

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

CONSERVATION PRACTICE STANDARD

**TREE/SHRUB PRUNING
(Acre)**

Code 660

DEFINITION

Removing all or parts of selected branches or leaders from trees and shrubs.

Pruning and shearing will not adversely reduce the growth and vigor of the tree or shrub for the intended purposes.

PURPOSES

- 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 for other specific intents, such as wind and snow control, noise abatement, access control, and visual screens.

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

Burning of removed vegetation shall follow the criteria and considerations listed in the Prescribed Burning (338).

Comply with applicable federal, state and local laws and regulations during the installation, operation and maintenance of this practice.

CONDITIONS WHERE PRACTICE APPLIES

On any area with trees or shrubs.

CRITERIA FOR PRUNING TREES

Alex Shigo techniques for pruning is the accepted pruning technique.

Timing of shearing, branch removal and corrective pruning of high value tree species will be described to accomplish the intended purpose.

GENERAL CRITERIA

The pruning and shearing method and timing will match the limitations of the site and soils, achieve purposes for the specific tree or shrub species, and be conducted in a safe and efficient manner.

Commercial Trees

- A. Species to prune: Pruning may be practiced on nearly all species of trees. Prune trees on only the better sites.
- B. Trees to prune: Prune the better dominant and codominant trees. Usually, there is more natural pruning of codominant trees and they are generally better formed. Never prune intermediate nor suppressed trees.

Where codominant trees are better formed, it may be best to remove the rougher dominant trees in thinning and to prune the codominant trees. If pruning is started at an early age, the rough condition of dominant trees may be pruned away.

C. Size of trees to prune: Begin pruning at an early age -- when trees are 3 to 4 inches dbh. Since black walnut trees have a tendency to fork or become excessively crooked, it may be necessary to start pruning them when they are 2 to 3 years old.

D. Number of trees to prune:

1. Where small poles are the objective: Prune no more than 300 trees per acre. Pruned trees should be straight, thrifty, and free from defects. They should be spaced about 12 to 14 feet apart.

2. Where quality sawlogs are the objective: Prune about 100 to 125 quality trees per acre. Potential sawlog trees should have an average spacing of about 20 feet.

E. Height to prune: Where the objective is to produce a clear, knot-free product, the tree should be pruned eventually to a height of 17 feet. With special extension handles on the saw, it may be practical to prune even higher; but pruning costs are proportionally higher.

F. Pruning methods: The following pruning methods are satisfactory and are listed in order of priority.

Pruning Method	Pruning Approx.		Pruning Height (ft.)
	DBH (in.)	Tree Ht. (ft.)	
3 step	a)	3-4 15-20	7-10
	b)	5-6 25-30	12-15
	c)	6-8 35-40	17-20
2 step	a)	3-5 15-25	7-12
	b)	5-8 25-30	12-20

1 step a) 5-8 25-40 12-20

G. Pruning techniques:

1. Pruning saws and/or loppers may be used for pruning. Loppers can only be used on small branches.

2. When using a pruning saw, use the "pull-stroke" method instead of the conventional "push-and-pull" method.

3. Dead branches may be pruned during any season. Green branches should be pruned during winter when trees are dormant and the disease and insect hazard is lower. Avoid pruning during the growing season. Pruning during the dormant period minimizes sap loss and subsequent stress to the tree.

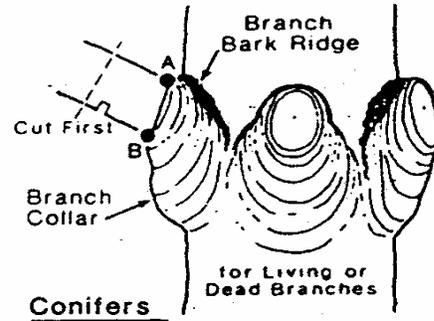
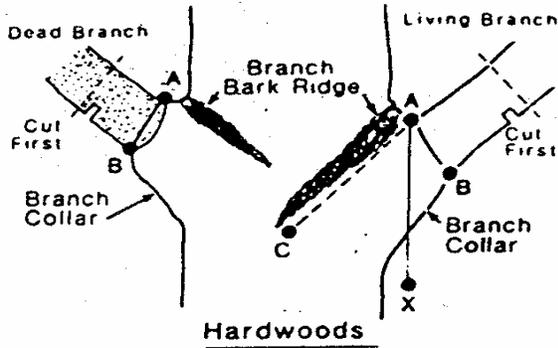
4. Do not cut branches flush with the trunk. Locate the branch bark ridge and then find target A, the outside of the branch bark ridge and target B, the swelling where the branch meets the branch collar. If B is hard to find, drop a line from point A. The angle from XAC equals the angle from XAB. Next, stub the branch to be cut and make final cut on line AB.

5. Cut small branches from the top. Very large branches may need an undercut prior to overcut to prevent tearing of bark or splitting of limbs.

6. For best results, prune only half the total height of the tree. Never prune more than two-thirds of the total height.

7. When possible stand up wind to avoid possible eye injury from falling sawdust.

8. When using a series of extension lengths on saws, use a sufficient number to stand clear of falling limbs.



Pruning to Enhance Natural Beauty

Trees on recreational areas and near buildings may need pruning regardless of their size. Trees, which have either recreational or esthetic value, may be pruned in the same manner as those pruned for commercial wood products. The height to prune is generally the height necessary to allow pedestrian passage, vehicular traffic, and safe visibility.

Christmas Trees

Very few trees grow naturally into good Christmas tree form. To develop the desired taper, the tree must be sheared and pruned. Pruning is the removal of woody branches more than 1 year old. Shearing is merely the cutting back of the current year's growth on both the terminal and lateral branches. Christmas trees should be pruned the first year after planting to remove forked tops. The lower limbs of the tree may be pruned up to 6 inches to provide a handle for the tree.

Tree shearing should begin the second or third year depending on the species being grown. Trees should be sheared once or twice each year according to the species of tree. Trees should be sheared to a taper of about 67 percent.

CONSIDERATIONS

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

The landowner may obtain a letter from the County Agent, County Forester, or NRCS District Conservationist stating the satisfactory completion of the pruning practice and date the practice was completed. The letter will provide definite assurance to the buyer that a certain

amount of clear, knot-free wood will be produced. Other documentation may be helpful as well, such as: digital pictures and average diameter of the stand during the practice. The return on the investment will be realized when the timber grower receives a premium price in future timber sales.

Pruning and shearing tools should be disinfected to prevent the spread of pathogens.

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

To maintain plant growth and sustain vigor, pruning and shearing may be done in two or more timed intervals.

Time pruning and shearing to minimize potential damage to the tree bole and stems.

Debris and other vegetation (biomass) removed may be used to produce energy. Management alternatives should consider the amount of energy required to produce and convert the biomass into energy with the amount produced by the biomass.

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.

OPERATION AND MAINTENANCE

Periodically inspect plant condition and take additional actions as necessary, e.g., additional

pruning, pest management, nutrient management, and forest stand improvement.

REFERENCES

Bennett, Frank A. "The Effect of Pruning on the Height and Diameter Growth of Planted Slash Pine" Journal of Forestry. Vol. 53, No. 9, September 1955.

Shigo, Alex L. "The Right Treatments for Troubled Trees" American Forests. February 1984.