

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

TREE/SHRUB PRUNING

(Acre)

CODE 660

DEFINITION

The removal of all or part of selected branches, leaders or roots from trees and shrubs.

PURPOSE

- Improve the appearance of trees or shrubs, e.g., ornamental plants and Christmas trees.
- Improve the quality of wood products.
- Improve the production of plant products, e.g., nuts, fruits, boughs and tips.
- Reduce fire and/or safety hazards.
- Improve the growth and vigor of understory plants.
- Adjust the foliage and branching density or rooting length for other specific intents, such as wind and snow control, noise abatement, access control, and visual screens and managing competition.
- Improve health and vigor of woody plants e.g. disease, insect and injury management.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on any area with trees or shrubs.

CRITERIA

General Criteria Applicable to All Purposes

The pruning and shearing method and timing will match the limitations of the site, soils and plants and minimize damage to the residual plant bole/stems and limbs. For a high degree

of removal of crown foliage, pruning and shearing shall be done in two or more timed intervals to minimize plant stress.

Debris and vegetative material left on the site after treatment will not present an unacceptable fire or pest hazard or interfere with the intended purpose and other management activities.

Ground vegetation and/or conditions must be left in a manner to address erosion and other natural resource concerns to acceptable levels.

Disinfect pruning and shearing tools to minimize the spread of pathogens.

Additional Criteria for Improving the Quality Wood Products

Black Walnut and Conifers

Sever live or dead limbs from the first 17 feet of the bole of the tree to improve overall wood quality.

This practice should be confined to immature stands and reserved for species and individual trees, which are capable of producing quality wood products.

This practice should be applied to trees less than 12 inches in diameter and at least 30 years prior to harvest to obtain 4-5 inches of clear wood on each side of the log.

Ideally, this practice should be applied to 20 to 150 crop trees selected after thinning.

Pruned trees must be sufficiently released so they will potentially grow a minimum of 3 inches per decade.

A. Black Walnut

Prune black walnut and other hardwoods where site index is greater than 75.

Black walnut should be pruned during the dormant season (late fall after leaf fall through mid winter). Never prune during the fast growing season of late spring or early summer.

Prune trees when less than 10" DBH and preferably less than 6" DBH. Remove lower limbs less than 2 inches in diameter, and preferably 1 inch in diameter.

Never prune more than half the tree's total height or more than 20 percent of the live crown in one growing season.

The first pruning should be at least 9 feet if possible, but if practical and within the guidelines for the statement above, prune to 17 feet.

Use a pruning saw to remove limbs. Do not cut the stub flush with the tree. Cut just outside the branch collar. The first cut should be an under cut 1/3 through on larger heavy limbs, one inch beyond the branch collar. The second cut should be from the top to remove the limb. The third cut should be the down cut applied just outside the branch collar. See Figure 1.

Pruning should be restricted to no more than 100 crop trees per acre.

Corrective terminal pruning may be done at any age prior to side-limb pruning.

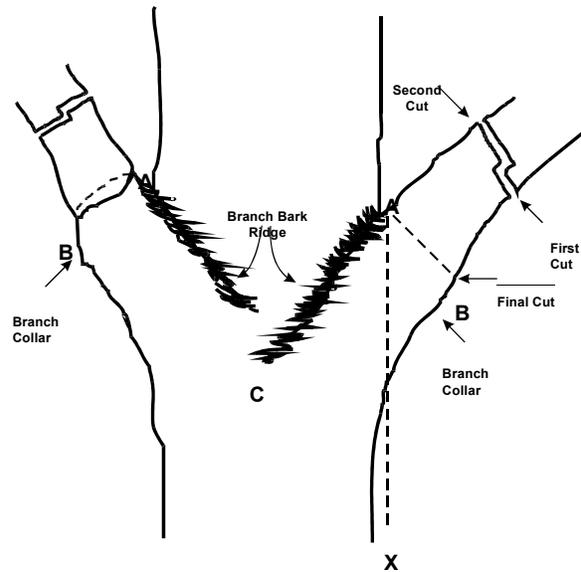


Figure 1. — Hardwood pruning (see figure 2 for conifer pruning).

Prune trees according to the following steps:

1. **Locate the branch bark ridge**
2. **Find A (outside edge of branch bark ridge).**
3. **Find B (swelling where branch meets branch collar. If B is difficult to determine drop a line from A: the angle XAC is equal to the angle XAB (see figure 1). Stub the branch to be pruned using a first cut from below and a second cut from above.**
4. **Make the final cut on line AB.**
5. **Do not cut behind the branch bark ridge.**
6. **Do not leave stubs.**
7. **Do not cut into the branch collar**

B. Conifers

Prune white and red pine where site index is greater than 65. Prune Norway spruce where site index is greater than 75.

Conifers may be pruned during any season, however, late summer, fall, and early winter are recommended.

Use a pruning saw to remove limbs. Do not cut the stub flush with the tree. Cut just outside the branch collar.

Do not remove more than the lower half of live branches at a time.

The first pruning should be applied when the trees are 20 to 30 feet. Remove branches 7-9 feet in height.

Plan later operations to remove branches to 17 feet limiting pruning to two operations. Attempt to prune branches before they become 1 ½ inches in diameter.

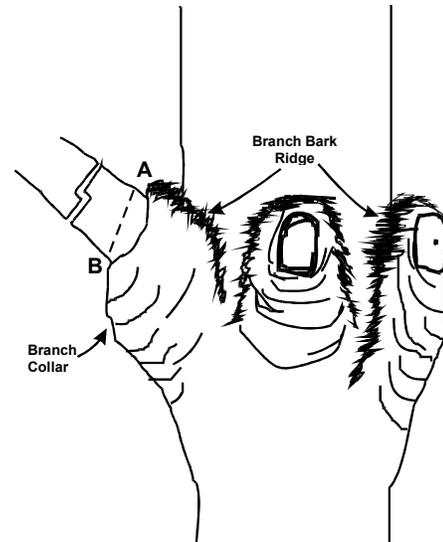
Only potential crop trees should be pruned. In the average pine plantation, 20 – 150 crop trees should be selected for pruning.

All slash should be loped to no more than 2 feet above the ground to reduce fire hazard and stimulate decomposition.

Use a pruning saw to remove limbs. Do not cut the stub flush with the tree. Cut just outside the branch collar. The first cut should be an under cut 1/3 through on larger heavy limbs, one inch beyond the branch collar. The second cut should be from the top to remove the limb. The third cut should be the down cut applied just outside the branch collar.

Do not remove more than the lower half of the live branches at any one time.

The first pruning should be applied when the trees are 20 to 30 feet in height. Remove branches 7-9 feet in height.



Conifers

Figure 2. — Conifer pruning.

Prune trees using the following steps:

8. Locate the branch ridge
9. Find A (outside edge of branch bark ridge).
10. Find B (swelling where branch meets branch collar). Stub the branch to be pruned using a first cut from below and a second cut from above.
11. Make a final cut on line AB
12. Do not cut behind the branch bark ridge.
13. Do not leave stubs.
14. Do not cut into the branch collar.

Additional Criteria to Improve the Appearance of Trees

Pruning / Shearing to Improve the Quality of Christmas Trees - the growing of Christmas trees is a specialized business. These specifications are general in nature. "Christmas Tree Culture and Marketing", WVU-CES, Publication 525 is a good source of information regarding the culture and care of Christmas trees.

Shearing - Most Christmas trees are sheared annually beginning when trees are around 2 feet tall. Shear pines between early June and mid-July before new growth hardens. Spruces and firs, including Douglas-fir, maybe sheared during the dormant season, August to April. Make cuts just above a single bud. Start pruning Scotch pine when new needle growth is $\frac{3}{4}$ as long as last years needle growth.

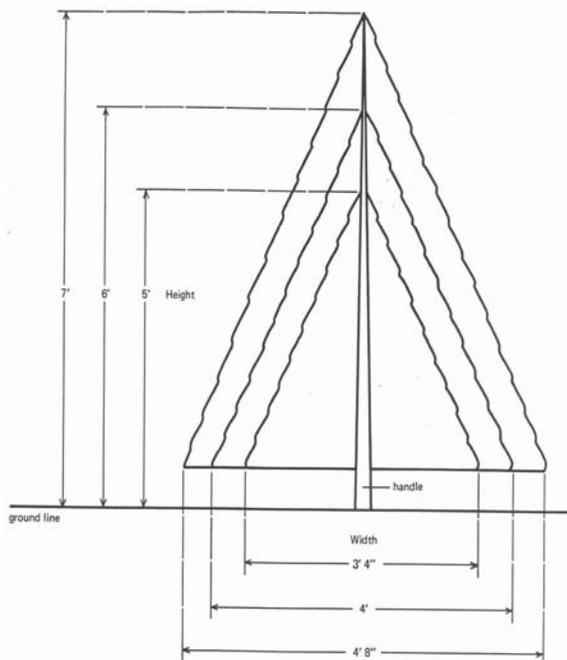


Figure 3. Ideal Christmas tree shape – the tree should be $1 \frac{1}{2}$ feet high for each foot of width.

Reducing Leader Growth

Spruce or fir – Select a group or cluster of buds (4 or more) at a point about 12 inches above the last whorl. These will form a false whorl the next season and increase density. At least $2 \frac{1}{2}$ inches above this group of buds (or false whorl), select a

strong bud. Cut the terminal leader about $\frac{1}{8}$ " above the bud and at a 45 degree angle. Remove any buds between the tip and false whorl. Cut back several inches of the upper branch tips to prevent them from turning up to become leaders.

Pines – Cut leader off at 45 degree angle to encourage the formation of a single strong leader bud on the high point of the cut. Leader growth should be about 12 inches. The top whorl should be cut back about 40 percent as long as the sheared leader to prevent the tips from turning up as new leader growth. This should be done at the same time as shearing.

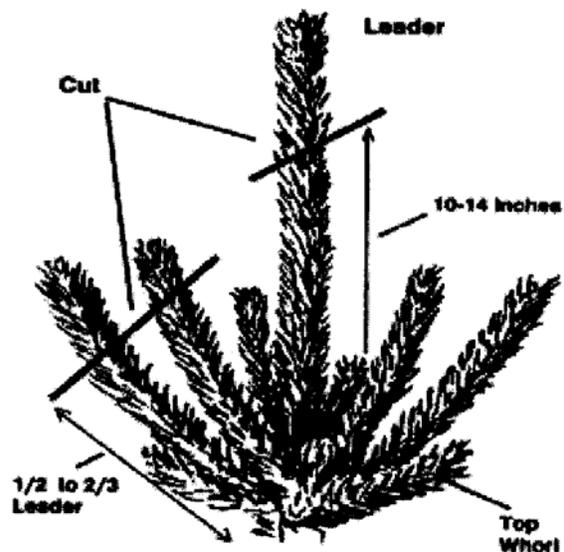


Figure 4. - Christmas tree pruning.

Basal Pruning – Unwanted branches between the bottom of the Christmas tree and ground can be removed. The selected basal whorl should be as low as practical, but still provide the needed handle.

If wildlife management is a landowner objective this practice may be in conflict with suggested practices – See Wildlife Upland Management – Code 645.

CONSIDERATIONS

Pruning and shearing should be timed to minimize disturbance to seasonal wildlife activities.

Review the estimated cost and projected economic benefits of the project before starting a pruning or shearing project.

Branches removed may be used for other products.

In urban areas special considerations need to be given for safety hazards.

Pruning practices may be in conflict with wildlife management objectives. See Wildlife Upland Management Standard – Code 645.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes and narrative statements in the conservation plan, or other acceptable documentation.

Requirements for operation and maintenance of the practice shall be incorporated into site specifications.

The following will be identified in the conservation plan narrative (as appropriate):

- ***Purpose***
- ***Species***
- ***Site Limitations***
- ***Methods***
- ***Equipment***
- ***Number of trees***
- ***Pruning Height***
- ***Season (Dates)***
- ***Any required permits including WV-CPA-052 or similar environmental evaluation documentation***
- ***Operation and Maintenance Plan***

OPERATION AND MAINTENANCE

Periodically inspect plant condition and do additional pruning if needed.

****Bold italics indicates changes made or information added to the national standard by West Virginia.***

REFERENCES

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