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canadien des  
forêts

1976-1980 Summary Report

# Forest Tree Seed Certification Under The OECD Scheme In Canada

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## ABSTRACT

In the five year period 1976-1980, the Canadian Forestry Service issued 710 certificates of provenance in accordance with the OECD (Organization for Economic Cooperation and Development) Scheme for the control of forest reproductive material moving in international trade. This total represents 173 source-identified seedlots weighing 8 542 kg and brings the grand total of certificates issued since inception of the Scheme in Canada to 1,640 for 300 seedlots weighing 15 915 kg. The estimated value of seeds certified since 1975 is \$2.75 million. Demands for certified seed are expected to continue; Canadian regulations for categories of seeds additional to source-identified are being considered and will be aligned with national regulations currently in preparation.

## RESUME

De 1976 à 1980 inclusivement, le Service canadien des forêts a délivré 710 certificats de provenance, en conformité avec le système de l'OCDE (Organisation de coopération et de développement économiques) pour le contrôle du commerce international des matériels forestiers de reproduction. Ce total représente 173 lots de semences identifiés selon la source et pesant 8 542 kg; cela porte à 1,640 la totalité des certificats délivrés au Canada depuis la mise sur pied du système, soit un total de 300 lots de semences pesant 15 915 kg. La valeur estimative des semences certifiées depuis 1975 est de 2 750 000 dollars. On prévoit que la demande pour les semences certifiées se maintiendra; on est en train d'étudier la possibilité de promulguer un règlement qui viserait les catégories de semences autres que celles qui sont identifiées selon la source et qui s'inspirerait des règlements nationaux actuellement en rédaction.



Collection area is verified

Photographs in this report depict the collection, extraction, and certification of lodgepole pine seeds for export.

FRONT COVER: More than 150 kg of *Pinus contorta* var. *latifolia* seeds destined for Sweden.



Cone pickers' camp



Native cone picker

## INTRODUCTION

The Canadian Forestry Service (CFS) is the Designated Authority for Canadian implementation of the Organization for Economic Cooperation and Development (OECD) Scheme for forest tree seed certification. The scheme, which Canada helped to formulate, was adopted by the Council of OECD in May 1967 for the control of forest reproductive material moving in international trade.

The CFS delegated responsibility to directors of both the Pacific Forest Research Centre and the Northern Forest Research Centre for its administration in

British Columbia (B.C.), Alberta, Yukon Territory, and the Northwest Territories. Following requests from Canadian seed exporters, the CFS commenced certification of source-identity in 1970 and continued this function thereafter.

A synopsis of the scheme and activities in Canada from 1970 to 1975 was published by Piesch (1977) (see Summary below). The principal purpose here is to report the developments since that time for the five-year period 1976-1980.

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## SUMMARY OF ACTIVITIES BEFORE 1976

A greater weight of seeds was certified in 1970, the first year of operation, than in any year since. Indeed, as Table 1 indicates, certification dropped dramatically from 3 506 kg in 1970 to 106 kg in 1975, but this trend was not continued.

Initially, Sitka spruce (*Picea sitchensis* [Bong.] Carr.) and Douglas-fir (*Pseudotsuga menziesii* [Mirb.] Franco) accounted for most of the seed certified. However, a substantial demand for lodgepole pine (*Pinus contorta* var. *contorta* Engelm.) developed in 1971, and almost without exception, this species

has dominated the certification record in subsequent years. As Piesch (1977) pointed out, quantities of seeds certified do not necessarily reflect demands for those seeds, because collections are strongly influenced by the size of available cone crops. Thus, 1970 and 1971 were generally good producers; 1972 was lighter; and 1973, 1974, and 1975 were all poor years.

The estimated value of seeds certified each year ranged from \$11,000 (1974) to \$204,000 (1971), with a total of \$520,000 for the six years 1970-1975.

# ACTIVITIES IN 1976~1980

## CERTIFICATION

Requests for certification increased in a spectacular manner in 1976, following the heavy cone crops of coastal species (Tables 2 and 3). The generally poor crops in 1977 reduced collections for that year, except for lodgepole pine.

The increasing use of lodgepole pine in Swedish reforestation programmes, coupled with its consistent yield, have affected the Canadian seed export industry profoundly in recent years. While collectable crops of grand fir, Sitka spruce, and Douglas-fir have been erratic, steady production and demand for B.C. and Yukon sources of lodgepole pine have maintained certified exports at close to 2 000 kg each year since 1977.

The Yukon Territory has emerged as an important



Labelled cone sacks in store

TABLE 1

Forest Tree Seed Certification  
Under the OECD Scheme  
in the British Columbia/Yukon Region  
1970-1975

Year	No. of Seedlots Certified	No. of Certificates Issued	No. of Species	Weight of Seeds (kg)	Estimated Value on Overseas Market (Canadian \$)
1970	44	225	9	3 506	113 000
1971	35	261	4	2 486	204 000
1972	26	135	5	976	126 000
1973	6	122	2	168	34 000
1974	8	87	4	131	11 000
1975	8	100	1	106	32 000
Total	127	930	11	7 373	520 000

Source: Piesch (1977)



L. Sacks emptied into kilning trays

R. Stacked trays in kiln

TABLE 2

Forest Tree Seed Certified  
Under the OECD Scheme  
in the British Columbia/Yukon Region  
1976-1980

Year <sup>1</sup>	No. of Seedlots Certified	No. of Certificates Issued	No. of Species	Weight of Seeds (kg)	Estimated Value <sup>2</sup> on Overseas Market (Canadian \$)
1976	20	172	5	1 830	394 000
1977	11	60	2	588	241 000
1978	58	158	5	2 080	685 000
1979	39	146	6	2 050	642 000
1980	40	168	8	1 984	785 000
Total	168	704	11	8 532	2 747 000

<sup>1</sup> Fiscal year of certification; for example, 1976 corresponds to April 1, 1976, to March 31, 1977.

<sup>2</sup> Value based on the following estimated Canadian prices, per kilogram of seeds:

Species other than lodgepole pine: 1976-1978, \$200  
1979-1980, \$250

Lodgepole pine, B.C. sources: 1976-1980, \$400

Lodgepole pine, Yukon sources: 1976-1977, \$500  
1978-1979, \$550  
1980, \$600

TABLE 3

Weight (kg) of Seed Certified  
Under the OECD Scheme  
By Species  
in the British Columbia/Yukon Region  
1976-1980

Species	1976	1977	1978	1979	1980
BRITISH COLUMBIA					
<i>Abies amabilis</i> (Amabilis fir)				13	
<i>Abies grandis</i> (Grand fir)	552		105		
<i>Abies lasiocarpa</i> (Alpine fir)					2
<i>Picea engelmannii</i> (Engelmann spruce)					*
<i>Picea glauca</i> (White spruce)	3				
<i>Picea sitchensis</i> (Sitka spruce)				932	569
<i>Pinus contorta</i> var. <i>latifolia</i> (Lodgepole pine)	141	531	822	342	610
<i>Pinus monticola</i> (Western white pine)	11				15
<i>Pinus ponderosa</i> (Ponderosa pine)			39	53	
<i>Pseudotsuga menziesii</i> (Douglas-fir)	1 123		815	449	221
<i>Tsuga heterophylla</i> (Western hemlock)					4
YUKON					
<i>Pinus contorta</i> var. <i>latifolia</i> (Lodgepole pine)		57	299	261	563
Total	1 830	588	2 080	2 050	1 984

\* less than 1 kg

source of lodgepole pine seeds for northern and high elevation planting sites in Sweden. In 1980, quantities of seeds certified from Yukon sources were almost the same as those from B.C. sources. The Yukon collection areas tend to be smaller and are less easily reached than more southern areas. This is reflected in the trend towards increasing numbers of smaller seedlots (see also Pollard, 1980) and in higher prices paid for seeds of these sources (Table 1).

### VALUE OF SEED CERTIFIED

The estimated values of seeds certified are rough but conservative estimates. Actual prices paid vary by year, sources, quality, and species to a much greater degree than indicated and are treated as strictly proprietary to the companies concerned. Nevertheless, the figures in Table 2 indicate a steady and substantial increase in values of certified seed collections, due in part to the increasing proportion of lodgepole pine (a small-seeded species). Highest-quality seeds from preferred sources of this species may command as much as \$1,500 a kilogram, although actual transactions at this figure are not known.

### CERTIFICATION IN ALBERTA AND THE NORTHWEST TERRITORIES

Although designated as the Certifying Authority for the Northern Region (Alberta and the Northwest Territories) since 1971-1972, the Northern Forest Research Centre was not requested to certify seeds until 1979. Certification records for the Northern Region are summarized in Table 4.

### APPOINTMENT OF SEED ANALYSTS AND SEED INSPECTORS

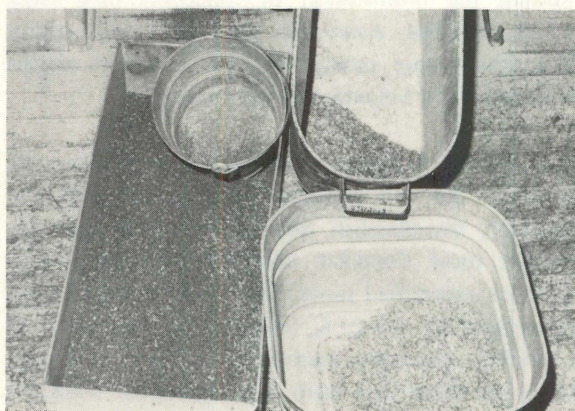
In 1978, the Minister of Agriculture designated four persons in the CFS as Seed Analysts and nine persons as Seed Inspectors to cater to forest tree seed matters pursuant to the Canada Seeds Act. Several amendments have been made to the list since. All services related to the OECD Scheme are conducted by



Tumbled cones yield seeds



Seed cleaner



Seeds are cleaned repeatedly

official Seed Analysts or Seed Inspectors.

A Seed Inspector's Manual has been prepared as a training guide for inspectors operating within the OECD Scheme (Portlock, 1979).

TABLE 4

Weight (kg) of Seed Certified  
Under the OECD Scheme  
in the Northern Region (Alberta/Northwest Territories)  
1976-1980<sup>1</sup>

Year	No. of Seedlots Certified	No. of Certificates Issued	No. of Species	Weight of Seeds (kg)
1979	2 <sup>2</sup>	2	2	4.7
1980	3 <sup>3</sup>	4	3	5.4
Total	5	6	4	10.1

1 No commercial values available

2 *Picea glauca*, *Picea mariana*

3 *Abies balsamea*, *Picea glauca*, *Pinus banksiana*

#### RESPONSE TO SWEDISH LEGISLATION

On April 1, 1979, Sweden enacted legislation prohibiting the importation of lodgepole pine seeds unless certified according to OECD regulations. This action gave considerable stimulus and weight to Canadian participation in the scheme.

The Swedish legislation might have had severe implications for the Canadian seed export industry. However, the Swedish National Board of Forestry assisted those Canadian companies carrying inventories of uncertified seeds. This was effected through inspections by the CFS, followed by submission of a verified inventory statement for each company. Seeds on these lists were then exempted from the new legislation. A total of 769.3 kg of seeds was listed.

The transition to a new state of seed importation regulation was thus conducted with a minimum of disruption and cost to seed dealers and is exemplary of how similar changes in legislation might be put in place in the future.



A happy lodgepole pine in Sweden—  
and a happy Swedish forester



## LIAISON

### National

Requests for certification were received regularly from three companies in Canada; these companies are listed at the end of this report. Formal meetings were convened in 1978 and 1979 at the Pacific Forest Research Centre, where developments, progress, and problems were discussed among representatives of the Certifying Authority and each of the companies. Informal liaison has been maintained each year through visits by Seed Analysts and Seed Inspectors to the companies' facilities, through newsletters, and through general correspondence to ensure mutual understanding of opportunities, needs, and difficulties in seed collection and certification.

### International

Certifying Officers directly responsible for operation of the scheme in the B.C. and Yukon Region attended Paris meetings of OECD delegates in 1976, 1978, and 1980; all previous meetings have been attended by representatives of the CFS.

Following the 1980 meeting, the attending Certifying Officer visited officials of the Danish Seed Extractory and the Danish and Swedish Delegated Authorities to discuss aspects of seed procurement and certification in Canada.

It has been the policy of the CFS to assist groups

of foresters and scientists visiting Canada to examine seed sources and seed extraction facilities. A tour of B.C. and Yukon sources was organized and led for Scandinavian scientists following the 1978 IUFRO Joint Meeting of Provenance Working Parties in Vancouver, B.C.

## ISTA SEED TESTING SERVICES

The Pacific Forest Research Centre became an accredited Seed Testing Laboratory with the International Seed Testing Association (ISTA) in 1979. Close cooperation between Seed Inspectors engaged in their respective OECD and ISTA activities ensures a high degree of control on both source-identity and physical quality of seeds. Canada now provides two ISTA accredited laboratories for forest tree seed testing, the other being the National Tree Seed Centre of Petawawa National Forestry Institute, Chalk River, Ontario.

The integration of OECD and ISTA services has also necessitated a cooperative agreement with the Canada Department of Agriculture, responsible for phytosanitary inspection and certification. Where Orange ISTA Certificates are to be issued, seed containers must be sealed officially, with OECD tags enclosed, after samples have been drawn for phytosanitary inspection.

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## THE FUTURE OF THE SCHEME IN CANADA

A survey of markets in Europe, conducted by the Pacific Forest Research Centre in 1977-1978, indicated that the demand for forest tree seeds from western Canada would remain strong for at least a decade. The development of Swedish reforestation programmes with lodgepole pine has confirmed this conclusion.

The CFS will continue to administer the scheme and, where necessary, will develop services to meet new demands. New rules are being prepared in order to provide for the certification of higher genetic categories *viz.* selected, untested seed orchard and tested reproductive material.

In 1980-1981, the CFS undertook preparation of Regulations for Forest Tree Seeds, pertaining to the Canada Seeds Act. These regulations are aimed chiefly at improving the quality of the labelling of, and the standards of, seed moving in Canada and at controlling importation. It is the intention of the proposed regulations to align domestic rules for genetic and physical quality with those of OECD and ISTA. The regulations are currently under review and their progress will be reported as required.

**CANADIAN COMPANIES  
MARKETING FOREST TREE SEED  
CERTIFIED ACCORDING TO THE OECD SCHEME**

Reid, Collins and Associates Limited  
1178 West Pender Street  
Vancouver, B.C. V6E 3X4  
Canada

Telephone: (604) 669-3134

Silva Enterprises Limited  
1296 Freeman Street  
Prince George, B.C. V2M 2R8  
Canada

Telephone: (604) 563-3250

Western Tree Seed Limited  
P.O. Box 144  
Blind Bay, B.C. V0E 1H0  
Canada

Telephone: (604) 675-2463

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- Rowe, J.S. 1972. Forest Regions of Canada. Dep. Environ., Can. Forest. Serv., Pub. No. 1300, 172 pp.

## NEED MORE INFORMATION?

Requests for further information, for additional copies of this report, or for copies of detailed rules and regulations governing the operation of the OECD scheme in Canada should be directed to:

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