



# CENTRAL HARDWOOD NOTES

## Thinning Sprout Clumps

Only stump sprouts originating in clearcuts or extremely heavily thinned stands have significant potential for developing into good trees. Stump sprouts can account for as many as half the stems after a clearcut of central hardwoods.

Questions often asked about stump sprouts include: Should I thin, and if so, how and when? In the past, sprouts from stumps often were considered inferior to trees of seedling origin. Sprouts were believed to be susceptible to decay and disease and likely to produce poorly formed trees. However, recent studies show that good quality and vigorous stems can result from stump sprouts provided the sprouts originate at or below ground line.

### Why Thin Sprout Clumps?

Sprouts in thinned clumps grow faster and produce higher quality stems than sprouts in unthinned clumps. Thinning allows you to select the best formed, most vigorous stem or stems for crop trees. Thin clumps if you want to grow high quality stems to a large diameter as fast as possible.

### What Species?

Select species that are long-lived, have high value potential, and whose clumps respond well to thinning. Suitable species include the oaks, red maple, sugar maple, yellow-poplar, black cherry, American basswood, sweetgum, and white ash.

### When to Thin?

The earlier you thin, the larger the resulting stems. Sprout clumps can be thinned as early as 5 years after harvest cuts. The longer you delay thinning the more growth will be reduced. For example, if you delay thinning northern red oak sprout clumps from age 5 to age 10, stem d.b.h. will be 12 percent smaller at age 25. If you delay thinning until age 15 or 20, stem d.b.h. will be 23 to 30 percent smaller. In most cases, if you wait until age 25 to thin, you will lose the growth advantage of sprout stems. Exceptions are basswood and red maple that maintain high clump densities in older ages. With these species, thinning as late as 25 years will substantially increase stem diameter.

Clumps can be thinned at any time of the year. Sugar maple is an exception because it may become infected with sapstreak disease if thinned during the summer months.

**Which Stems to Leave?**

Regardless of clump age, leave the best one or two sprouts that are widely separated on the stump. Leave only well-formed dominant or codominant sprouts that are free from defect and are attached to the stump at or below ground line. Decay organisms can enter stump sprouts through heartwood connections with either the decaying parent stump or dead companion stems. Decay hazard from the parent stump is minimal for sprouts originating at or below ground line. In red maple, decay commonly enters sprouts through branch stubs. Consequently, red maple stump sprouts with numerous large branch stubs should not be selected as crop stems even when they originate at or below ground line.

On slopes, favor sprouts that are on the uphill side of stumps. If you must choose between a larger sprout of poor quality and a smaller sprout of high quality, choose the smaller sprout. For stems larger than 3 inches d.b.h. select those that are straight with no decay, are free of V-shaped connections with other stems, show little evidence of epicormic branching, and have no forks, crooks, and seams on the lower 17 feet of the bole.

**Thin Between Clumps**

When thinning clumps to a single stem, apply a crown release that leaves the stem free to grow on all sides. To do this, cut all main canopy trees including other sprout clumps whose crowns touch the crop stem crown. Clumps thinned to two stems should be treated as a single crop tree (see Note 6.03 *Silvicultural Treatments in Sapling Stands*). Do not over thin. Stems given too much growing space will have reduced height growth and poorer natural pruning. These problems can be minimized by following the crown release guidelines.

**What Sites?**

Sprout clumps growing on good sites benefit most from thinning. However, even on poor sites, thinning sprout clumps produces larger stems in less time than not thinning.

**Advantages of Thinning Sprout Clumps**

1. Increases value of timber.
2. Reduces rotation length.
3. Increases stem quality.
4. Reduces or minimizes risk of defect.

## References

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