

Appendix 1: Pre-Commercial Thinning

Objective: To reduce the number of trees on a site using a thinning saw, allowing the remaining crop trees to maximize their growth.

Pre-Treatment Assessment

- Density: > 5000 stems/ha (> 1 m in height) with crop trees not in a “free to grow” condition (using 1.46 m radius (6.7 m²) plots where 1 “in” tree represents 1,500 trees/ha).
- Stocking: > 60% acceptable crop tree species (using 1.26 m radius (5 m²) plots where one “in” tree represents stocked). Record the best potential crop tree by species.
- Remnant overstory: < 25% crown closure (8 m² residual basal area)
 - Large mature white pine or clumps of remnant overstory should be considered voids
- Average crop tree height: 2.0 - 7.0 m softwood
 4.0 - 9.0 m hardwood
- Locations with average crop tree height 1 meter greater than the maximum may be considered if the following criteria are met:
 - No removal of commercial products
 - Productive sites with low risk of insect, disease and/or weather damage
 - Live crown ratio adequate for growth response
- Acceptable crop tree species (i.e. > 60% stocking requirement): spruce, white pine, jack pine, fir, cedar, hemlock, sugar maple, red maple, yellow birch, white birch, oak, other commercial hardwood, aspen*, potentially disease resistant beech**, any combination of above. (Layered spruce and advanced stunted fir are not acceptable.)
- Each Marketing Board shall maintain a board level pre-commercial thinning species pecking order. This shall be provided to ERD. Normally spruce, white pine, cedar and tolerant hardwoods shall be top tier in the crop tree pecking order. This pecking order will apply on all respective board treatments unless otherwise stated on an individual treatment (ex. adjusted to meet specific landowner objectives).
- * See post-treatment inspection statement on aspen stocking.
- ** Potentially disease resistant Beech will be an acceptable crop tree when assessed as > 5 cm dbh while showing nil or low scale and smooth bark.

Post-Treatment Inspection

- Stocking: Record the best quality crop tree by species. Stocking must be > 60% acceptable crop tree species (using 1.26 m radius (5 m²) plots where one “in” tree represents stocked). Aspen (poplar) must be <50% of overall crop tree stocking.
- Average crop tree height: within pre-treatment assessment ranges for released crop trees in density plots; no crop trees < 1.0 m.

- Quality: > 85% overall quality compliance using quality deductions as follows:
 - Crop tree selection* = 5% per tree
 - Excessive cutting of potential crop trees** = 5% per tree
 - Crop tree damage = 3% per tree
 - Crop tree spacing** = 3% per tree
 - Uncut competition***= 3% per tree
 - Live branches on cut stumps = 3% per plot
 - Incomplete cuts = 1% per plot
- Density**** (using 3.57 m radius (40 m²) plots where 1 “in” tree represents 250 trees/ha):
 - 2,000 - 3,500 crop trees/ha (softwood)
 - 3,000 - 4,000 crop trees/ha (white pine)
 - 2,000 - 3,500 crop trees/ha (hardwood)
 - 2,000 - 3,500 crop trees/ha (mixedwood)*****
- Voids: All untreated areas larger than 0.04 ha are considered voids and will be deducted to calculate net treated area. All voids 0.5 ha and larger are to be mapped. When measuring voids, a growing space of 1 m is allowed around crop trees.

* Based on treatment plan species pecking order with consideration to overall stem quality (diameter, height, health and vigor).

** A quality deduction will not be made if plot density is within the acceptable range and stems are reasonably distributed in plot.

*** Includes all competing non-commercial tree species such as but not limited to: pin cherry, alder. The only brush species considered as competition is beaked hazelnut.

**** Generally, the mid-range of stated densities should be aimed for as the ideal. The range is to allow some flexibility for individual situations.

***** Mixed wood is where softwood and hardwood species both comprise >25% of crop trees.

Sampling Procedures: stocking and density plots must share the same plot centre. Plot intensity shall be greater of 1 plot per ha or 4 plots per work area.

Note: Cedar shall be preserved. It will be considered “invisible” for sampling and thinners should avoid cutting any cedar during treatment.