

Plant Management and Wildlife Enhancement Activity – PLT07 – Hardwood Crop Tree Release



Crop Tree Release (CTR) in Hardwood Stands

CTR is a silvicultural technique used to enhance the health and productivity of individual trees, while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics.

Benefits

CTR is a practice that shortens the harvest rotation of desirable crop trees by selectively cutting or killing less desirable competing trees in younger, overstocked forests. Additional wildlife benefits include increased mast and forage production, and habitat diversification both at ground and canopy levels.

Land Use Applicability

This enhancement is applicable on forest land

Criteria for Crop Tree Release

The CTR enhancement is applied to young, pre-commercial stands (trees that are too small for market), with diameters ranging from 4 to 8 inches (measured at 4.5 feet above the ground). In older larger diameter forest stands it is a commonly used commercial practice that is not included in this enhancement.

CTR should be applied to the best forest sites, with a suitable number of desirable trees retained. Usually between 25-35 crop trees per acre are needed to merit application of the activity. Suitable species may vary by state or region or according to the landowner's objective. However, species found within the white and red oak groups traditionally have a high market value and wildlife value and should be top priority for retention and release.

Crop tree release is achieved by cutting or killing all trees whose crowns touch the crown of the crop tree on three to four sides. Special note: cut/kill only those trees whose crowns are affecting the crop trees. Trees that are in-between or below and not affecting the crop trees should be retained. These additional trees help to protect crop trees from wind damage, epicormic branching (unwanted branching on the lower bole) and provide diversity for wildlife habitat.

It is important to identify crop trees with good future growth potential. This includes desirable species, with good form (straightness) and grade (lack of defects). Crop tree crowns should be in the upper level of the forest canopy, and not suppressed by other tree crowns. Availability of sunlight is often the most limiting factor for tree growth. When crowns of adjacent trees touch each other, growth rate is reduced. By cutting/killing unwanted trees whose crowns are touching the crown of crop trees, more space is created for crown expansion. Dead trees may be left standing to provide wildlife habitat or cut down to become downed dead wood on the forest floor



which is beneficial to wildlife and for nutrient recycling and improved soil quality. However, the dead trees should not be removed from the forest.

Documentation Requirements for Crop Tree Release (CTR)

- Identify the objectives for the treatment, i.e. what trees will be retained for crop trees.
- Brief written documentation detailing the pre-treatment conditions and the post-treatment conditions.
- Representative digital images/photos of the area showing before and after treatment conditions.



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State Criteria

Forestland consists of areas not routinely grazed by livestock and managed for forest products with a minimum of 25% canopy cover of tree species.

General Elements (required for all crop tree release (CTR) plans)

1. Apply to young, pre-commercial stands (trees too small for market) with diameters between 4-8 inches (measured 4.5 feet above ground).
2. Apply to best forest sites. A suitable number of desirable trees should be retained.
3. For hardwood stands under a 6-inch diameter, thin to 12 feet. Leave 5-8 feet of open space in at least two sides of the crown of the remaining trees. For black walnut stands allow 10 feet growing space between crowns (refer to Forest Stand Improvement (666 and 666DP)).
4. Remove dead/dying, insect or disease infested trees.
5. Remove deformed (crooked), fork topped, or damaged trees (fire, lightening, porcupine).
6. Remove suppressed and co-dominant desirable trees to attain proper spacing.
7. If stand is uniform in diameter, use the diameter-times-two rule. The average diameter in inches is multiplied by two; the number of feet to leave between the stems of the remaining trees.
8. Pruning may be used on high value crop trees, such as black walnut, to increase the quality of wood for sawlogs. Check with your local forester or refer to Tree/Shrub Pruning (660 and 660 DP) and NE Forestry Technical Note 71 for guidelines on pruning.
9. Heavy accumulation of thinning slash should be lopped and scattered close to the ground, piled for wildlife, or burned away from crop trees that are left. Check local and state laws when slash is burned or staked near a public road.
10. It is recommended that you contact your local forester for technical assistance.

Tract(s)	Field(s)	Planned Acres (CTR)	Existing crop trees per acre	Planned crop trees per acre	Applied crop trees per acre	Method used for crop tree release	Applied Date
1	1	20	25-35	25	25	cutting	10/01/2010

I certify that the following information meets specifications and has been provided to NRCS:

- a. Attached is a clearly marked map showing the treatment area.
- b. Attached are before and after photos of the pre-commercial thinning.

Certified by: _____ **Date:** _____