1970-1975 Summary Report

# Forest Tree Seed Certification Under The OECD Scheme

## British Columbia / Yukon Territory

R.F. Piesch
Canadian Forestry Service


Fisheries and Environment Canada
Pêches et Environnement Canada

## ABSTRACT

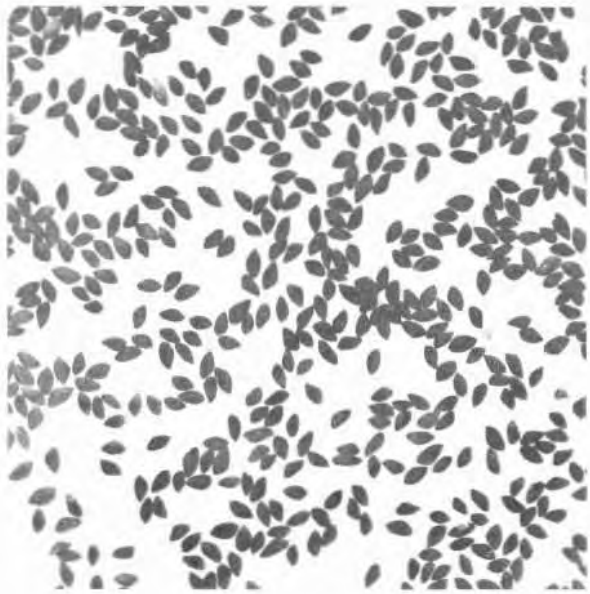
In 1970, the Canadian Forestry Service implemented the OECD (Organisation for Economic Co-operation and Development) Scheme for the control of forest reproductive material moving in international trade. Since that time, the Pacific Forest Research Centre, as the certifying agency for forest tree seeds collected under the scheme in British Columbia and the Yukon Territory, has issued Certificates of Provenance and OECD shipping labels for 127 "source-identified" seedlots, representing a total of 7373 kg of seeds from 11 conifer species. Total estimated value of the seeds on the export market exceeds one-half million dollars. Considerable increase in the use of the scheme in Canada can be expected because of growing insistence by many countries that imported seeds carry OECD certification.



## RÉSUMÉ

En 1970, le Service canadien des forêts établissait au Canada, un projet destiné au contrôle du matériel de reproduction forestière, projet relevant de l'OCDE (Organisation de Coopération et de Développement Économique) et rattaché au commerce international. A titre d'organisme certificateur, le Centre de recherches forestières du Pacifique a fourni les services de certification depuis ce temps pour les semences d'arbres forestiers "identifiées à la source", produites par la Colombie-Britannique et par le Territoire du Yukon. Des certificats de provenance et des étiquettes d'emballage de l'OCDE furent émis pour 127 lots de graines, représentant au total 7373 kg de graines provenant de 11 espèces de résineux. On estime à plus d'un demi-million de dollars la valeur totale de ces graines sur les marchés d'exportation. Etant donné les demandes accrues sur le plan international, que reçoit le projet, on prévoit une augmentation substantielle du rôle que ce dernier devra jouer au Canada.


All seed photographs in this report are actual size



Lodgepole pine

Douglas-fir

## INTRODUCTION

The Canadian Forestry Service is responsible for certifying forest tree seeds collected in Canada for export under the OECD (Organization for Economic Co-operation and Development) Scheme. Several countries, primarily European, have found that some North American tree species are so adaptable to their climates and growing conditions that they are better suited for intensive forest management than their indigenous species. This international movement of seeds for reforestation, which is also common among other countries, requires that species and provenances (locations of seed sources) be properly identified. The international scheme for the certification of forest tree seeds fulfills this requirement.

## WHAT IS THE INTERNATIONAL SCHEME?

In 1967, the OECD established a scheme for the control of forest reproductive material moving in international trade. The object was to encourage the production and use of seeds, parts of plants and plants that have been collected, transported, processed, raised and distributed in a manner that ensured their proper identification, as to source and parentage. All countries belonging to the OECD (see membership list, page 10), as well as members of the United Nations or its Specialized Agencies, may participate in the scheme. Participation requires that the rules of the scheme be strictly observed for all reproductive material carrying the OECD label.

The governments of several European OECD-member countries indicated that, as from 1970, only forest reproductive material collected and handled in compliance with the scheme could be imported. Since these countries imported forest tree seeds from British Columbia and the Yukon Territory in commercial quantities, this development had serious implications on the export business of forest tree seed companies operating here.

As a member of OECD, Canada assisted in formulating the scheme. Following requests by seed exporters, and after consultations with the B.C. Forest Service and the University of British Columbia, the Canadian Forestry Service (CFS) arranged to certify seedlots collected in 1970, and thereafter. The Government of Canada named the CFS as Designated Authority to implement the scheme in Canada, and the CFS delegated responsibility to the Director, Pacific Forest Research Centre, Victoria, B.C. for administration of the scheme in B.C. and the Yukon Territory.

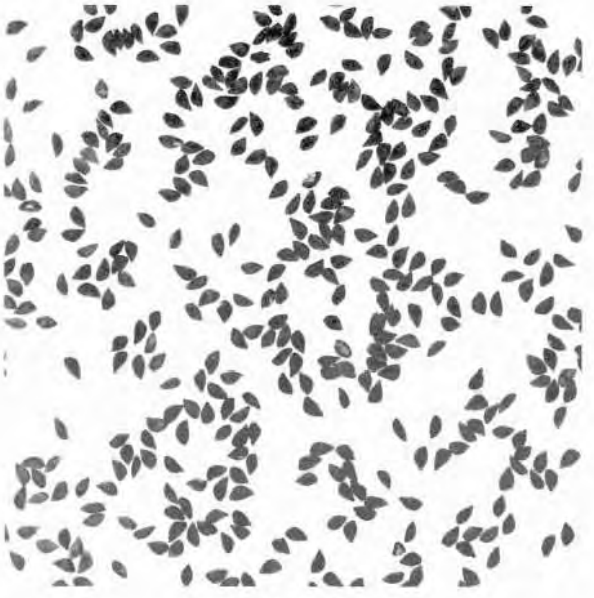
## WHAT DOES CERTIFICATION INVOLVE?

Four categories of forest reproductive material are recognized under international rules: 1) Source-identified reproductive material, 2) Selected reproductive material, 3) Reproductive material from untested seed orchards, and 4) Tested reproductive material. At present, only source-identified seeds (category 1) are certified in Canada. Other categories may be certified when qualifying seedlots become available for export.

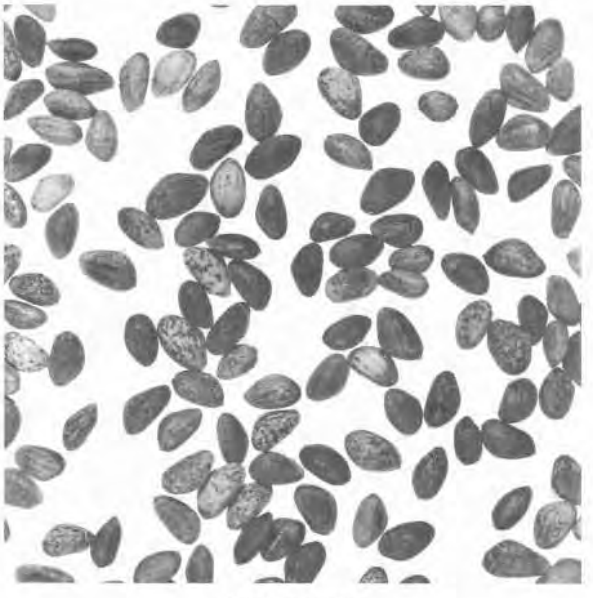
Requirements for the certification of source-identified seeds are i) the region of provenance where the material is collected and the origin of the basic material (as to whether it is indigenous or introduced) shall be defined and registered by the Designated Authority, and ii) the material shall be collected, processed and stored under the control of that Authority. Regions of provenance and rules and regulations as they pertain to seeds collected in B.C./Yukon were developed in 1970. Rowe's Forest Regions (Figure 1) and Sections serve to define regions of provenance; collection locations are further defined by latitude, longitude and elevation. The regional rules were revised in 1971 and again in 1976, to improve control over collection operations, to incorporate revisions to the international OECD regulations, and to make the B.C./Yukon regulations more national in scope.

Participation in the scheme by seed exporters is voluntary. Seed exporters choosing to participate must strictly adhere to current rules and regulations of OECD and the Designated Authority for those seedlots they wish to have certified (see Piesch and Stevenson, 1976, in Suggested Reading List, page 11). In addition, certified seedlots must be collected in compliance with provincial or territorial regulations pertaining to forest tree seeds.

The Pacific Forest Research Centre (PFRC), as the certifying agency for B.C./Yukon, issues OECD Certificates of Provenance and shipping labels, provided it is satisfied as to the purity (95%, by weight, of the species described) of the seedlot for which certification is requested, accuracy of the source information given, and the exporter's compliance with the rules that apply. Assurance of the PFRC concerning these matters is based on inspections and audits of company operations and records. At present, no fee is charged by the PFRC for these inspection and certification services.



Sitka spruce



Ponderosa pine

## WHAT HAS BEEN CERTIFIED?

Since the scheme was implemented in 1970, 127 B.C./Yukon seedlots have been certified as "source-identified". The total weight of seeds is 7373 kg, representing 11 conifer species (Tables 1 and 2). These seeds account for about half of the total collected for export from B.C./Yukon during 1970-1975.

Most species bore moderate to good cone crops in 1970 and, because of the apparent imme-

Table 1

Forest Tree Seed Certification Under the OECD Scheme in B.C./Yukon, 1970-1975

| Year | No. of Seedlots Certified | No. of Species | Volume of Cones (hl)* | Weight of Seeds (kg)** | Estimated Value on Overseas Market |
|---|---|---|---|---|---|
| 1970 | 44 | 9 | 3 667 | 3 506 | $113 000 |
| 1971 | 35 | 4 | 4 571 | 2 486 | 204 000 |
| 1972 | 26 | 5 | 2 770 | 976 | 126 000 |
| 1973 | 6 | 2 | 462 | 168 | 34 000 |
| 1974 | 8 | 4 | 188 | 131 | 11 000 |
| 1975 | 8 | 1 | 395 | 106 | 32 000 |
| Total | 127 | | 12 053 | 7 373 | $520 000 |

* To convert to bushels, multiply hl (hectoliters) by 2.75
**To convert to pounds, multiply kg (kilograms) by 2.2

Table 2

Kilograms of Seeds Certified by Species and Year

| Species | Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | Total |
| Sitka spruce (Picea sitchensis) | 2 436 | | 325 | | | | 2 761 |
| Lodgepole pine (Pinus contorta) | 49 | 1 152 | 450 | 142 | 24 | 106 | 1 923 |
| Douglas-fir (Pseudotsuga menziesii) | 953 | 429 | | | 26 | | 1 408 |
| Ponderosa pine (Pinus ponderosa) | | 742 | | | | | 742 |
| Grand fir (Abies grandis) | | 163 | 36 | 26 | | | 225 |
| Western red cedar (Thuja plicata) | 7 | | 155 | | 14 | | 176 |
| Alpine fir (Abies lasiocarpa) | 4 | | | | 67 | | 71 |
| Western hemlock (Tsuga heterophylla) | 44 | | 10 | | | | 54 |
| Engelmann spruce (Picea engelmannii) | 8 | | | | | | 8 |
| White spruce (Picea glauca) | 4 | | | | | | 4 |
| Western white pine (Pinus monticola) | 1 | | | | | | 1 |
| Total | 3 506 | 2 486 | 976 | 168 | 131 | 106 | 7 373 |

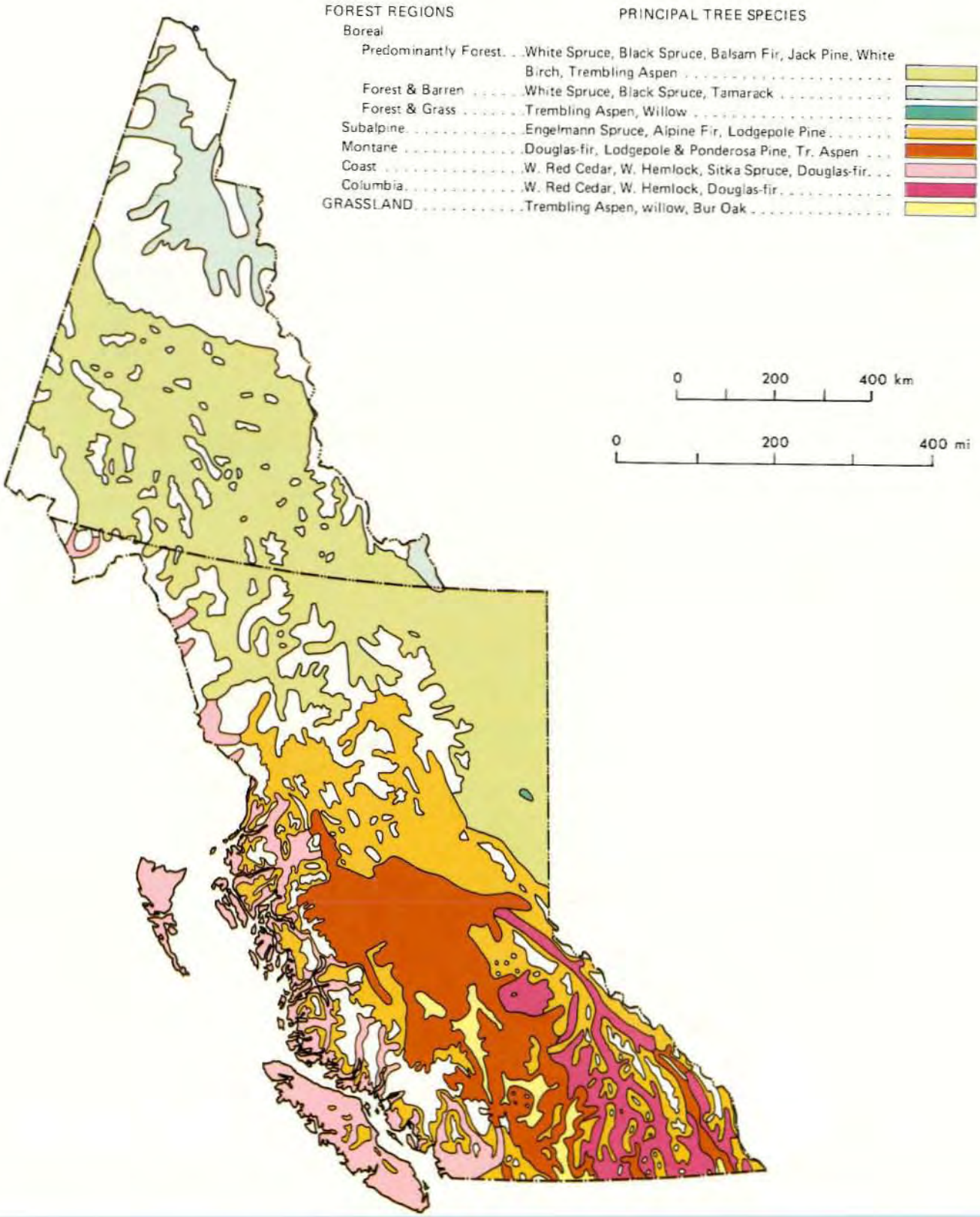



Figure 1. Forest Regions of British Columbia and the Yukon Territory (after Rowe, 1972). Forest Sections, which are subdivisions of Regions, are not shown on this small-scale map.

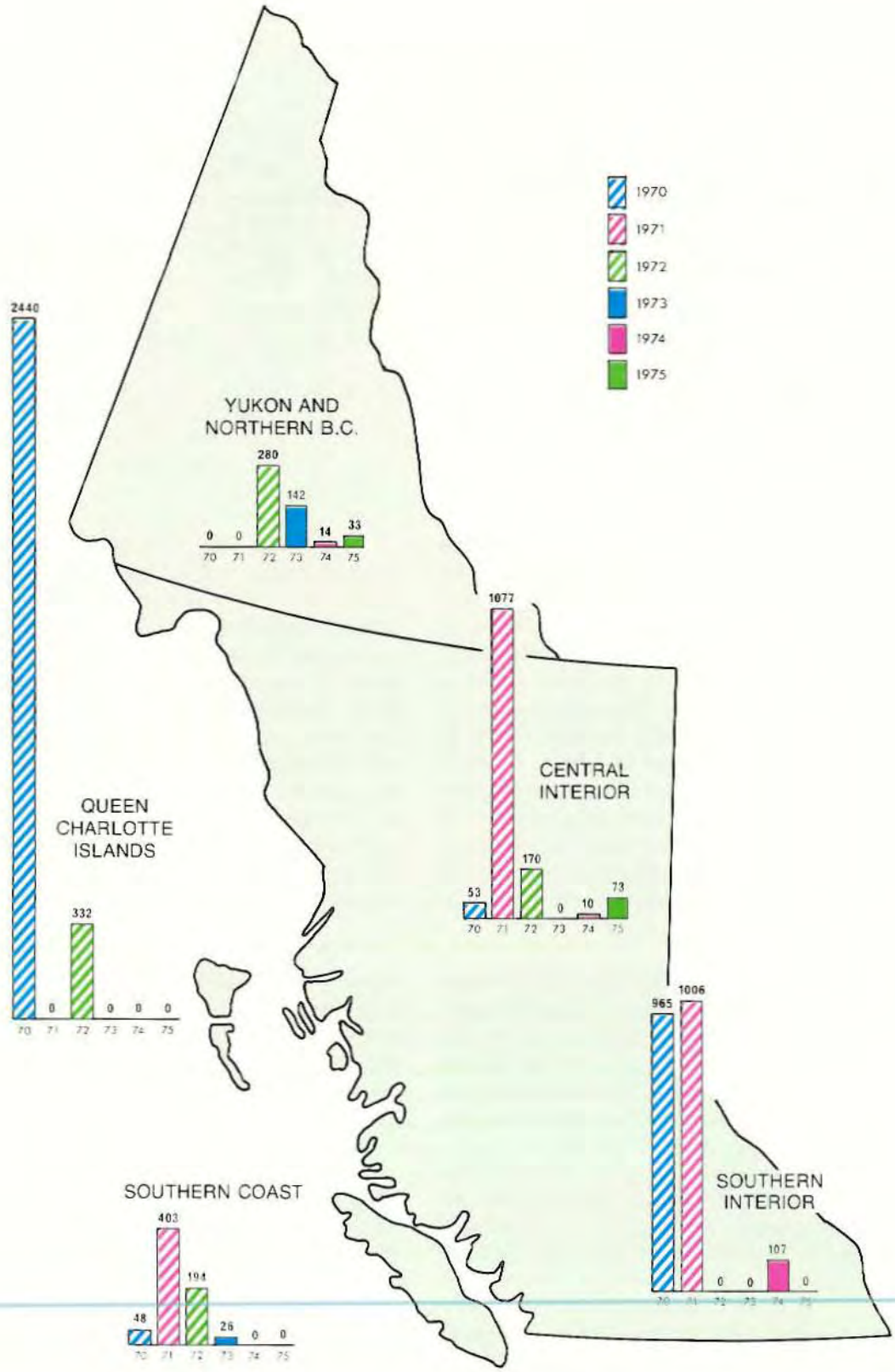
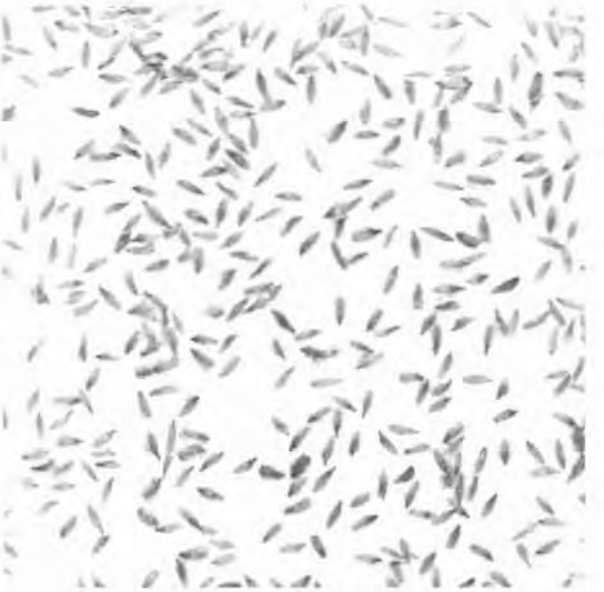



Figure 2. Kilograms of seeds certified by year and geographic region.

Grand fir



Western red cedar

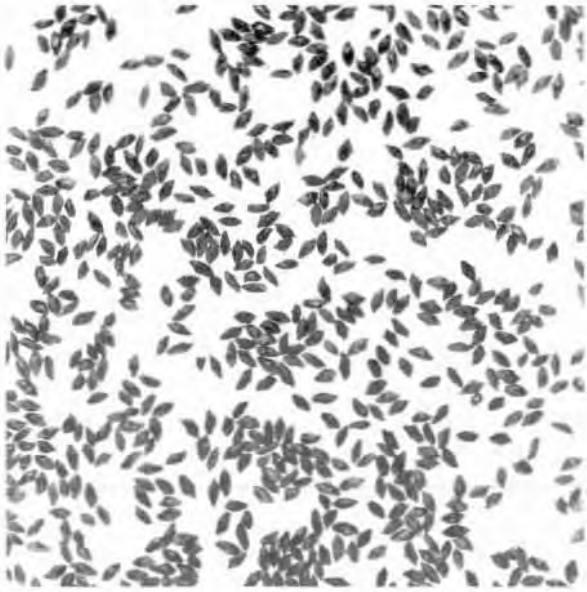
diate demands by European importers for certified seeds, exporting companies in B.C./Yukon were keenly interested in having all collections certified. Thus, the greatest number (44) of Certificates of Provenance were issued in 1970, covering 3506 kg of seeds. Sitka spruce from the Queen Charlotte Islands of the Coast Forest Region accounted for 70%, by weight, of all seeds certified (Table 2, Figures 1 and 2). Douglas-fir accounted for 27%, with most collections made in the Columbia Forest Region of the southern interior. Small amounts of certified seeds of other species were collected from these areas as well as from the central interior. No certified collections were made in the Yukon or northern B.C.

In 1971, the number of certified seedlots dropped to 35, reflecting both the increased supervision requirements specified by the revised CFS rules and less plentiful cone crops in Douglas-fir and Sitka spruce. A total of 2486 kg of seeds were certified, with lodgepole pine, ponderosa pine, Douglas-fir and grand fir accounting for 46, 30, 17 and 7%, respectively. The majority of seeds were collected in interior B.C., with lodgepole pine coming from the Montane and Subalpine Forest Regions and ponderosa pine from the Montane Region only. Most Douglas-fir seeds were collected from the Coast Forest Region, in contrast to 1970. The sharp decrease in total weight of seeds in 1971, coupled with an increase in volume of cones, reflects the high proportion of lodgepole pine, which yields relatively small amounts of seeds per volume of cones.

Although the demand for certified seeds remained strong in 1972, cone crops were generally lighter than in the preceding 2 years, and it was difficult to obtain sufficient quantities of the required provenances of favored species. Early snowfalls also hindered collections. Twenty-six seedlots were certified, totalling 976 kg of seeds. Lodgepole pine, from the Boreal and Subalpine Forest Regions, was again the species from which most seeds were collected, and was the only species certified in interior B.C./Yukon. Certified seedlots of other species were all from the Coast Forest Region, with Sitka spruce, the second most important species, coming almost entirely from the Queen Charlotte Islands.

A very poor seed year occurred in 1973 for practically all species, and only collections of lodgepole pine from the Boreal Region of the Yukon and northern B.C., and grand fir from the Coast Forest Region, were certified. The lodgepole pine collections far exceeded those of grand fir, yet were less than one-third of the pine seeds collected in 1972.

Poor cone crops occurred again in 1974 and 1975, and with early snowfalls and reduced logging due to labor unrest, only low quantities of seeds were collected for certification. In addition, during 1973-75, some companies applied for smaller proportions of their seeds to be certified under the OECD scheme. This trend was caused in part by a reduced insistence by European importers that seeds be certified (since most countries had not yet implemented the scheme, certified seeds were not generally available), and the



Western hemlock

higher costs to the exporting companies in B.C./Yukon of producing certified, compared to non-certified, seeds.

Although there has been a general decrease in the use of the scheme in B.C./Yukon since 1972, preliminary data show that the 1976 operation will reach a level midway between the 1971 and 1972 operations. This renewed use of the scheme reflects both better cone crops and increased international interest in the scheme, as discussed in a following section.

## WHAT IS THE VALUE OF THE CERTIFIED SEEDS ON THE EXPORT MARKET?

The value of seeds certified from 1970-75 is estimated at $520 000 (Table 1). The estimated values in Table 1 were derived from average prices for each species provided by the exporting companies. (Individual species values are not presented because of their proprietary nature.)

The yearly values vary considerably in relation to the corresponding weights of seeds, since many factors may contribute to the price, e.g. size and frequency of cone crops, location of collection sites, species variation in seed yields and seed sizes, and market demands for specific species and sources. For example, the total value of the certified seed crop was considerably higher in 1971 than in 1970, although a smaller amount of seeds was involved. This was due to a large increase in the amount of lodgepole pine seeds collected (Table 2); seeds of this species have 4 to 5 times higher market value than most other species.

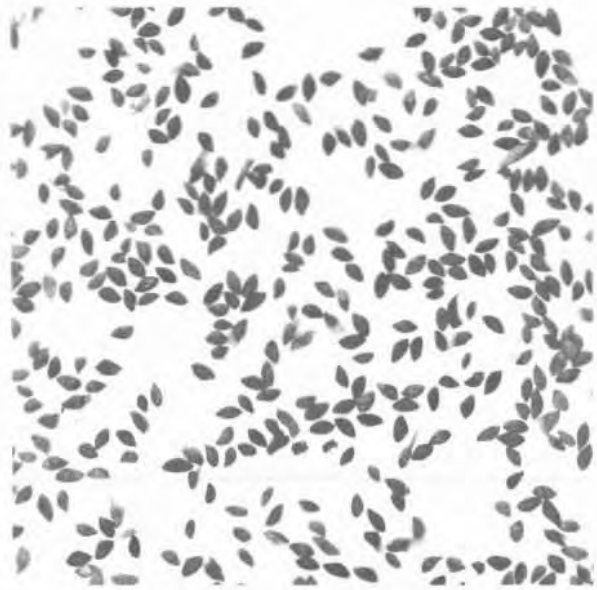
The major markets for certified seeds of the three major exported species have been Germany (Douglas-fir), Great Britain (Sitka spruce) and Scandinavia, primarily Sweden (lodgepole pine).

## WHAT IS THE FUTURE FOR THE SCHEME?

In February 1976, representatives of Designated Authorities responsible for the OECD scheme for the control of forest reproductive material moving in international trade met in Paris, France. Most delegates reported that the scheme was being implemented in their countries and that stricter adherence to it would be required in the future. The representative of the European Economic Community (Common Market) indicated that, by the end of 1977, all nine EEC members (see OECD membership list, page 10) would apply the OECD Scheme to seed exported from the Community. Representatives of EEC further indicated in meetings with the CFS in July, 1976, that "source-identified" OECD certification would probably be a minimum standard within 1 year for those species imported into EEC countries which are covered by EEC regulations, e.g. Douglas-fir and Sitka spruce. (Other species exported in quantity from B.C./Yukon are not presently covered by EEC regulations.) Other European countries, not members of EEC, will most likely be enacting similar legislation. Sweden is considering changing its regulations governing lodgepole pine to make OECD certification obligatory for seeds imported after January 1, 1978. Lodgepole pine seeds from B.C./Yukon are in great demand by Sweden and other Scandinavian countries. Finally, the International Union of Forest Research Organisations (IUFRO) supports the scheme and has recommended that all countries, whether members of the OECD, the UN or its Specialized Agencies, consider using it.

The above developments indicate a strong future for the OCED Scheme. Indications are that most countries importing forest tree seeds from B.C./Yukon will require, in the near future, "source-identified" OECD certified seeds as a minimum standard. Therefore, the certification service provided by the CFS not only increases the value of exported Canadian tree seeds, but will become essential if Canadian forest tree seed companies are to retain and expand their export markets.

Alpine fir



White spruce
(Engelmann spruce seeds are similar)

## WHAT COMPANIES HAVE PARTICIPATED IN THE SCHEME?

Four companies exporting forest tree seed from B.C./Yukon have participated in the OECD scheme at one time or another since its inception in 1970. Their names and addresses are:

Reid, Collins and Associates Limited
Forest Industries Building
550 Burrard Street,
Vancouver, B.C.
Canada V6C 2K6.

Western Tree Seeds Limited
P.O. Box 144
Blind Bay, B.C.
Canada VOE 1HO

MacMillan Bloedel Limited
Forestry Division
65 Front Street
Nanaimo, B.C.
Canada V9R 5H9

Darrington Tree Seed Company
Post Office Box 716
Bellevue, Washington
U.S.A. 98004.
(Old address. Company no longer active in B.C./ Yukon)

## WHO BELONGS TO THE OECD?

The Organisation for Economic Co-operation and Development (OECD), established in 1961, is the successor of the Organisation for European Economic Co-operation (OEEC), whose original tasks were the administration of Marshal Plan Aid and the co-operative effort for European economic recovery from World War II. Present members are:

Australia
Austria
Belgium*
Canada
Denmark*
Finland
France*
Germany*
Greece
Iceland
Ireland*
Italy*
Japan
Luxembourg*
Netherlands*
New Zealand+
Norway
Portugal
Spain
Sweden
Switzerland
Turkey
United Kingdom*
United States
Yugoslavia+

* Also members of the European Economic Community (EEC).

\+ Special status countries (i.e., not full members of OECD, but members of one or more of its committees).

## SUGGESTED READING LIST

Anon. 1974. OECD Scheme for the Control of Forest Reproductive Material Moving in International Trade. Organization for Economic Co-operation and Development. Directorate for Agriculture and Food. Paris.

Dobbs, R.C., D.G.W. Edwards, J. Konishi and D.P. Wallinger. 1974. Cone Pickers Manual. B.C. For. Serv./Can. Forest. Serv. Joint Rep. No. 1.

Dobbs, R.C., D.G.W. Edwards, J. Konishi and D.P. Wallinger. 1976. Guideline to Collecting Cones of B.C. Conifers. B.C. For. Serv./Can. Forest. Serv. Joint Rep. No. 3.

Dobbs, R.C. and J. Konishi (compilers). 1976. 1976 Cone Crop Bulletin--British Columbia/Yukon Territory. B.C. For. Serv./Can. Forest. Serv. Joint Rep. No. 4.

Piesch, R.F. and V.H. Phelps. 1971. Certification of Source-Identified British Columbia Tree Seed Under the O.E.C.D. Scheme. Can. Forest. Serv. Pac. For. Res. Cen. Inf. Rep. BC-X-60.

Piesch, R.F. and R.E. Stevenson. 1976. Certification of Source-Identified Canadian Tree Seed Under the O.E.C.D. Scheme. Dep. Fish. and Environment. Can. Forest. Serv. Forest. Tech. Rep. 19.

Rowe, J.S. 1972. Forest Regions of Canada. Dep. Environment. Can. Forest. Serv. Pub. No. 1300.

Western white pine

### 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 B.C./Yukon, should be directed to:

Director,
Pacific Forest Research Centre,
Canadian Forestry Service,
Department of Fisheries and the Environment,
506 West Burnside Road,
Victoria, British Columbia V8Z 1M5.

Canadian Forestry Service,
Pacific Forest Research Centre,
506 West Burnside Road,
Victoria, B.C. V8Z 1M5.

**BC-X-156 January, 1977**