CONTAINERIZED SEEDLING PRODUCTION STATISTICS FOR ONTARIO, 1982

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under the auspices of the

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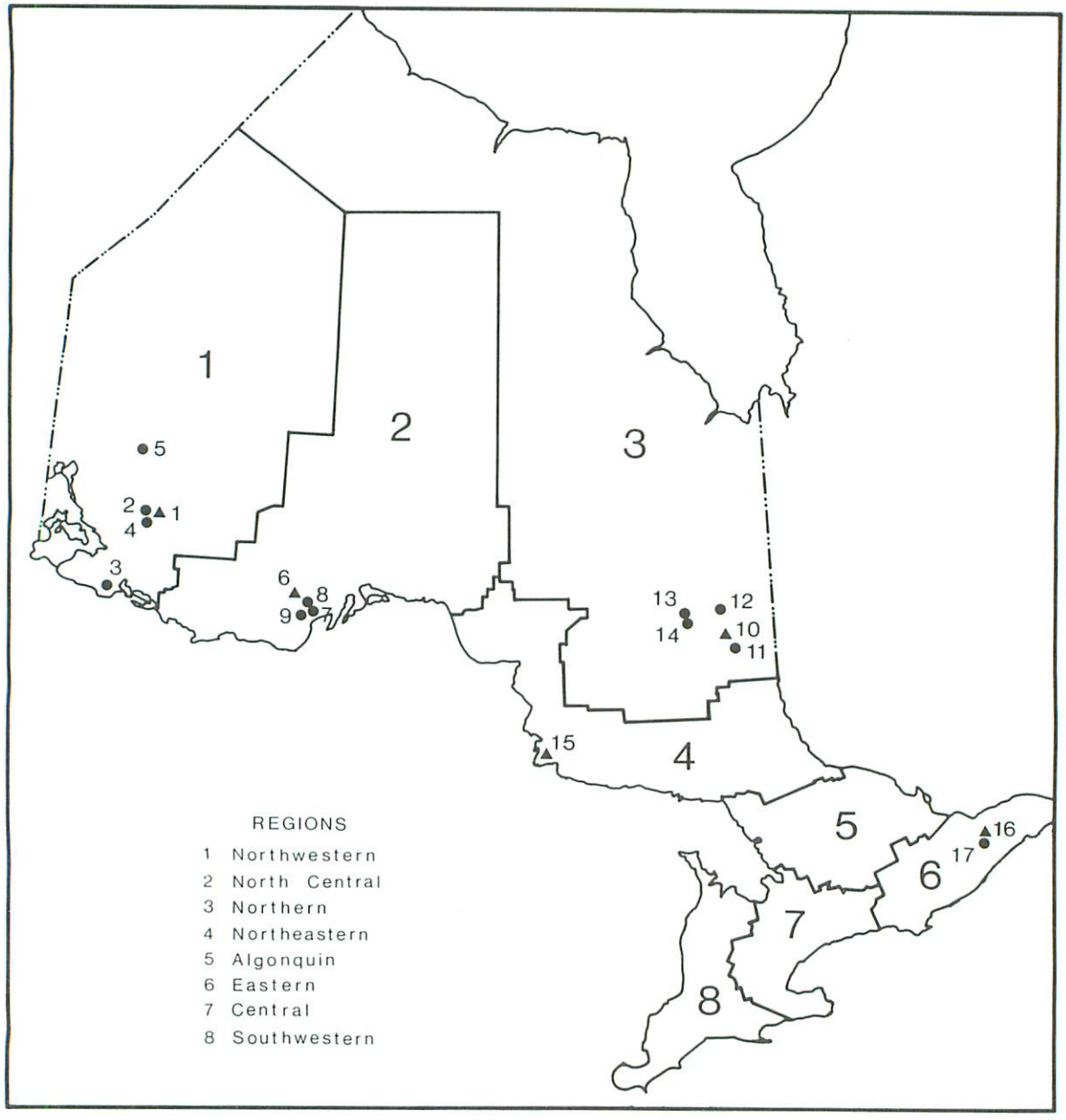
ABSTRACT

In Ontario, five provincial crown and 12 private sector nurseries produced 31 million containerized tree seedlings for reforestation purposes during 1982. This represents approximately one third of all planting stock shipped during that year. Private sector nurseries accounted for approximately 56% of container production. Statistics are presented to contrast production of containerized and bare-root stock by administrative region, nursery, and species.

RÉSUMÉ

En Ontario, cinq pépinières de la couronne provinciale et 12 pépinières du secteur privé ont produit 31 millions de semis en récipients destinés au reboisement en 1982. C'est à peu près le tiers de la livraison totale matériel de plantation au cours de cette année-là. Les pépinières du secteur privé ont fourni approximativement 56% de la production du matériel en récipients. Des statistiques sur la production du matériel en récipients et du matériel à racines nues par régions administratives, pépinières et espèces sont présentées.



Frontispiece. Container production nurseries in Ontario, 1982. (Large numbers indicate administrative regions; small numbers indicate locations of nurseries listed in Table 4. ▲ - provincial crown nurseries, ● - private sector nurseries).

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INTRODUCTION

Ontario was one of the first provinces to introduce container planting into its reforestation program in the late 1960s. Until recently, however, and in contrast with the situation in several other provinces, container planting was perceived primarily as a supplement to the planting of bare-root stock. In this secondary role, production of containerized seedlings during the 1970s generally hovered around the 5 million mark, and rarely exceeded 10% of total planting stock production. Frequently it was much less.

The situation has changed dramatically in the last few years, and we are now witnessing a major expansion in both the size and role of the provincial container program. While this expansion is given impetus by the demand for substantially increased forest renewal, it has a significant corollary. The program is now becoming so large that it obviously can no longer be regarded simply as a supplement to the bare-root program. In many situations, if only for logistic reasons, container planting has become an alternative to bare-root planting. This increased reliance upon container planting has important implications with respect to planting stock specifications and regeneration prescriptions in general.

Concurrently with the expansion of planting programs, responsibility for the production and planting of container stock is undergoing major change. Since 1982, 21 Forest Management Agreements (FMAs) have been negotiated between the Province of Ontario and forest products companies, effectively transferring responsibility for much of the projected increase in reforestation activity to the private sector. Under the terms of these FMAs the Ontario Ministry of Natural Resources (OMNR) is responsible for supplying the planting stock, most of which will be container-grown. To meet this need a policy of privatizing additional container stock production was implemented in 1982, when the first private nurseries began growing containerized seedlings under contract to OMNR. Since that time the number of private growers involved in the program has increased steadily.

In 1983, the Container Stock Working Group of the Canada-Ontario Joint Forestry Research Committee (COJFRC) decided that it would be useful to initiate publication of an annual statistical summary of containerized seedling production in Ontario. Although a national directory of forest tree nurseries has been published[1], it was felt that a more detailed breakdown of planting stock production by type and species was desirable for adequate documentation of the rapidly changing provincial container program. Consequently, in the compilation of this report, data have been included to permit comparison between production of containerized seedlings and that of other types of nursery stock. Over the long term, it is hoped that these summaries will help to quantify trends in the development of different planting stock production techniques. This first

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[1] Smyth, J.H. and Brownwright, A.J. 1984. Forest tree production centres in Canada - 1983. Dep. Environ, Can. For. Serv., Sault Ste. Marie, Ont. Inf. Rep. O-X-357. 45 p. + appendices.

statistical summary covers calendar year 1982, the first year in which private production of container stock became fully operational.

Most of the data for this report were provided by OMNR regional members of the Container Stock Working Group. For the Central and Southwestern regions only, planting stock production data were provided by the respective provincial nursery superintendents. The assistance of all contributors is gratefully acknowledged.

EXPLANATORY NOTES ON TABLES

i. All data are for calendar year 1982. Container stock production is presented in terms of the total number of cavities sown and numbers of shippable seedlings produced.[2] The latter includes seedlings produced in 1982 either for shipping in the current year (1982) or for overwintering and shipping in the spring of 1983. It *does not* include overwintered seedlings shipped in the spring of 1982. Data for bare-root production include only seedlings shipped during calendar year 1982.

ii. The data for container production exclude containerized seedlings grown for use in the production of accelerated bare-root transplant stock.

iii. Accelerated bare-root data (Accel. transplants; tables 5-7) include production of transplants from both containerized and bare-root seedlings.

iv. Nursery ownership.

All container production reported here was carried out in crown (i.e., OMNR) or private sector nurseries; there were no forest industry-operated container nurseries in Ontario in 1982. The entry for industrial production of container stock in North Central Region, given in Table 6, indicates a special situation whereby two private growers produced seedlings under direct contract to Abitibi-Price Inc. for planting on freehold land.

v. Greenhouse type.

Heated houses with conventional heating and cooling systems

Unheated houses with assisted cooling (e.g., thermostatically controlled vents and extractor fans, or other mechanical cooling devices)

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[2] The decision to report "shippable seedlings produced" rather than "seedlings shipped" was determined by the desire for an accurate portrayal of container nursery production on a crop-year basis. This approach avoids the problem of seedlings produced but not shipped (inherent in the reporting of "seedlings shipped"), and serves better to illustrate actual nursery productivity in a given year.

Shelterhouses - unheated houses or other protective structures with only passive cooling (i.e., no automatic vents or cooling fans)

vi. Table 4 - Container nursery directory.

The following information precedes the entry for an individual nursery:

- nursery number (same sequence as frontispiece map)
- (C) or (P) indicates crown or privately operated nursery, respectively
- mailing address
- name of nursery superintendent or owner
- telephone number

For each entry:

- (F) or (G) following greenhouse capacity indicates greenhouse style. (F) = free-standing, (G) = gutter-connected greenhouses.
- species abbreviations:

  bS - black spruce
  wS - white spruce
  jP - jack pine
  rP - red pine
  wP - white pine
  L - larch spp.
  OC - other conifers

- the last column describes type of container system used, and percentage of use:

  PP3 = FH308 paperpot
  PP4 = FH408 paperpot
  SL6 = Spencer-Lemaire "Rootrainer" 6
  MP1 = Can-Am Multipot 1

Table 1. Summary of greenhouse capacities (m^2) for containerized seedling production by region and ownership category, 1982.

Region	OMNR capacity			Private capacity			Total capacity		
	Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses
Northwestern	2 233	-	-	3 183	950	-	5 416	950	-
North Central	1 403	-	-	10 521	-	-	11 924	-	-
Northern	4 250	-	-	9 289	1 365	-	13 539	1 365	-
Northeastern	1 552	1 070	1 070	-	-	-	1 552	1 070	1 070
Eastern	900	300	-	280	280	-	1 180	580	-
	10 338	1 370	1 070	23 273	2 595	-	33 611	3 965	1 070

Table 2. Summary of container system use (cavities sown) by region, 1982.

Region	Spencer-Lemaire	Japanese paperpot	Can-Am Multipot
	('000 cavities sown)		
Northwestern	7 675	-	-
North Central	1 655	7 718	-
Northern	-	13 651	-
Northeastern	-	3 744	-
Eastern	-	-	922
	9 330	25 113	922
% of total	26.4	71.0	2.6

Table 3. Summary of container system use (shippable seedlings produced) by region, 1982.

Region	Spencer-Lemaire	Japanese paperpot	Can-Am Multipot
	('000 shippable seedlings)		
Northwestern	7 631	-	-
North Central	1 159	6 672	-
Northern	-	11 302	-
Northeastern	-	3 252	-
Eastern	-	-	707
	8 790	21 226	707
% of total	28.6	69.1	2.3

Table 4a. Container production nurseries by region: Northwestern Region.

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)				Seedling production ('000 shippable seedlings)			Container system used
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	
1 (C) DRYDEN TREE NURSERY, ONTARIO MINISTRY OF NATURAL RESOURCES, P.O. BOX 90, WABIGOON, ONTARIO, POV 2W0											
[Terry Myland. Tel. (807) 938-6326]											
2233 (F)	-	-	jP	576	-	-	jP	576	-	-	SL6 - 100%
			bS	3675	-	-	bS	3675	-	-	
				4251				4251			
2 (P) EVERGREEN FARMS (SCHMIDT FLOWERS), 48 PRINCESS STREET, DRYDEN, ONTARIO, P8N 1C7											
[Ken Schmidt and Charles Queau. Tel. (807) 937-5239]											
2090 (F)	-	-	jP	1409	-	-	jP	1391	-	-	SL6 - 100%
			bS	-	-	-	bS	-	-	-	
				1409	-	-		1391	-	-	
3 (P) RIVERSIDE NURSERY, R.R.#2, DEVLIN, ONTARIO, POW 1CO.											
[Mr. and Mrs. N. Mutz. Tel. (807) 486-3421]											
371 (F)	-	-	jP	415	-	-	jP	407	-	-	SL6 - 100%
			bS	-	-	-	bS	-	-	-	
				415	-	-		407	-	-	

(cont'd)

Table 4a. Container production nurseries by region: Northwestern Region (concl.).

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)				Seedling production ('000 shippable seedlings)			Container system used
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	
			4 (P) TAMARAC NURSERIES, R.R.#2, DRYDEN, ONTARIO, P8N 2Y5. [David, Steven and Daniel Lick. Tel. (807) 937-6621]								
722 (F)	-	-	jP	600	-	-	jP	598	-	-	SL6 - 100%
			bS	-	-	-	bS	-	-	-	
				600	-	-		598	-	-	
			5 (P) WELLAIR CONCEPTS INC., P.O. BOX 339, EAR FALLS, ONTARIO, POV 1TO [F. Wiesinger. Tel. (807) 222-2325]								
-	950 (F)	-	jP	-	1000	-	jP	-	984	-	SL6 - 100%
			bS	-	-	-	bS	-	-	-	
				-	1000	-		-	984	-	

Table 4b. Container production nurseries by region: North Central Region.

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)			Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses	Container system used
			6 (C) THUNDER BAY FOREST STATION, ONTARIO MINISTRY OF NATURAL RESOURCES, R.R.#1, THUNDER BAY, ONTARIO, P7C 4T9.							
			[Bob Klapprat. Tel. (807) 939-2558]							
1403 (F)	-	-	jP	-	-	-	jP	-	-	-	
			bS	1655	-	-	bS	1159	-	-	SL6 - 100%
				1655	-	-		1159	-	-	
			7 (P) CREEKSIDE NURSERY, R.R.#11, THUNDER BAY, ONTARIO, P7B 5E2.							
			[Dennis Trevisanutto. Tel. (807) 767-3437]							
3211 (F)	-	-	jP	-	-	-	jP	-	-	-	
			bS	2117	-	-	bS	1736	-	-	PP4 - 100%
				2117	-	-		1736	-	-	
			8 (P) HILLS GREENHOUSES LTD., OLIVER ROAD, MURILLO, THUNDER BAY, ONTARIO, POT 2G0							
			[H. Vanduyn and R. Meems. Tel. (807) 935-2626]							
			1. Production for Crown							
3612 (F)	-	-	jP	-	-	-	jP	-	-	-	
			bS	2117	-	-	bS	1792	-	-	PP4 - 100%
			2. Production for Abitibi-Price Inc.							
803 (F)	-	-	jP	-	-	-	jP	-	-	-	
			bS	1140	-	-	bS	1120	-	-	PP4 - 100%
				3257	-	-		2912	-	-	

(cont'd)

Table 4b. Container production nurseries by region: North Central Region (concl.).

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)				Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Container system used
9 (P) HODWITZ ENTERPRISES LTD., R.R.#6, THUNDER BAY, ONTARIO, P7C 5N5											
[Jim and Dan Hodwitz. Tel. (807) 939-6027]											
1. Production for Crown											
1926 (F)	-	-	jP	-	-	-	jP	-	-	-	
		-	bS	1500	-	-	bS	1290	-	-	PP4 - 100%
2. Production for Abitibi-Price Inc.											
969 (F)	-	-	jP	-	-	-	jP	-	-	-	
			bS	844	-	-	bS	734	-	-	PP4 - 100%
				2344	-	-		2024	-	-	

Table 4c. Container production nurseries by region: Northern Region.

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)			Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses	Container system used
10 (C) SWASTIKA FOREST STATION, ONTARIO MINISTRY OF NATURAL RESOURCES P.O. BOX 129, SWASTIKA, ONTARIO, POK 1TO.										
				[L.J. Forcier. Tel. (705) 567-3372]						
4250 (F)	-	-	wS	242	-	-	wS 146	-	-	PP3 - 50%
			bS	1848	-	-	bS 1836	-	-	PP4 - 50%
			jP	2823	-	-	jP 2507	-	-	
			L	6	-	-	L 5	-	-	
				4919	-	-	4494	-	-	
11 (P) AIDIE CREEK GARDENS, R.R.#3, ENGLEHART, ONTARIO, POJ 1HO.										
				[Charles Warner. Tel. (705) 544-2474]						
1084 (F)	1365 (F)	-	jP	806	1008	-	jP 630	750	-	PP4 - 100%
			bS	-	-	-	bS -	-	-	
				806	1008	-	630	750	-	
12 (P) ENERGREEN ENTERPRISES INC., (RAMORE), P.O. BOX 329, SWASTIKA, ONTARIO, POK 1TO										
				[G. Levangie. Tel. (705) 236-4311]						
5619 (G)			jP	2794	-	-	jP 2370	-	-	PP3 - 50%
	-	-	bS	1595	-	-	bS 810	-	-	PP4 - 50%
				4389	-	-	3180	-	-	

(cont'd)

Table 4c. Container production nurseries by region: Northern Region (concl.).

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)			Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses	Container system used
13 (P) LAFLEUR GARDENS LTD., R.R.#2, TIMMINS, ONTARIO, P4N 7C3.										
[Richard Lafleur. Tel. (705) 267-2972]										
2185 (G)	-	-	jP	14	-	-	jP 13	-	-	PP4 - 100%
			bS	2003	-	-	bS 1737	-	-	
				2017	-	-	1750	-	-	
14 (P) MILLSON FORESTRY SERVICE, NORTHGLEN PARK, R.R.#1, TIMMINS, ONTARIO, P4N 7C2										
[Mr. and Mrs. David Millson. Tel. (705) 232-4836]										
401 (F)	-	-	jP	512	-	-	jP 498	-	-	PP4 - 100%
			bS	-	-	-	bS -	-	-	
				512	-	-	498	-	-	

Table 4d. Container production nurseries by region: Northeastern Region.

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)				Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Container system used
15 (C) THESSALON NURSERY, ONTARIO MINISTRY OF NATURAL RESOURCES P.O. BOX 310, THESSALON, ONTARIO, POR 1LO.											
[Glenn Connell. Tel. (705) 842-3914]											
1552 (F)	1070 (F)	1070 (F)	jP	1128	768	768	jP	972	703	686	PP4 - 100%
			rP	819	-	-	rP	679	-	-	
			wP	261	-	-	wP	212	-	-	
			bS	-	-	-	bS	-	-	-	
				2208	768	768		1863	703	686	

Table 4e. Container production nurseries by region: Eastern Region.

Greenhouse capacity (m^2) and style				Seedling production ('000 cavities sown)			Seedling production ('000 shippable seedlings)			
Heated houses	Unheated houses	Shelter-houses		Heated houses	Unheated houses	Shelter-houses	Heated houses	Unheated houses	Shelter-houses	Container system used
16 (C) G. HOWARD FERGUSON FOREST STATION, ONTARIO MINISTRY OF NATURAL RESOURCES, R.R.#4, KEMPTVILLE, ONTARIO, KOG 1JO										
			[A.J. Campbell. Tel. (613) 258-3413]							
900 (F)	300 (F)	-	wP	-	300	-	wP	-	286	-	MP1 - 100%
			jP	-	-	-	jP	-	-	-	
			bS	-	-	-	bS	-	-	-	
			OC	22	-	-	OC	20	-	-	
				22	300	-		20	286	-	
17 (P) WALSH NURSERIES LTD., KEMPTVILLE, ONTARIO, KOG 1JO										
			[Irvin Walsh. Tel. (613) 258-2383]							
280 (F)	280 (F)	-	rP	24	-	-	rP	20	-	-	MP1 - 100%
			wP	26	400	-	wP	23	231	-	
			jP	-	-	-	jP	-	-	-	
			L	130	-	-	L	110	-	-	
			bS	-	-	-	bS	-	-	-	
			OC	20	-	-	OC	17	-	-	
				200	400	-		170	231	-	

Table 5. Summary of planting stock production, all sources, for calendar year 1982 by region and type ('000 shippable seedlings).

Region	Containerized		Bare-root		Accel. transplants		Cuttings		Total production
	Number	% of total	Number	% of total	Number	% of total	Number	% of total	
Northwestern	7 631	66.0	3 925	34.0	-	-	-	-	11 556
North Central	7 831	44.6	9 719	55.4	-	-	-	-	17 550
Northern	11 302	39.4	16 820	58.6	170	0.6	398	1.4	28 690
Northeastern	3 252	87.1	482	12.9	-	-	-	-	3 734
Eastern	707	7.3	7 910	81.6	-	-	1 071	11.1	9 688
Central[a]	40	0.3	14 670	99.3	65	0.4	-	-	14 775
Southwestern	-	-	5 943	97.3	-	-	165	2.7	6 108
	30 763	33.4	59 469	64.6	235	0.2	1 634	1.8	92 101

[a] Includes both Midhurst and Orono Forest Stations.

Table 6. Summary of planting stock production for calendar year 1982 by region, type and source ('000 shippable seedlings).

Region	Containerized			Bare-root			Accel. transplants			Cuttings		
	OMNR	Private	Industry	OMNR	Private	Industry	OMNR	Private	Industry	OMNR	Private	Industry
Northwestern	4 251	3 380	-	3 925	-	-	-	-	-	-	-	-
North Central	1 159	4 818	1 854[a]	8 719	-	1 000[b]	-	-	-	-	-	-
Northern	4 494	6 808	-	16 820	-	-	170	-	-	398	-	-
Northeastern	3 252	-	-	482	-	-	-	-	-	-	-	-
Eastern	306	401	-	7 910	-	-	-	-	-	1 071	-	-
Central (Midhurst)	-	-	-	8 639	-	-	-	-	-	-	-	-
(Orono)	40	-	-	6 031	-	-	65	-	-	-	-	-
Southwestern	-	-	-	5 943	-	-	-	-	-	165	-	-
	13 502	15 407	1 854	58 469	-	1 000	235	-	-	1 634	-	-

[a] Produced by private nurseries under contract to Abitibi-Price Inc. for planting on freehold land.

[b] Kimberly-Clark of Canada Ltd.

Table 7. Summary of planting stock production, all sources, for calendar year 1982 by region, type and species ('000 shippable seedlings).

Region	Stock type	Species								
		White spruce	Black spruce	Jack pine	Red pine	White pine	Larch	Other conifers	Hard-woods	Total production
Northwestern	Containerized	-	3 675	3 956	-	-	-	-	-	7 631
	Bare-root	1 519	1 439	792	163	-	-	12	-	3 925
	Accel. transplants	-	-	-	-	-	-	-	-	-
	Cuttings	-	-	-	-	-	-	-	-	-
North Central	Containerized	-	7 831	-	-	-	-	-	-	7 831
	Bare-root	2 851	4 297	2 014	557	-	-	-	-	9 719
	Accel. transplants	-	-	-	-	-	-	-	-	-
	Cuttings	-	-	-	-	-	-	-	-	-
Northern	Containerized	146	4 383	6 768	-	-	5	-	-	11 302
	Bare-root	6 529	6 455	3 822	-	-	-	14	-	16 820
	Accel. transplants	-	170	-	-	-	-	-	-	170
	Cuttings	-	398	-	-	-	-	-	-	398
Northeastern	Containerized	-	-	2 361	679	212	-	-	-	3 252
	Bare-root	1	-	253	156	52	-	-	20	482
	Accel. transplants	-	-	-	-	-	-	-	-	-
	Cuttings	-	-	-	-	-	-	-	-	-
Eastern	Containerized	-	-	-	20	540	110	37	-	707
	Bare-root	1 322	34	819	2 523	1 709	244	1 023	236	7 910
	Accel. transplants	-	-	-	-	-	-	-	-	-
	Cuttings	-	-	-	-	-	-	-	1 071	1 071
Central	Containerized	-	-	-	-	-	-	40[a]	-	40[a]
	Bare-root (Midhurst)	1 929	1 292	165	1 427	1 970	29	1 396	431	8 639
	Bare-root (Orono)	1 880	-	12	1 952	1 047	-	950	190	6 031
	Accel. transplants	65[a]	-	-	-	-	-	-	-	65[a]
	Cuttings	-	-	-	-	-	-	-	-	-
Southwestern	Containerized	-	-	-	-	-	-	-	-	-
	Bare-root	539	-	84	223	2 420	9	1 932	736	5 943
	Accel. transplants	-	-	-	-	-	-	-	-	-
	Cuttings	-	-	-	-	-	-	-	165	165
		16 781	29 974	21 046	7 700	7 950	397	5 404	2 849	92 101

[a] Orono Forest Station (Scots pine for Christmas tree production).