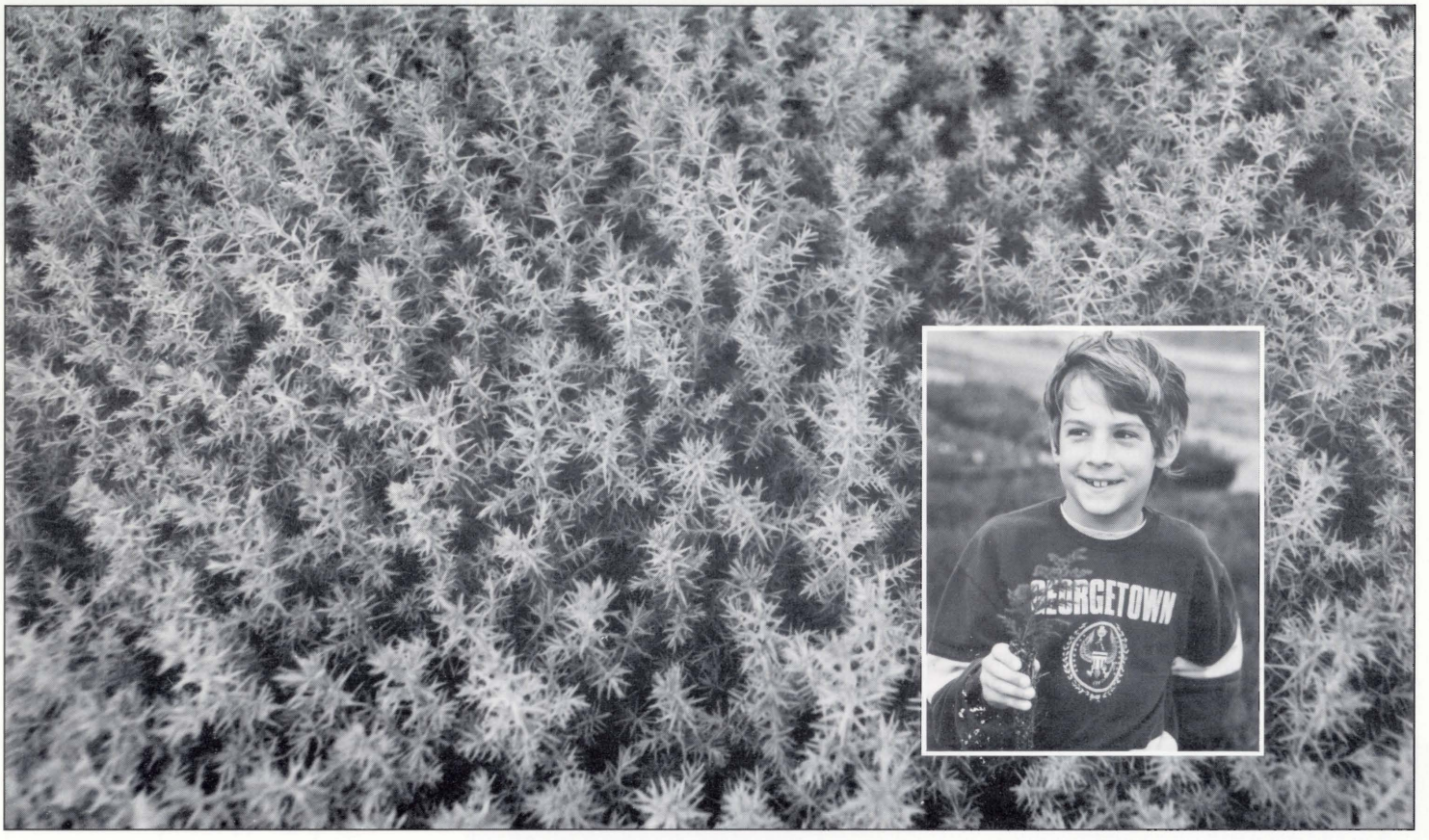
ISSN 0835-9814 FALL 1989

10

Renewal

Newsletter of the Canada-British Columbia Forest Resource Development Agreement (FRDA)



Cover shot from the 1990 FRDA Calendar now available from Forestry Canada or the B.C. Ministry of Forests.

FRDA a Big Success

Cumulative 4th Year Statistics Released

More than $211 million has been invested in B.C.'s forests, generating almost 850,000 days of employment in the first four years of the Canada-B.C. Forest Resource Development Agreement (FRDA).

The list of achievements includes: 118.6 million seedlings planted, 719,612 hectares surveyed, 101,593 hectares planted and 71,808 hectares brushed and spaced. The five-year, $300 million program was put into action in 1985 to ensure a sustained forest resource for B.C.'s future, and more jobs immediately.

The newly released statistics represent thousands of well paying jobs throughout the province.

B.C.'s tree nurseries have expanded to keep up with increased demand for seedlings. Site preparation contractors, tree planters, consulting companies, and researchers, have all benefited from FRDA.

The Agreement Works

Officials from both the B.C. Ministry of Forests and Forestry Canada are in complete agreement.

"FRDA is a very big success. That isn't just my opinion, it is a fact," says Peter Ackhurst, Director of the Silvicultural Branch, B.C. Ministry of Forests.

Forestry Canada's Dr. Michael (Mike) J. Heit, Program Director, Forest Development says emphatically, "The agreement works. It has created jobs. We've put money back into the forests so that they are a renewable resource. The performance of the agreement is a matter of public record."

Work done under FRDA has increased the sustainable timber harvest an estimated 430,000 cubic metres annually and has contributed $56 million annually to the Gross Domestic Product.

continued on page 2

Identification of not satisfactorily restocked (NSR) forest land—harvested sites, sites damaged by wildfires or devastated by pests—was given a high priority. This past year alone, more than 250,000 hectares were surveyed bringing the four year total to 719,612 hectares. The survey work is useful for future planning and priorization.

Successful negotiations between the provincial and federal government concerning a possible second FRDA depend, in part, on accurate and up to date information provided by the surveys.

FRDA's spacing and fertilizing activities will maintain fast and healthy tree growth to enhance the value of standing timber and bring the trees to commercial size at an earlier date.

Extensive brush removal work (brushing and spacing) was done to protect the investments in site preparation and planting.

The $27 million FRDA sponsored backlog reforestation research and extension program is changing the nature of forestry in B.C. and helping to make our forests more productive.

To help make sure they'll be applied, research results are quickly made available to industry through seminars, courses and publications. Research projects range from the development of faster growing, hardier seedlings, to methods of reducing seedling loss to disease and pests.

118.6 million seedlings planted in four years.

101,593 ha. of NSR forest land planted.

FRDA has also helped private forest landowners and native communities establish forest management practices on their lands.

One of FRDA's primary goals is the reduction of NSR good and medium site forest land throughout the province. More than 157,000 hectares have been treated during the first four years of the agreement.

FRDA is also helping to manage federal lands for productive forestry, encouraging the utilization of northern mixed wood stands, and improving public awareness of forestry issues.

Spending priorities vary from region to region within B.C. (see chart).

Final Evaluation Under Way

An independent final evaluation of the FRDA is currently underway. It is being undertaken by Touche Ross and Co. in conjunction with T.M. Thomson and Associates.

Touche Ross is evaluating the financial aspects of FRDA while T.M. Thomson is reviewing the technical aspects of FRDA forestry programs.

A first draft is nearing completion.

REGIONS	HECTARES SURVEYED	HECTARES PLANTED	BRUSHING & SPACING *(Ha.)*	HECTARES FERTILIZED	SEEDLINGS PLANTED *(In millions)*	DOLLARS INVESTED *(In millions)*	DAYS OF EMPLOYMENT CREATED
CARIBOO	121,338	10,478	11,033	3,949	13.9	15.7	96,000
KAMLOOPS	108,026	15,537	9,023	2,105	18.9	15.5	94,665
NELSON	119,874	21,766	6,036	4,420	22.3	22.1	107,860
PRINCE GEORGE	231,794	39,955	12,784	5,621	49.2	41.6	222,721
PRINCE RUPERT	74,499	9,605	11,481	4,809	10.2	17.5	80,223
VANCOUVER	64,081	4,252	21,451	15,517	4.1	23.0	96,674
HEADQUARTERS						36.6	20,334
DIRECTLY MANAGED PROGRAMS FEDERAL						18.1	97,534
PROVINCIAL						21.4	30,589
4 YR. TOTAL ***(All programs)***	**719,612**	**101,593**	**71,808**	**36,421**	**118.6**	**211.5**	**847,000**

Municipal Forest Lands a Growing Program

UBCM representatives from Terrace, Chetwynd, Summerland, Tumbler Ridge, Port Clements, Victoria, Cowichan Valley Regional Districts, Central Kootenay Regional District, Squamish and Vanderhoof on a FRDA-sponsored tour of an integrated forest management project. Preserving and protecting in forest is in everyone's best interest.

Six B.C. municipalities are leading the way in community involvement in forest management by taking advantage of Forestry Canada's Municipal Forest Lands Program. They are: North Cowichan, Mission, Victoria (Capital Regional District), Greater Vancouver Regional District, the Village of Cumberland and Prince George. Two others are actively proceeding with initial plans.

Such involvement by municipalities can have a significant impact on local economies. With one person in four dependant upon the forests for a living, there is a direct link between productive forest land and sustained jobs for British Columbians. It is estimated that a one percent reduction in provincial forest land could result in the loss of over 2400 jobs, and for each year following that reduction, the B.C. economy would lose $100 million in wages and government revenue. This impact would be felt directly by local inhabitants and local governments. Preserving and protecting the forests is in the best interest of us all.

In Mission, one of the six communities involved in the program, they have done surveys to determine site-specific conditions, are currently brushing and weeding, and have spaced both a young stand of trees and a plantation. They will soon be planting. Kim Allen, RPF and director of forest management in Mission, says this about their new program: "It's a positive step in that it brings lands into long-term forest management, and provides employment and economic benefits."

As well as providing economic benefits, the program also educates the public about what is going on in their forests. As Derek Bonin, RPF and superintendent of forestry operations with the Greater Vancouver Water District says: "The increased investment into forest land provides a good public image of forest land stewardship. This point is becoming more important as some of the general public often views forestry as only providing short-term gains for corporations."

A well-developed and managed long-term forestry program offers recreation and wildlife enjoyment for the local community, enhanced quality of life, a protected watershed and local wood supplies for pulp, paper, wood products, and fuel. All this is available with the help of Forestry Canada's Municipal Forest Lands Program, funded under FRDA. The general prerequisites are:

- A land base that is 10 hectares or larger (coastal) or 16 hectares or larger (interior) that is owned outright or controlled with a long-term lease.
- A willingness to commit to forestry for 15 years or longer.
- An ability to provide 20 percent of the cost of the project.

For more information about the Municipal Forest Lands Program, contact David Haley at (604) 388-0707, or write Forestry Canada, Pacific Forestry Centre, 506 W. Burnside Rd., Victoria, B.C., V8Z 1M5

Community Leaders Participate in FRDA Site Tours

About 85 community leaders from several areas of B.C. participated in site tours this summer and fall under the auspices of the Canada-British Columbia Forest Resource Development Agreement to see FRDA in action.

A half-day tour of FRDA sites in the Fraser Valley was held for officials from the Greater Vancouver area, while similar visits took place in the Terrace-Kitimat area and in the Vernon, Nelson and Kamloops forest districts.

The tours were conducted as part of the communications program for FRDA to acquaint community leaders first-hand with the success of FRDA projects, as well as with the need to continue efforts to regenerate not satisfactorily restocked (NSR) forest lands in the province.

Among those who participated in the tours were former B.C. Minister of Forests Dave Parker, Members of Parliament, elected civic and municipal officials, representatives of regional districts and chambers of commerce, and the news media.

Organized and conducted by Forestry Canada and B.C. Ministry of Forests staff in the various districts, the site visits were well received by all who attended. They learned what FRDA is accomplishing in terms of the forest environment and what FRDA programs are contributing to the economies of the various regions and the province as a whole.

Fort St. John Wood Symposium Draws Delegates From Around The World

They came from as far away as Moscow and Helsinki. More than four hundred delegates from industry and government and a wide range of interested observers and exhibitors occupied every last available hotel and motel room in Fort St. John.

The occasion? Northern Mixedwood '89, a related Trade Show and a Wood Products Forum. The symposium presented the latest developments and research on managing and using the mixedwood resource—aspen and poplar mixed with spruce and Lodgepole pine.

A few short years ago these now-valuable trees were routinely burnt to make way for farming and ranching. The resource is now the basis for rapid new industrial development and economic growth in northern B.C.

Northern B.C. has the most productive aspen-growing sites in Canada. The new Louisiana Pacific Waterboard Plant in Dawson Creek, new pulp mills planned for Chetwynd and Taylor, two chopstick factories recently announced for Dawson Creek and Fort Nelson and other projects now on the drawing board, depend on careful and continued management of the ever-more-valuable mixedwood resource.

Aspen being harvested. Northern B.C. has the most productive aspen sites in Canada.

Delegates on field trip. Tours of typical forest sites were well attended.

A "Critically Important Event"

Frank Oberle, federal Forestry Minister and MP for Prince George-Peace River; Dave Parker, former B.C. Minister of Forests; Tony Brummet, B.C. Minister of Education and Jack Weisgerber, MLA for South Peace attended the symposium. They underscored the importance of the resource to the region, to B.C. and to Canada as a whole.

"This is a critically important event for the future planning of forest management in this part of the province; no doubt a lot will come out of this conference," said Oberle.

During the symposium it was confirmed that discussions were under way to establish a small mixedwood research facility in the area which would be included in the B.C. Ministry of Forests' budgeting process for the coming fiscal year.

The symposium was sponsored jointly by Forestry Canada and the B.C. Ministry of Forests with funds from FRDA. Additional sponsorship came from members of the industrial community and Northern Lights College.

Speakers from Scandinavia, the USSR, USA and the prairie provinces, and field trips to demonstration forests were just some of the highlights of the symposium.

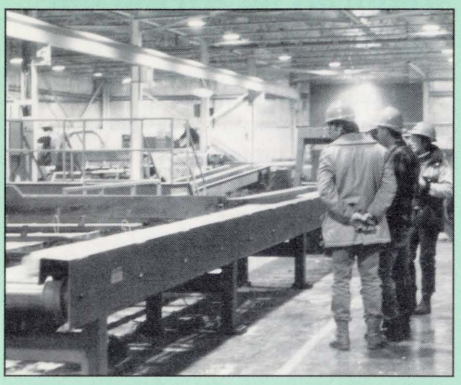
Two full days of technical sessions addressed topics like inventory, pest management tools, regeneration, trends in harvesting, ecosystem dynamics and planning for best use.

The keynote address by Al Brennan of Forestry, Lands and Wildlife, Edmonton, Alberta, outlined the successful development of the resource in the prairie provinces.

Immediately following that address, Bayrd Palmer from Woodbridge Reed and Associates, a Vancouver forestry consulting firm, predicted a great future for the resource. According to Palmer, increasing demand for pulp and strand board is expected to exceed supply by the year 2000. He predicted a large shortfall of hardwoods. "As a result, the Peace Region can expect a real price increase for aspen products," he said.

According to Ken Pendergast, Symposium Chairman and Forest District Manager, B.C. Ministry of Forests, "The

FRDA Funds "Festival of Forestry" Tours



Tour participants exploring a mill.

Over the past four years more than 100 practicing teachers and young foresters in British Columbia have broadened their knowledge of forestry management and woods operations on a provincial, national and international basis, thanks to a cooperative effort between Forestry Canada and the Festival of Forestry (FOF) Society.

Festival of Forestry is a non-profit forest education society which, since its formation in 1966, has been providing tours for teachers and foresters. The FOF committee is comprised of representatives of forest companies, the IWA, industry associations such as COFI, the federal and provincial forestry departments, post-secondary institutes such as BCIT, Simon Fraser University and U.B.C., as well as educators and dedicated individuals.

The Festival of Forestry Society has received more than $32,000 in funding from Forestry Canada through the federal component of FRDA as a contribution toward their ongoing tour program.

Two kinds of tours are offered: education tours for teachers and more in-depth forestry tours for young practicing foresters.

Education tour leader Linda (Moore) Coss of COFI says most of her tours are within B.C., although some have gone as far as the Maritime provinces. Depending on the location, participants may explore pulp and sawmills and observe thinning, fertilizing and other aspects of forest management, as well as harvesting. Speakers from related areas, such as the International Woodworkers Association (IWA) and fish and wildlife management organizations are part of the tour program.

Education tours take place twice a year and involve about 20 teachers each, Coss says. The fall tour typically lasts three days, while spring tours may be a day or two longer. All expenses are paid, and teachers may apply if they are teaching from the kindergarten level up to and including Grade 12.

Coss says the science, geography and industrial education teachers involved become "better-rounded educators," as they are better versed to explain to their students the activities they have seen firsthand during these trips. Many times teachers return with a different attitude toward the forest industry as a result of these tours:

"Many teachers are concerned about the environment and the future quality of it. Some still see industry in a negative context and aren't aware of new approaches to forest management," says Coss.

Eric Schieman, a Vancouver geography teacher who went to the Queen Charlottes last Easter, describes the tour as "a very valuable experience." Having seen Western Forest Products' and MacMillan Bloedel's operations during the trip, he says he was impressed with the forest industry's "conscious effort" to carry out programs of renewal.

"It gave me a a sense that the forest companies are spending more time and money on reforestation and research than we give them credit for. I got a much more accurate picture and can better appreciate forestry's position."

More than 700 people have participated in the teachers' tour program in the last 20 years.

Foresters Tours

The other main thrust of Festival of Forestry's tour program involves the foresters' tours, which occur on a more irregular basis and have gone abroad to Scandinavia, China and the British Isles. FOF exchange programs have also hosted foresters from all over the world in B.C.

Foresters' tour leader John Leesing, Chief Forester of Western Forest Products says FOF tries to send 12 to 20 foresters on these tours, but funding and exchange criteria can limit the number of participants. Normally, those involved contribute to the cost of the trip.

"We try to give them as broad an experience as possible," Leesing says, adding that a recent tour to Prince George concentrated on silviculture, while a 1985 tour to China observed wood utilization, silviculture and harvesting techniques.

On the benefits of the foresters' tours, Leesing says: "There are many basic practices which, because forestry is largely biological, vary and can be adapted for use in different situations.

When you see what others are doing, you can get ideas that will benefit you in your own future operations. Young foresters can benefit from this broadening of their minds."

range of solutions offered was particularly interesting and useful for future managers of the resource."

Friendly Rivalry

An interesting and popular highlight of the symposium was the presentation made by Dr. Anatoly Petrov from the Educational Institute in Forestry, Moscow, USSR.

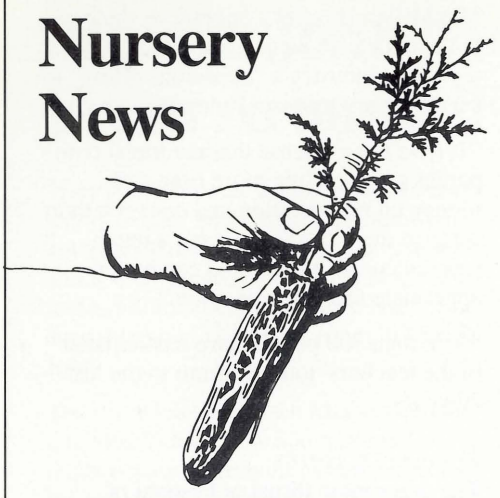
According to Dr. Petrov, the immense mixedwood resources of the USSR are presently used only for domestic consumption. Petrov said he looked forward to the day when Canada and the USSR would meet in "friendly competition," in the manner of Canada-Russia hockey games, in the management of our forests and marketing of mixedwood forest products.

In his closing remarks, symposium chairman Pendergast noted that the resource is not easy to manage. Mixed species grow to harvestable size at different rates. "We've provided some answers to mixedwood management problems," said Pendergast. "We also recognize that we have a long way to go in the future."

Commenting about FRDA sponsorship of the symposium, Mike Heit, Forestry Canada's Director of Forest Development and Relations said, "The symposium was useful to everyone concerned. It will undoubtedly promote more development of the resource with attendant economic growth and job creation. It will also help to ensure that the resource will be managed in a rational manner."

Copies of papers presented at the symposium will be available from Forestry Canada and the B.C. Ministry of Forests.

Nursery News



Research Improves Stock Types

Nursery managers and foresters can now decide which stock type to use and nurseries can adjust their procedures to produce better seedlings for coastal forest regeneration, thanks to FRDA-sponsored research.

Part of the research is aimed at developing a series of stock quality assessment tests. Current stock quality testing is one-dimensional and does not predict adequately how cultured seedlings will perform in different environments.

Raymond Folk, B.C. Research, measuring seedling photosynthesis and water status at the Lake Cowichan test site.

The research is centered on western hemlock and western redcedar. Nursery-grown western hemlock and western redcedar seedlings have historically suffered from a relatively lower potential for survival. How well seedlings survive and perform depends, in large measure, on how they have been treated in the nursery. Jim Arnott, a silviculturalist with Forestry Canada explains in brief:

"Nurseries have to deliver seedlings with various size characteristics like stem girth, overall height and weight. Normal procedure is to sow the seeds in March and grow the seedlings throughout the season. As seedlings approach the target size, the nursery manager will use one of several methods to induce seedlings to grow a terminal bud to control seedling size, allowing the nursery to meet a shipping date. Some seedling stock will be given a sub-lethal moisture stress; other stock will be given less daylight hours, a short days treatment."

The nursery phase of the research is now complete. For western hemlock seedlings, results are clear. According to Arnott:

"The technique of using moisture stress to control seedling size weakens the seedling, causing higher mortality and slower initial growth for the surviving trees. The best way for a nursery manager to control the size of seedling stock is through the use of blackout curtains in their greenhouses to reduce the amount of daylight seedlings receive at the critical point in their growth cycle. Short day treatments increase frost tolerance and resistance to moisture stress in the field."

Field trails are still in progress. Last year, growing conditions at the Lake Cowichan research site were so ideal that almost any plant would have thrived, but, late in the growing season conditions changed. Steve Grossnicle of B.C. Research comments on the yet to be completed work:

"Under optimum field conditions, the stock types performed about the same, but when the growing conditions changed and there was some stress, the stock types seemed to separate."

The field trials support conclusions reached through work carried out in the nursery. Says Grossnicle:

"Stock treated with short days to arrest shoot growth has better ability to grow in cold temperatures, higher levels of drought tolerance, and is better able to put out a root system in the spring than other plants."

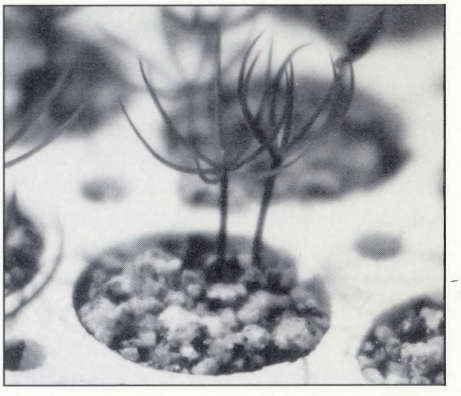
Arnott states regretfully: "We are not having nearly the same success in coming up with hard and fast answers for western redcedar. It has a degree of plasticity that we don't know how to manipulate and, so, work continues on it."

For further information contact Jim Arnott, Forestry Canada, Pacific Forestry Centre, 506 West Burnside Rd., Victoria V8Z 1M5 or phone 388-0600.

Seedling Losses Reduced by Airing out the Nursery

A simple economical and environmentally-safe procedure has been developed that promises to reduce the number of grown seedlings damaged by grey mould.

Grey mould is a major problem in the production of container-grown seedlings in Canada. Caused by the fungus *Botrytis cinerea,* the disease affects nursery-grown Douglas-fir seedlings in particular, either killing them outright or leaving them weakened so that they grow poorly after they are planted.



Styroblock with ventilation holes. (Photo courtesy of AFS Applied Science Ltd.)

AFS Applied Forests Science Ltd., a forest research consulting firm in Sidney B.C., recently completed a feasibility study on using ventilation to control grey mould. The $49,760 project was funded jointly by Forestry Canada through FRDA and Supply and Services Canada (SSC).

When seedlings reach a certain height, their branches and foliage entwine to form a canopy. Once the canopy closes overhead, irrigation produces high humidity, creating an ideal environment for grey mould.

In the past, it could take up to 120 hours following irrigation for the canopy to dry completely, increasing the likelihood of spore germination and subsequent infection.

Until now, controlling grey mould required the use of fungicide sprays, a

costly way to control the disease, according to Dr. Jack Sutherland of Forestry Canada's Pacific Forestry Centre. "Spray programs are carried out maybe four or five times a year," he says, "resulting in some strains of fungus developing a tolerance to fungicide."

Lowering the humidity beneath the canopy and shortening the time it takes the seedling to dry discourages the growth of grey mould. AFS conceived of the idea of using aereated styroblocks and ventilation to control grey mould.

For its study, AFS modified standard styroblocks by adding six millimetre holes at every intercavity section, for a total of 135 holes per styroblock. The holes extend through the entire depth of the block so that air can circulate from beneath the block and up under the seedling canopy.

The styroblocks were set on steel-framed benches approximately one metre above the greenhouse floor to allow for under bench ventilation. The modified styroblocks were vented with either unheated forced air, heated forced air or unheated unforced air. Coastal Douglas-fir seedlings were grown under standard nursery procedures. Standard unvented styroblocks were used as a control.

Only 25 percent of the Douglas-fir seedlings grown on the vented blocks showed any sign of the disease as opposed to 75 percent of those grown on unvented blocks in the control group. As well, infected seedlings grown on the vented blocks suffered only very light damage to a few bottom needles.

"In fact," says Sutherland, "the cool air performed as well as the heated air, and is probably the best method to use."

Ventilating the seedlings will also reduce significantly the number of pesticide applications says Peterson, which represents both a cost-saving and an environmentally conscious approach to container-growing.

Since AFS completed its research, two Canadian manufacturers have introduced vented styroblock units to the marketplace.

For more information contact Dr. Jack Sutherland, Forestry Canada, 388-0600.

IDS Research Improves Seed Quality

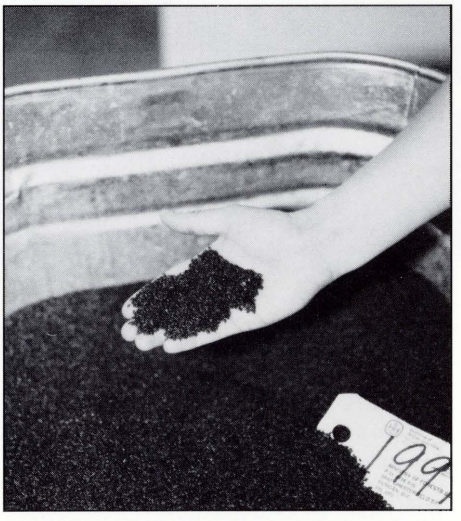
FRDA and Forestry Canada-sponsored research into IDS (incubation, drying and separation), a simple four step method for improving seed quality, is being tested on a larger operational scale so that the process can be used by industry.

Laboratory work shows IDS increases seed quality and speed of germination and makes germination time for individual seeds more uniform.

What does IDS stand for? "It really should be called SIDS" says Dr. George Edwards from Forestry Canada, "You soak the seeds, incubate them, dry them and then separate the weak seeds from the strong—those which will germinate from those which won't."

Mechanical seed separators currently available will separate full seeds from empty husks and sort seeds according to size and weight. Unfortunately, existing mechanical methods won't separate viable from non-viable seeds.

"What we do through IDS," says Edwards, "is engineer a weight difference." According to Edwards, the stronger, more viable seeds bind to the water they have absorbed into their tissues. The weaker seeds lose moisture quite quickly when dried, while the stronger seeds remain moist. This difference allows them to be separated. Says



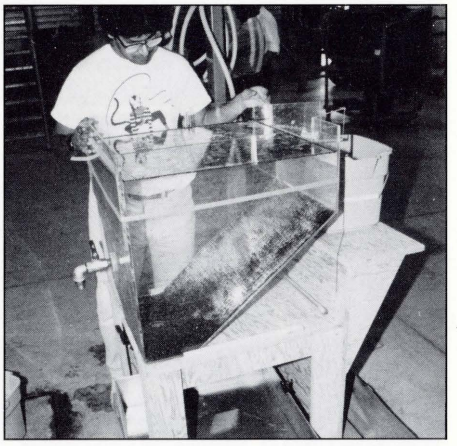
Seeds treated with IDS are more productive, germinate faster and more uniformly.

Edwards, "the strong seeds sink when they are placed back in the water for separation, allowing us to skim off and discard the weak seeds."

Container nurseries currently sow two or three seeds per cavity to ensure that at least one seedling germinates. It is expensive to carry empty cavities mixed in with seedling-filled cavities. But, when more than one seedling germinates in a cavity, thinning is necessary. Since nurseries province-wide deal with millions of seedlings, thinning is also expensive.

IDS results vary with different seedlots. On average, treating a good seedlot with IDS in the laboratory increases seed quality by approximately 18 percent and may result in 95 percent germination or higher. A poor seedlot treated with IDS can, on average, achieve 70 percent germination, a 30 to 35 percent gain. Says Edwards, "A five percent gain may mean money in the bank for the private nursery operator."

To date, according to Edwards, IDS has been carried out in the laboratory with predictable results only with small batches (3 to 5 grams) of seeds. FRDA-funded operational trials of IDS with larger batches of seeds (half a kilo or more) are currently being carried out at the B.C. Ministry of Forests' Seed Centre in Surrey. Operational testing will form the basis of an IDS "recipe book" for the industry and is scheduled for completion by March 1990.



Separating the weak from the strong. Strong seeds sink and weak seeds can be skimmed off.

Rob Bowden-Green from the Surrey Seed Centre says the process has tremendous potential for the industry. "We're anxiously awaiting the completion of operational testing."

"If we can use this process to upgrade seedlots to a single sow category for container nurseries—95 percent germination as opposed to 70 percent germination and triple sowing per cavity—it might be possible to eliminate expensive thinning, a tremendous saving when you're dealing with millions of seedlings each year."

"As an added benefit," says Edwards, "the more uniform germination of IDS

continued on page 8

seeds and quicker germination could allow nurserymen to begin crop management procedures three to five days earlier."

Edwards is optimistic about the operational trials. "It takes time to get reliable test results, but we're committed to seeing the project reach the point of a recipe book for use by industry," he says.

For more information, contact Dr. George Edwards, Forestry Canada, 388-0600.

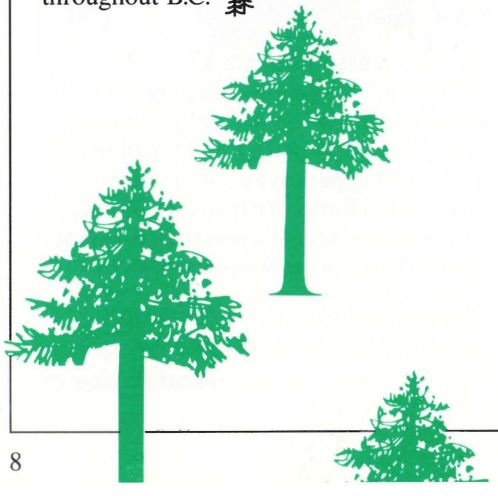
Green Gold Grants

Twenty nine non-profit organizations in communities throughout B.C. are sharing $105,000 in funding for forestry public awareness projects this year under the Green Gold Grants program.

The program is funded by the Canada-British Columbia Forest Resource Development Agreement (FRDA). Green Gold Grants pay for projects aimed at increasing public awareness of the importance of forestry in B.C. The successful organizations must match the amount received through volunteer labour or funds.

Projects funded this year include interpretive forest signs and trails, information centres, audio visuals, brochures, displays, fact sheets and forest education. Four awards went to the Cariboo Forest Region; five to the Kamloops Forest Region; three each to the Nelson, Prince Rupert and Prince George Forest Regions; and 11 to the Vancouver Forest Region. The grants range from $210 to $7,500 and the average is $3,600.

This is the third and final year of the Green Gold Grants Program. During the three year period, $315,00 has been distributed to 79 non-profit organizations throughout B.C.



Upcoming Events

Jan. 2-April 29: All Species Grading Courses. Contact Lumber Operations, COFI Vancouver. Phone 684-0211.

Jan. 9-12: Truck Loggers Association. 47th Annual Convention and Equipment Show. Theme: *Your Forest, Your Future* Phone 684-4291.

Jan. 10-12: Western Silvicultural Contractors' Association Annual Conference. Theme: *Enhancing Forest Health.* Location: Pan Pacific Hotel, Vancouver. Phone Ross Styles, 376-0830.

Jan. 19-20: Intertribal Forestry Association. Value Added in Forest Products Seminar. Location: Surrey. Phone Harold Derickson, 769-4433.

Jan. 15-26: Silviculture Institute of B.C. (SIBC). Advanced training course for professional foresters, Module III, Forest and Stand Development. Location: Prince George. Phone Kevin Carvill, 224-7800.

Feb. 5-7: Integrated Vegetation Management: A Decision-Making Workshop. Location: Prince George. Phone Brian Robinson, 564-4115.

Feb. 5-16: Silviculture Institute of B.C. (SIBC). Advanced training course for professional foresters. Module I: Basic Principles. Location: Vancouver. Phone Kevin Carvill, 224-7800.

Feb. 12-18: Forestry Canada 25th Anniversary/Open House. Pacific Forestry Centre, 506 W. Burnside, Victoria. Phone 388-0060.

Feb. 22-23: Association of B.C. Professional Foresters (ABCPF). Annual General Meeting. Phone Ron Bronstein, 687-8027.

March 5-9: Western Forest Insect Work Conference. Location: Coeur d'Alene, Idaho. Phone Peter Hall, 387-8742.

March 7-8: Wildlife and Forestry Resource Integration Symposium. Location: Prince George. Phone Ian Moss, 564-4115.

March 13-16: GIS '90, a symposium on geographic information systems (GIS). Theme: *Making it Work.* Location: Vancouver Trade and Convention Centre. Phone Paddy O'Reilly, 688-0188.

March 19-23: Globe '90: A trade fair and conference designed to promote environmentally sustainable economic development. Phone Andrew Korvin, 681-6126.

Renewal is the newsletter of the Canada-British Columbia Forest Resource Development Agreement.

Editor: Elaine Teske

Contributors to this Issue
Applied Forest Science Ltd.
Jim Arnott
Kathy Banky
Rob Bowden-Green
Linda (Moore) Coss
Dr. George Edwards
Steve Grossnicle
Dave Haley
Brad Harris
Dean Mills
Ken Pendergast
Dr. Jack Sutherland
Elaine Teske

If you have any comments or inquiries please address them to:

Elaine Teske, Chief Information Services
Forestry Canada
Pacific & Yukon Region
506 West Burnside
Victoria, B.C.
V8Z 1M5

Canada BC

Forest Resource Development Agreement

The Canada-British Columbia Forest Resource Development Agreement is jointly funded by:

Forestry Canada
Pacific & Yukon Region
506 West Burnside Rd., Victoria, B.C.
V8Z 1M5 Tel: 388-0600

B.C. Ministry of Forests
1450 Government St.
Victoria, B.C. V8W 3E7
Tel: 387-5255