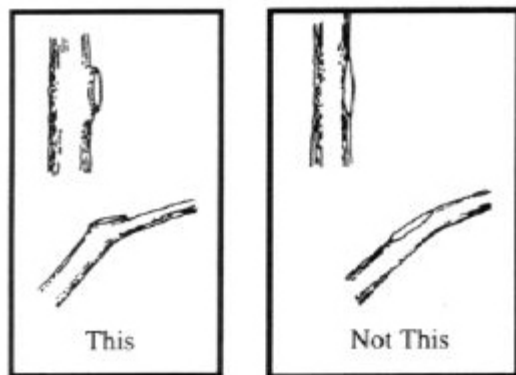


Figure 1. Flesh cuts heal slowly; leave the collar.

Visualize a tree as seen from above without its leaves. From the trunk branches radiate out like the spokes of a wheel (See Figure 2.) In order to allow sunlight and spray penetration, and to allow access for harvesting, it is necessary to thin out some of these "spokes."

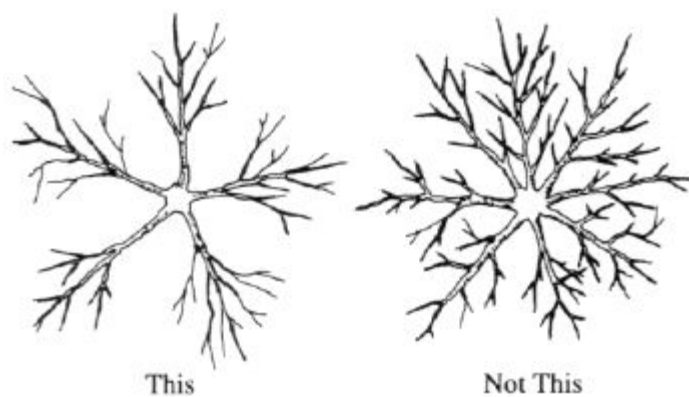
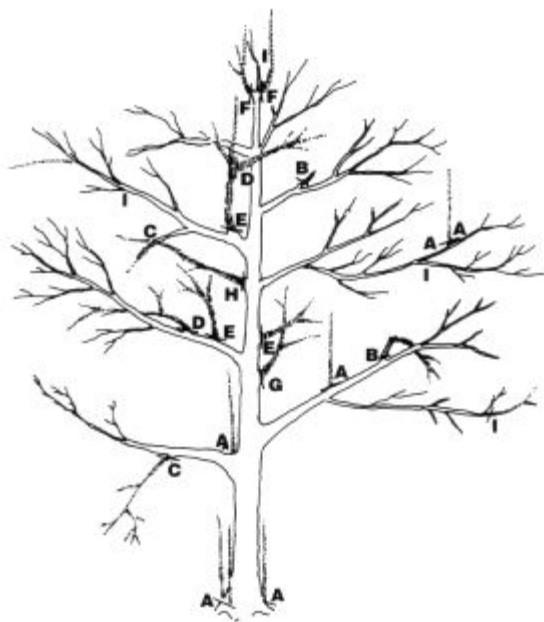


Figure 2. Space scaffold branches to allow access.



- A.—Suckers
- B.—Stubs or broken branches
- C.—Downward-growing branches
- D.—Rubbing branches
- E.—Shaded interior branches
- F.—Competing leaders
- G.—Narrow crotches
- H.—Whorls
- I.—Heading back or growth diversion

Figure 3. Suggested pruning cuts.

Since our human perspective is a side view, Figure 3 sketches items to consider as one works around the spokes or "scaffold" branches of a tree. They consist of:

- A. Suckers or watersprouts are vigorous vegetative shoots which drain nutrients needed for fruit production. They often appear at the base of grafted trees, or in crotches and sites of previous pruning cuts.
- B. Stubs or broken branches result from storms, heavy fruit loads, or improper pruning. Diseases and insects may enter the tree at these sites, so they should be headed back to healthy side branches or removed.
- C. Downward-growing branches develop few fruit buds and eventually shade or rub more productive scaffold branches.
- D. Rubbing branches create bark injury which also invite insects or disease. Head back or remove the less productive of the two.
- E. Shaded interior branches develop less quality fruit and limit access for harvest.
- F. Competing leaders result when suckers or branches near the top of the tree are allowed to grow taller than the uppermost bud of the trunk or central leader. Head these back or an unbalanced, structurally unsound tree will develop.
- G. Narrow crotches occur when a branch develops more parallel than perpendicular to the trunk or limb from which it originates. As each grows, bark trapped between the two interferes with the growth of a strong joint.
- H. Whorls occurs when several branches originate at the same point on the trunk or limb. Joints are weaker there, so select the best-located and remove the others.

I. Heading back or growth diversion cuts are used to limit or redirect the growth of the central leader or branches. For limiting, cut back to a weak bud or lateral twig; for diversion cut back to a bud, twig, or branch oriented in the preferred direction.

Backyard trees are rarely over-pruned, but inexperienced growers often procrastinate on pruning for fear of damaging trees. "Topping" or shearing a fruit tree is about the worst thing that can be done, but even that may result in better fruit for a year or two. Ultimately shearing will produce a dense crown that inhibits access for sunlight, sprays, and harvest, and invites weak structure and breakage. As long as pruning cuts are made to remove, head back, or thin as the examples illustrated and discussed, no nightmares are necessary. Don't use hedge shears. "Just do it."

For further information refer to *Bulletin 528 Training and Pruning Fruit Trees*, *Bulletin 758 Apple Rootstocks and Cultivars*, and *Bulletin 591 Growing and Using Fruit at Home*.

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension.

TDD No. 800-589-8292 (Ohio only) or 614-292-1868

| [Ohioline](#) | [Search](#) | [Fact Sheets](#) | [Bulletins](#) |