

HOW TO RELEASE CROP TREES IN PRECOMMERCIAL HARDWOOD STANDS



United States
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What is crop tree release?

Crop tree release is the selection and release of desirable trees by removing adjacent competing trees.

Why should crop trees be released in precommercial stands?

Precommercial crop tree release increases tree diameter and helps ensure survival. Released trees become mature sooner and/or attain a larger size at maturity.

What is a crop tree?

A crop tree can be any tree that the landowner wants to retain. For sawlog production, timber crop trees in precommercial stands should be high value species, dominant/codominant, straight, free of main stem forks in the lower 17 feet of bole, and vigorous with no sign of top dieback or insect or disease damage.

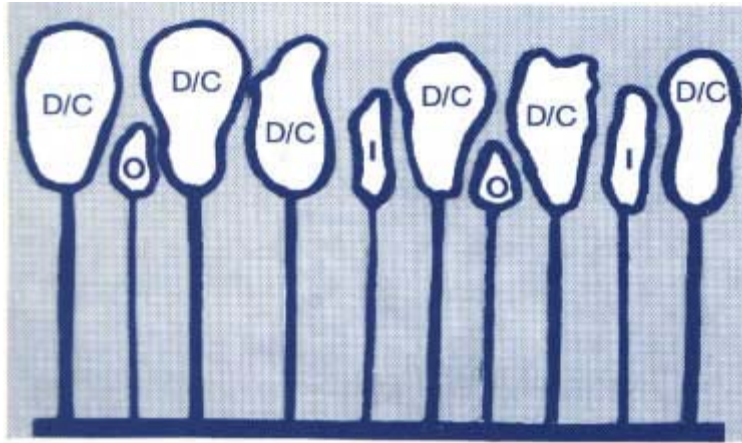


Figure 1.—Dominant/codominant (D/C): Trees with crowns forming the general level of the crown cover and receiving full light from above, but little from the sides. Intermediate (I): Generally shorter than dominant/codominant, with crowns extending into the crown cover, but receiving little direct light from above and none from the sides. Overtopped (O): Trees with crowns entirely below the general level of the crown cover, and receiving no direct light.

Wildlife crop trees can be den trees and mast producers such as oaks, hickories, or beech. In areas where there are only a few dominant/codominant mast producers, some wildlife crop trees can be intermediate crown class (See Figure 1).

When should crop trees be released?

Dominant/codominant crop trees can be released any time after they have reached a height of about 25 feet. This usually occurs between the ages of 10 and 15 years.

How many crop trees should be released?

In most cases 50 to 75 crop trees per acre are released. It is of little value to release timber crop trees that will be removed in future intermediate cuttings. Therefore, never release more than 100 crop trees per acre in precommercial stands.

How should crop trees be released?

Apply a crown-touching crop tree release by cutting all trees except other crop trees, whose crowns touch the crop tree crown. Normally, it is not necessary to cut overtopped trees (See Figure 2).

CROWN TOUCHING RELEASE

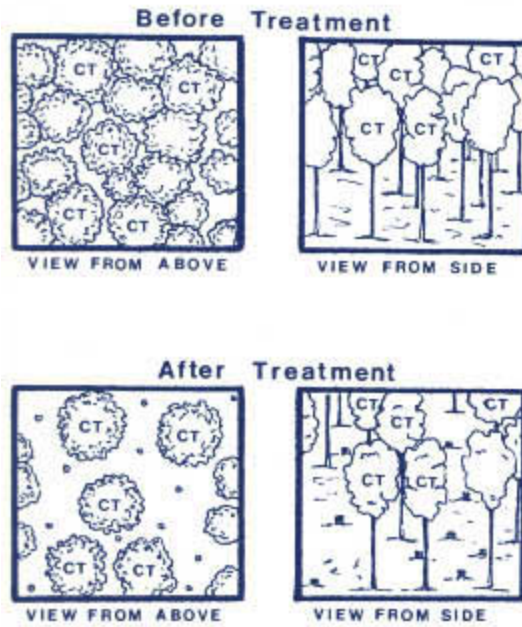


Figure 2.—Aerial and side views of stand prior to and after application of crown touching release to crop trees (CT).

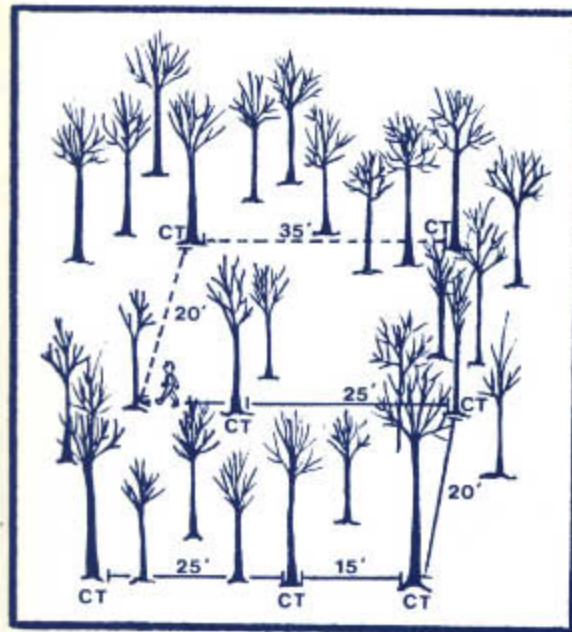


Figure 3.—Try to space crop trees (CT) 25 feet apart and you will end up with a sufficient number of trees per acre. Some crop trees can be spaced 15 feet apart, and others 35 feet apart.

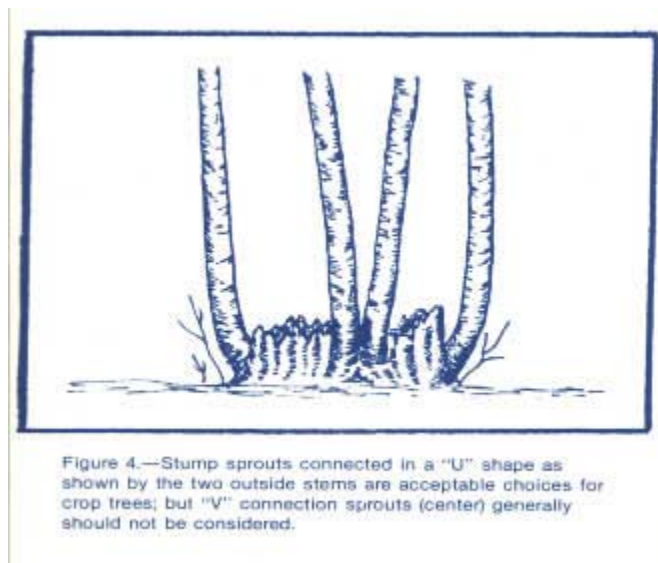
In areas within stands where no suitable crop trees are found, do not cut any trees. Remember, crop tree release is cutting only trees that are competing with crop trees. It is not selecting crop trees and cutting all other trees in the stand!

Try to pick crop trees about 25 feet apart (See Figure 3). Occasionally, two crop trees may be left close to each other. Treat their crowns as a single crown and apply a crown-touching release. Do not leave groups of more than two crop trees close to each other.

Generally speaking, using a chainsaw to release crop trees is cheaper than using herbicides (basal spraying or injecting). It takes about three minutes to release a crop tree using a chainsaw. When competing trees are being felled, it is easy to see which trees still need to be cut. Also, herbicides cannot be used to release sprout-origin crop trees.

What about stump sprouts?

Stump sprouts are fast-growing and will respond to release. However, stump sprout crop trees must originate at or near groundline so that as the parent stump decays the crop tree will not break off or develop butt rot. Release one or two widely spaced crop trees per clump. Select trees with a U-connection rather than those having a V-connection (See Figure 4).



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