

Appendix 2: Plantation Cleaning

Objective: To reduce undesirable natural regeneration on a site using a thinning saw, allowing the remaining planted crop trees to maximize their growth.

Pre-Treatment Assessment

- Density: > 5000 stems/ha (>1 m in height) with softwood 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).
- Not in “free-to-grow” condition: ingrowth of competing commercial and non-commercial tree species is significant (more than 40% of softwood crop trees affected) and will continue.
- Stocking: > 60% acceptable softwood crop tree species (using 1.26 m radius (5 m²) plots where one “in” tree represents stocked)
- Average crop tree height: 2.0 - 6.0 m softwood
4.0 - 9.0 m hardwood
- Acceptable crop tree species: spruce, white pine, jack pine, fir, cedar, hemlock, red pine, sugar maple, red maple, yellow birch, white birch, oak, other commercial hardwood, aspen, any combination of above (layered spruce and advanced stunted fir is not acceptable).
- A crop tree pecking order is required in treatment plan. Planted trees, natural spruce and white pine shall normally be top tier in crop tree pecking order.
- High-density plantation cleaning: > 20,000 stems/ha; site must be stratified to isolate higher density patches (> 20,000 stems/ha) instead of averaging higher density with lower density to result in a site average over 20,000 stems/ha.

Post-Treatment Inspection

- Stocking: Record best quality crop tree species. Stocking must be > 60% acceptable softwood crop tree species (using 1.26 m radius (5 m²) plots where one “in” tree represents stocked); Trembling Aspen must be < 30% of overall post-treatment crop tree stocking.
- Average crop tree height: within pre-treatment assessment ranges for released crop trees in density plots; no crop trees < 2.0 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): 1,500 - 3,000 crop trees/ha; Acceptable softwood crop trees must be ≥ 1500 stems/ha.
- 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.

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: Failed plantations that are being considered for treatment will not be approved without ERD consultation.

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