

Order of the Minister of Natural Resources respecting the value of silvicultural treatments

Forest Act

(R.S.Q., c. F-4.1, ss. 73.1 and 73.3)

1. The silvicultural treatments described in Schedule I shall be admitted as payment of the dues prescribed by the Minister responsible for the administration of the Forest Act for the 1999-2000 fiscal year as determined by the production priority groups described in Schedule II.

The silvicultural treatments are realized on the forest area where the priority production has to be performed.

2. The values of such silvicultural treatments are those established in Schedule III.

3. The admissibility criterias are those determined in the Instructions related to the regulation respecting the value of silvicultural treatments admissible, 1999-2000.

4. This Minister's Order replaces Minister's Order 9700417 of the Minister of Natural Resources, published in Part 2 of the *Gazette officielle du Québec* of 18 March 1998.

5. This Minister's Order of the Minister of Natural Resources comes into force on 1 April 1999.

JACQUES BRASSARD,
Minister of Natural Resources

SCHEDULE I

(s. 1)

SILVICULTURAL TREATMENTS ADMITTED FOR THE 1999-2000 FISCAL YEAR

1. Site preparation: site preparation consists of any of the following five operations:

(1) scarification: loosening the soil to promote natural or artificial regeneration of desired species of trees;

(2) clearing: windrowing or piling non-commercial ligneous matter to facilitate the planting of seedlings or the passage of a scarifier;

(3) winter shear-blading: clearing frozen ground with a shear-blade-equipped tractor in order to eliminate all vegetation and remove excessively thick organic matter;

(4) ploughing and harrowing: loosening the soil by means of a plough and a harrow to promote the planting of tolerant hardwoods or hybrid poplars;

(5) prescribed burning: intentional burning of forest fuels left lying in a forest management area after the felling of commercial timber carried out in weather conditions that enable fire to spread freely within the selected area.

2. Release treatment: the controlling of competing vegetation by spraying herbicides registered for forestry, such as glyphosate, or by using mechanical means, preferably a stripper over a chain saw, in order to promote the natural or artificial regeneration of desired species.

3. Precommercial thinning: the felling of trees that impede the growth of selected trees in a young stand, by equalizing the spacing between them.

4. Commercial thinning: the felling or harvesting of trees in an even-aged stand that has not yet reached cutting age, in such a way as to accelerate the diameter growth of the remaining trees and to improve the quality of the stand.

5. Drainage: the digging of ditches to lower soil humidity by draining away surface run-off and seepage, in order to improve tree growth and to promote natural and artificial regeneration.

6. Fertilization: the application of chemical or organic fertilizers to increase the production capacity of the soil.

7. Natural regeneration reinforcement planting: the planting of seedlings in an area where natural regeneration is insufficient, in order to obtain a number of evenly distributed trees of the principal species in that area.

8. Progressive seed cutting: the felling or harvesting of trees at the time of the first of a series of successive regeneration cuts in an even-aged stand that has reached cutting age, thus permitting the opening of the forest cover and the elimination of overtopped trees, and promoting natural regeneration from seeds produced by dominant and codominant trees left as seed bearers.

9. Strip cutting with regeneration and soil protection: felling or harvesting in a stand, in strips no more than 60 metres wide, leaving a distance between each strip at least equal to the width of the strip harvested. In the strips, all trees of commer-

cial species whose diameter has reached 10 centimetres or more at 1.30 metres above the highest ground level are harvested. Cutting must allow the harvesting of not less than 75 % of the basal area or the reduction of the forest cover to less than 25 %. Felling or hauling roads must be spaced and every precaution must be taken to avoid damaging advance regeneration and to protect the soil.

10. Planting: the setting in the soil of cuttings, sets, bare-root seedlings or container seedlings in order to produce ligneous matter.

11. Enrichment planting: the introduction of or an increase in the number of white pine, red oak, American ash or yellow birch in a stand, through planting.

12. Spreading commercial thinning : commercial thinning which promote the lumber production of birch before cutting with regeneration.

13. Improvement cutting: the felling or harvesting of trees in a degraded uneven-aged high forest whose diameter is equal to or greater than the diameter determined for each species, while maintaining the percentage of the basal area of Quality 1 trees after treatment.

14. Selection cutting: the periodic felling or harvesting of trees selected individually or in small groups in an uneven-aged high forest, taking into account all the species and diameter classes of trees in a stand, as well as their strength and quality. A balanced selection structure must be obtained or maintained in the stand by ensuring that growing trees receive the necessary tending and by favouring seed establishment.

15. Selection cutting by patches: the felling or harvesting of trees selected individually or in small groups in an uneven-aged stand, in order to obtain or maintain a balanced structure while carrying out the silvicultural treatment required by growing trees, favouring seed establishment and taking into account all the diameter classes in the stand. During the operations, regeneration and saplings must be protected. Each patch must measure between 500 m² and 1,500 m² in order to promote the regeneration of shade intolerant species. In the long term, 50 % of the area in question will be placed under an uneven-aged management system.

16. Selection and regeneration cutting by patches: the felling or harvesting of trees selected individually or in small groups in an uneven-aged stand, in order to obtain or maintain a balanced structure while carrying out the silvicultural treatment required by

growing trees, favouring seed establishment and taking into account all the diameter classes in the stand. During the operations, regeneration and saplings must be protected. The enclosures, measuring between one and two hectares each, are treated so as to promote the regeneration of shade intolerant species and the constitution of an uneven-aged stand.

17. Preselection cutting: the felling or harvesting of trees selected individually or in small groups in an uneven-aged high forest, taking into account all the species and diameter classes of trees in a stand, as well as their strength and quality. A structure conducive to selection must be obtained in the stand by ensuring that growing trees receive the necessary tending and by favouring seed establishment.

18. Pine seeding: the aerial or ground seeding of jack pine seed or the seeding of jack pine or white pine in funnels.

SCHEDULE II

(s. 1)

SILVICULTURAL TREATMENTS ADMISSIBLE BY PRODUCTION PRIORITY GROUPS

Silvicultural treatments admissible	Production priority groups													
	Fir, spruce, jack pine, tamarack	Thuja	Poplar	White birch	Birch1 or Oak or intermediary tol.hard.	Pine	Maple or tsuga or tol. hard.	Pine-Birch (Pine)1	Pine-Birch (Birch)1	Mixed S-int.hard (S) or S-int.hard. (hard.)	Mixed S-Birch (S)1	Mixed S-Birch (hard.)1	Mixed S-Maple (S) or S-tol.hard. (S)	Mixed S-Maple (hard.) or S-int.hard. (hard.)
Precommercial thinning	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fertilization	X													
Commercial thinning	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Spreading commercial thinning					X							X		
Pine seeding	X					X		X	X					
Improvement cutting		X			X							X		
Selection cutting		X			X		X					X		X
Selection cutting by patches					X				X			X		
Selection and regeneration cutting by patches					X				X			X		
Preselection cutting					X		X					X		X
Strip cutting with regeneration and soil protection	X	X			X	X		X	X		X	X		
Progressive seed cutting	X	X		X	X	X	X	X	X	X	X	X	X	X
Planting	X	X	X	X	X	X	X				X			
Site preparation, natural regeneration reinforcement planting and release treatment	X	X			X	X		X	X	X	X	X	X	X
Drainage	X	X												
Enrichment planting					X	X		X	X					

1 For these priority productions, the yellow birch prevails on the white birch as the principal objective species.

SCHEDULE III

(s. 2)

**VALUES OF SILVICULTURAL TREATMENTS
ADMITTED AS PAYMENT OF DUES FOR THE
1999-2000 FISCAL YEAR****1. SITE PREPARATION****Scarification**

Anchor chains	105 \$/ha
Shark-fin barrels and chains	295 \$/ha
Hydraulic cone trenchers (Wadell type)	235 \$/ha
Hydraulic disk trenchers (TTS hydraulic and Donaren types)	190 \$/ha
Rake scarifier (shark)	190 \$/ha
Batch scarifier (Bracke), disk trencher (TTS type)	135 \$/ha
Batch scarifier moulder (Bracke moulder)	185 \$/ha
“V” blade batch scarifier (Bracke) or disk trencher	370 \$/ha
Cutter-type portable scarifier forest mattock	325 \$/1 000 microsites
Forest harrows (Rome et Crabe types)	
Single pass	215 \$/ha
Double pass	380 \$/ha
Létourneau tree crusher	330 \$/ha

Winter shear-blading with a shear-blade-equipped crawler tractor	430 \$/ha
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Clearing

Rake-equipped crawler tractor	420 \$/ha
Rake equipped skidder or hydraulic rake	355 \$/ha
Modified “V” blade models C and H	180 \$/ha
Ploughing and harrowing	
Forest plough (Lazure type) + forest harrow (Rome and Crabes types)	1 155 \$/ha
Prescribed burning	390 \$/ha

2. RELEASE TREATMENT**Mecanical**

Coniferous or boreal forest zone	600 \$/ha
Mixed and hardwood forest zones	675 \$/ha

Herbicides

Ground spraying	340 \$/ha
Aerial spraying	205 \$/ha

3. PRECOMMERCIAL THINNINGPriority production of softwoods
and mixed predominantly softwood standsValue per hectare = $418,72 \times \ln(\text{ti}/\text{ha}) - 3\,236,72$ ln: base *e* logarithmti: number of trees of more than 1,2 meter for soft-
woods and 1,8 meter for hardwoods

ha: hectare

Priority production of intolerant
hardwoods and mixed predominantly
intolerant hardwood stands 830 \$/haPriority production of tolerant
hardwoods and mixed predominantly
tolerant hardwood stands 795 \$/ha**4. COMMERCIAL THINNING**

Softwoods

Average DBH of felled trees (cm)	Value with tree marking (\$/ha)	Value without tree marking (\$/ha)
10 à 10,9	1 240	1 095
11 à 11,9	1 035	890
12 à 12,9	875	730
13 à 14,9	700	555
15 et plus	535	390

Mixed with tolerant and intolerant hardwoods 560 \$/ha
Tolerant and intolerant hardwoods 240 \$/ha**5. DRAINAGE**Cleard areas (without prior felling) 1,45 \$/m or m³
Wooded areas (without prior felling) 1,60 \$/m or m³
Wooded areas (with prior felling) 1,80 \$/m or m³**6. FERTILIZATION**

Softwoods 365 \$/ha

**7. NATURAL REGENERATION REINFORCEMENT
PLANTING AND RED PINE AND WHITE PINE
PLANTING**

With site preparation

Bare-root seedlings

Conventional size 230 \$/1 000 seedlings
Large size 365 \$/1 000 seedlings

Container seedlings				
67-50	190	\$/1 000	seedlings	13. IMPROVEMENT CUTTING
45-110	200	\$/1 000	seedlings	
25-200	255	\$/1 000	seedlings	Tolerant hardwood
45-340 and 25-350-A	320	\$/1 000	seedlings	240 \$/ha
				Mixed with tolerant hardwood
				240 \$/ha
Without site preparation				Cedar
Bare-root seedlings				225 \$/ha
Conventional size	245	\$/1 000	seedlings	
Large size	380	\$/1 000	seedlings	14. SELECTION CUTTING
Container seedlings				
67-50	205	\$/1 000	seedlings	Tolerant hardwood
45-110	215	\$/1 000	seedlings	240 \$/ha
25-200	270	\$/1 000	seedlings	Mixed with tolerant hardwood
45-340 or 25-350-A	335	\$/1 000	seedlings	240 \$/ha
				Cedar
				225 \$/ha
8. PROGRESSIVE SEED CUTTING				15. SELECTION CUTTING BY PATCHES
Softwoods			520 \$/ha	240 \$/ha
Mixed with tolerant and intolerant hardwoods			240 \$/ha	16. SELECTION AND REGENERATION CUTTING BY PATCHES
				240 \$/ha
Tolerant and intolerant hardwoods			240 \$/ha	17. PRESELECTION CUTTING
9. STRIP CUTTING WITH REGENERATION AND SOIL PROTECTION			210 \$/ha	Tolerant hardwood
				240 \$/ha
				Mixed with tolerant hardwood
				240 \$/ha
10. PLANTING				18. PINE SEEDING
With site preparation				
Bare-root seedlings				Aerial seeding
Conventional size	215	\$/1 000	seedlings	35 \$/ha
Large size	345	\$/1 000	seedlings	Ground seeding
Container seedlings				135 \$/ha
67-50	170	\$/1 000	seedlings	Funnels
45-110 or cuttings	180	\$/1 000	seedlings	305 \$/1 000
25-200	235	\$/1 000	seedlings	microsites
45-340 or 25-350-A	300	\$/1 000	seedlings	ensemencés
				Note: The expression "tolerant hardwoods" includes white pine and red pine.
Without site preparation				
Bare-root seedlings				2741
Conventional size	230	\$/1 000	seedlings	
Large size	360	\$/1 000	seedlings	
Container seedlings				
67-50	185	\$/1 000	seedlings	
45-110	195	\$/1 000	seedlings	
25-200	250	\$/1 000	seedlings	
45-340 or 25-350-A	315	\$/1 000	seedlings	
11. ENRICHMENT AND REINFORCEMENT PLANTING OF HARDWOODS AND PINE			510 \$/1 000	seedlings
12. SPREADING COMMERCIAL THINNING			240 \$/ha	