



**Forest Genetics Council  
of British Columbia**

FGC Secretariat, c/o Cortex Consultants Inc.  
Suite 3a, 1218 Langley St., Victoria BC V8W 1W2  
Phone (250) 360-1492  
Fax (250) 360-1493  
E-mail jtanz@cortex.org

MoF Reference: 200-20/FGC

**Extension Technical Advisory Committee**

**Meeting**

10:00 AM – 3:00 PM, Tuesday July 18, 2000  
Extension Services, 14275 96th Ave, Surrey  
Phone 604-930-3301 Fax 604-775-1288

**Agenda**

Item	Time	Duration (min.)	Topic	Leaders
	10:00	5	Call to order	
	10:05	5	Review Agenda	C. Hawkins
1	10:10	20	Update from Chair <ul style="list-style-type: none"> <li>▪ FGC acceptance of the draft strategy and project list presented at the March 2000 meeting</li> <li>▪ Allocation of \$170,000 to extension and communications in FGC Business Plan 2000_01</li> <li>▪ Subsequent committee work to focus on key goals, messages, audiences, and key projects for FY 2000_01</li> <li>▪ Development of draft ETAC Terms of Reference</li> </ul>	C. Hawkins
2	10:30	30	Issues related to Vandalism <ul style="list-style-type: none"> <li>▪ Meeting of the Security Group</li> <li>▪ Communications related to vandalism (ATTACHMENT 1)</li> <li>▪ Motion on communications related to vandalism (ATTACHMENT 2)</li> <li>▪ Development of a security reference manual for research facilities and seed orchards (turkey industry example provided for viewing)</li> <li>▪ Motion on security reference manual (ATTACHMENT 2)</li> </ul>	J. Woods, M. Hadley
3	11:00	40	ETAC Terms of Reference (ATTACHMENT 3) <ul style="list-style-type: none"> <li>▪ Review attachment; discuss; amend; approve</li> <li>▪ List of ETAC voting members (ATTACHMENT 4)</li> </ul>	C. Hawkins



**Forest Genetics Council  
of British Columbia**

Item	Time	Duration (min.)	Topic	Leaders
4	11:40	50	ETAC Strategic Framework (ATTACHMENT 5) <ul style="list-style-type: none"> <li>▪ Review/confirm framework (goals, messages, audiences)</li> <li>▪ Review the priority goals/audiences/messages identified for FY 2000_01 by ETAC planning subcommittee</li> <li>▪ Identify any changes to priorities identified by ETAC planning subcommittee</li> </ul>	M. Hadley
	12:30		A light lunch will be served	
5	1:00	90	ETAC Activity Plan 2000/01 (ATTACHMENTS 6, 7) <ul style="list-style-type: none"> <li>▪ Note any new project ideas for priority goals/audiences/messages that are not on table or in project description summaries</li> <li>▪ Rank suggested projects within the priority categories; and from this ranking identify which projects will and will not be pursued in this fiscal year</li> <li>▪ Identify for each project whether it will be implemented through a direct award process or a call for proposals.</li> </ul>	D. Summers
6	2:30	30	Next Steps <ul style="list-style-type: none"> <li>▪ Confirm project budgets, identify key performance indicators</li> <li>▪ Solicit project proposals for direct awards</li> <li>▪ Develop project requirements and send out call for proposals</li> <li>▪ Complete ETAC strategic plan and 2000_01 Activity Plan</li> </ul>	C. Hawkins
7	3:00	20	New business, general discussion	all
	3:30		Adjourn	



## **ATTACHMENT #1:**

*The following memo, from M. Hadley to J. Woods on 20 Apr. 2000, was modified only to clarify names.*

### **Thoughts Regarding Action Following Vandalism**

This note outlines the key points of discussion with Rosey Brenan of Rodon Communications, regarding action following recent vandalism of research and seed orchard facilities in BC. Specifically, whether it is in the best interests of Council to communicate on the vandalism, and if so, what and how.

Please note that I have made some "guesses" as to Council's motives and target audiences in this matter. Therefore, please read this memo as a basis for further discussion and refinement with your input.

#### **1. What does Council want to communicate?**

Based on your draft article and the ensuing email, there seem to be several messages, including the following:

- there are no genetic engineering programs for BC commercial trees
- no GMOs have been/are planned to be planted in BC forests
- vandals are unthinking and misinformed
- BC forest geneticists manage genetic diversity, create seed orchards with trees selected from wild stands; they do not develop genetically modified organisms
- the difference between tree breeding and GMOs

#### **2. Who is/are Council's target audiences?**

Again, based on the email traffic, these seem to include:

- the vandals
- the public
- the forest sector
- Forest Renewal BC

#### **3. What does Council hope to achieve?**

- stop vandalism
- inform/educate the public regarding the difference between tree breeding and genetic engineering
- inform others in the forest sector of the difference between tree breeding and genetic engineering



- assure Forest Renewal BC that Council is not doing things that have high environmental risk or high public relations risk

**4. Is this audience/this message consistent with Council's strategic plan/management objectives?**

Public education is not one of Council's goals, nor is it a priority communication objective. Council's communication efforts focus on the tree improvement community and users of improved reforestation materials (the forest sector in general).

**5. How likely is communicating to achieve the desired objectives?**

- Unlikely to stop vandalism.
- Not too likely to have great impact on public audiences. It may be interesting/reassuring to those segments with an interest in forestry matters. It may not be believed by those pre-disposed to concern about GMOs. It will most likely be passed over by many general readers.
- It could be useful to other members of the forest sector, who are the best vehicles for communicating the message at a local and personal level.

**6. What are the risks associated with communicating by the suggested vehicles? with not communicating?**

- An advertisement is expensive and unlikely to achieve any of the objectives suggested in #3.
- An op/ed piece could draw unwanted attention to the issue and achieve more publicity for the vandals.
- A professional article in the Forestry Chronicle, ABCPF Forum, Truck Logger will likely be useful in getting the messages out to those in the forest sector.
- Not communicating carries some risk of people assuming that the vandal's actions are justifiable – i.e., that GMOs are being planted in BC. However, since the vandalism has not been accompanied by boycotts or other communications raising this issue, Council should not raise the issue itself.

**7. Other thoughts**

Rosey Brennan suggested that it might be useful to reflect on why the three facilities vandalized were selected as targets, and to use this information in developing a strategy to try and safeguard other facilities from vandalism. I agree with her. Some scrutiny of the type of communications produced by or about those facilities or research projects might identify sources of vulnerability.

Jordy Tanz and I discussed Michael Carlson's local response following the vandalism in October. That type of in-community, personal involvement with the media is beneficial and effective because it builds relationships.



## 8. Suggested Action

I strongly suggest pursuing the following three activities as the best ways to address the overall problem.

- Review communications and outreach activities of the 3 facilities vandalized, to see if we can identify any activities that might have made these facilities targets.
- Write an article on the difference between tree breeding and genetic engineering for publication in professional and trade magazines (e.g., ABCPF Forum, Truck Logger, Canadian Silviculture)
- Carefully consider changing our terminology to reduce misunderstanding and communicate to Forest Renewal BC and others the importance of avoiding terms that can be interpreted as genetic engineering. Write an article on this subject for the Forestry Chronicle to bring it to the attention of foresters across Canada.
- If you wish us to pursue these activities we could complete first drafts of these for the June Council meeting. However, we would likely need additional resources to those in our interim contract.



**RESOLUTION #1**

WHEREAS, vandalism of seed orchards, research facilities, and nurseries poses a serious threat to the provincial forest gene resource management program;

and,

WHEREAS, no consensus has been reached on whether the Forest Genetics Council should publish newspaper articles or advertisements intended to educate or inform the general public about tree breeding, genetic engineering, and the recent vandalism of seed orchards and research facilities in British Columbia;

and,

\* WHEREAS, public education is not one of Council's goals, nor is it a priority communications objective;

and,

WHEREAS, publishing an editorial article or advertisement in newspapers is unlikely to stop vandalism, would draw unwanted attention to the issue of genetic modification, and would increase publicity for vandals;

therefore,

\* BE IT RESOLVED, that the Extension Technical Advisory Committee of the Forest Genetics Council hereby recommends that the Council should not publish articles or advertisements in newspapers or other media in an attempt to educate or inform the general public about tree breeding, genetic engineering, or the recent vandalism of seed orchards and research facilities in British Columbia.

*See p. 1 attachment 5  
re: forest nurseries*

**RESOLUTION #2**

WHEREAS, it is important that people in the forest sector clearly understand that genetically modified organisms are not deployed on Crown land in British Columbia, and that tree improvement as practiced in British Columbia does not involve genetic modification or genetic engineering;

therefore

BE IT RESOLVED, that the Extension Technical Advisory Committee should allocate resources to write articles for publication in professional and trade magazines such as the ABCPF Forum, Truck Logger, and Canadian Silviculture, explaining: (1) the difference between tree breeding and genetic engineering; (2) that genetically modified organisms are not deployed on Crown land in British Columbia, and (3) that tree improvement as practiced in British Columbia does not involve genetic modification or genetic engineering.

*How are we  
progress for this year?  
to or make  
decision?*



**RESOLUTION #3**

WHEREAS, the Extension Technical Advisory Committee has no expertise in the security business;

and,

WHEREAS, a security reference manual for orchards, research facilities and nurseries should necessarily be limited in distribution, and not made freely available;

and,

WHEREAS, products developed with funds provided by the Extension and Communications Subprogram of the Forest Renewal BC Tree Improvement Program must be made freely available to the public;

therefore,

BE IT RESOLVED, that the Extension Technical Advisory Committee recommends that a security reference manual for seed orchards, research facilities, and nurseries should be developed by the "security committee" formed at a meeting held at the Holiday Inn in Victoria, 14 June 2000.

*Deal w/ as project*

## Extension Technical Advisory Committee Terms of Reference (DRAFT)

### Mandate

The Extension Technical Advisory Committee (ETAC) was created by the Forest Genetics Council of British Columbia (FGC) at its meeting on 15 September 1999. The purpose of the ETAC is to:

- work closely with Council and the Coastal and Interior TACs to coordinate and manage the extension efforts<sup>1</sup> in support of Council's provincial forest gene resource management program
- provide information and policy advice to Council on issues related to extension
- act as a forum for user feedback.

The ETAC will address this purpose through three types of activities:

- extension (i.e., providing technical information and training to seed users and tree improvement specialists)
- communication (i.e., developing and disseminating information on the program and its activities to all FGC target audiences)
- education (i.e., foster support for the education of tree improvement specialists and technologists, including continuing education)

### Membership

The ETAC will be structured similarly to other TACs, with a Chair and a core, representative voting membership, consisting of 8-14 people with an interest and/or some expertise in the fields of gene resource management and extension.

### Appointment of Chair

The Chair will be appointed by Council for a two-year term.

### Appointment of TAC members

As specified in the bylaws of the Forest Genetics Council, TAC members will be named by the TAC Chair, with nominations from Councillors. ETAC members will be drawn from the range of cooperators in forest gene resource management, including government, industry, and the research and consulting communities.

The TAC Chair will ensure that members of the ETAC:

- have the technical expertise and experience needed to carry out their TAC duties
- represent the range of cooperators engaged in forest gene resource management activities in the province (e.g., research, breeding, production, delivery, support, and users).

<sup>1</sup> "Extension" used in the general sense in this document is meant to include extension, communication, and education activities.



The Chair will manage the committee and coordinate its work by communicating with the FGC Program Manager and other TAC chairs.

## Meetings

The ETAC will meet at times and places to be determined by the Chair. At the Chair's discretion, meetings may be conducted in person or by telephone. Meetings will be chaired by the ETAC Chair or someone designated by the Chair.

Meetings and discussion will be open to anyone with an interest in forest gene resource management extension.

Only appointed members of ETAC will have voting privileges. A quorum will consist of two thirds of the appointed, voting membership.

## Making Decisions

The ETAC will normally operate under committee rules (less formal than parliamentary procedure).

Decisions may be made by consensus or may require a vote when consensus cannot be reached.

For purposes of voting, a majority consists of greater than half the voting membership present. The Chair will vote, unless he or she must abstain because of a conflict of interest.

## Subcommittees

The Chair may designate subcommittees to undertake work required to support the ETAC.

## Minutes

The Chair will designate a person to take minutes at each meeting of the ETAC. Minutes will be distributed by the Council's Executive Secretary to all members of the Council and its TACs.

## Funding

The FGC Business Plan (FRBC Funding Proposal) identifies an annual budget for the Extension and Communication Subprogram. The budget will be determined through discussions between the FGC Program Manager and ETAC Chair, with input from other TAC chairs and the FGC co-chairs. Additional funds or in-kind resources will be provided by FGC stakeholders (e.g., industry, universities, research organizations, MOF, GenSeed, FGC Secretariat) as well as through other potential partnerships (e.g. SIFERP).

## Planning Process

### Strategic Framework

The ETAC will define a strategic framework that identifies goals, audiences, and key messages for extension, communications, and education activities, and will rank these by importance. It will include a monitoring strategy with key performance indicators. The strategic framework will be updated as needed.

*Handwritten note:*  
New: *[unclear]*  
[unclear]

### Annual Plan

Each year ETAC will prepare an annual Activity Plan, including a budget, for Council's approval.

From among the ETAC voting members, the Chair will designate a Planning Coordinator to lead a Planning Subcommittee to develop the Activity Plan.

Project ideas or proposals from any interested party can be submitted to ETAC through the FGC Executive Secretariat or any ETAC member.

ETAC voting members will rank projects for the Activity Plan based on the key audiences, goals, and messages for that fiscal year. Ranking will identify the types of projects that will/will not be eligible for funding.

### Implementation

#### Subprogram Implementation

The annual Extension and Communication Subprogram budget will be allocated roughly as follows:

- 10%, or a minimum of \$15,000 for administration and discretionary projects
- 60% to the highest ranking projects in the Activity Plan
- 30% in reserve

During the first and second quarter, the Committee may allocate the reserve funds in keeping with its Annual Plan priorities, to new projects as they arise. At the end of the second quarter, ETAC must allocate the remaining reserve funds or notify the FGC of the availability of these funds for other of Council's subprograms.

#### Project Implementation

Extension, communication, and education activities will be implemented in two ways:

1. Direct award of projects to qualified parties who have expressed an interest in the FGC Extension and Communication Subprogram (unsolicited expressions of interest or expressions received in response to a formal call for expressions of interest). This category also includes direct award of projects in response to specific proposals arising from ETAC members, assuming that the ETAC member is qualified.

The Chair and a minimum of one other ETAC member or content specialist will review each project workplan before a contract is awarded.

2. Projects awarded in response to an annual call for proposals to develop projects that address priority goals, messages, and audiences identified in the annual activity plan.

The extension call for proposals will be incorporated as a section in the OTIP annual call for proposals. The ETAC will strike a review committee to adjudicate proposals submitted in this category and other proposals referred to ETAC through other TACs. The review committee's recommendations will be submitted to Council for ratification.

*Approval stage 1 goal, message, audience planning  
2. Agreement, presentation to TACS  
3. include content 1/1/10*

*1st Annual Call for proposal*



### **Project Administration**

Contracts for approved projects will be administered through the Ministry of Forests under its current Goals Agreement with Forest Renewal BC.

### **Reporting**

The ETAC will prepare an annual report to Council describing accomplishments and activities carried out under the Extension and Communication Subprogram.





Member Name	Phone	Fax	Representing	Organization	Email
<b>INTERESTED PARTIES</b>					
Reid, Dave	250-652-2453	250-652-4202	MOF Seed Production	Tree Improvement Br.	david.reid@gems5.gov.bc.ca
Roger, Painter	250-356-9276	250-356-8124	FGC Administration	Tree Improvement Br.	roger.painter@gems8.gov.bc.ca
Jack Woods	250-715-6285	250-748-0949	GenSeed Ltd.		woods@seaside.net

## ETAC Goals and Messages

Goal	Messages
1 To foster the support needed to achieve Council's goals for the provincial forest gene resource management program.	1.1 Benefits of improved reforestation material 1.2 Genetic gains are quantifiable, demonstrable and can be incorporated into timber supply, benefit/cost analysis of TI investments are sound 1.3 Recent developments in BC Forest Gene Resource Management
2 To provide a central directory of information sources relating to tree improvement with opportunities for user feedback and to disseminate information about Forest Genetics Council activity, tree improvement policy and related technical information. (The original ETAC goals 2, 3, 4 have been combined)	2.1 Council and its TACs are active, open and operate through a comprehensive gene resource management program 2.2 Tree Improvement is a cooperative, technical information is freely and easily available, extension expertise is accessible and feedback is welcome 2.3 There are policy developments in tree improvement and information is available on operational implications 2.4 GE and GMOs are not currently used and genetic diversity is being protected
3 To assist users and specialists in acquiring and developing needed technical information and encourage the sharing of information among researchers, producers, and users of improved reforestation materials.	3.1 Information on production processes and costs 3.2 Operational gains are attributed to improved reforestation materials 3.3 Training and tools are available and can be developed 3.4 Practices to implement timber supply gains
4 To encourage and assist with the development of curricula, workshops, and educational materials in the field of forest gene resource management.	4.1 Technical info on TI science 4.2 General information packages

## FGC Target Audiences

"Seed" users	Including those who buy improved reforestation materials, those who allocate funds for reforestation programs (e.g., silviculture specialists, woodlands managers, MOF region, and district managers), and those affected by reforestation programs (e.g., timber supply branch). <i>Handwritten: RUTHERFORD</i>
Tree improvement specialists -	Including government, industry, and academic tree breeders, geneticists, seed production personnel, and researchers.
Seed production decision-makers	Responsible for investments in seed orchards and breeding programs (e.g., forest industry and government middle managers, Forest Renewal BC program managers, politicians, and senior civil servants).
Public or others	People with a general interest in tree improvement, including forest land management professionals, lobby groups, First Nations, journalists, and the general public.
Educational institutions	Universities, colleges, technical schools, public schools

## Typical Extension Vehicles

<b>Local meetings</b>	includes regional or district silviculture or licensee meetings, regional meetings with orchard managers/breeders, etc.
<b>Field demonstrations</b>	local demonstrations or local trials demonstrating improved material, new techniques, local applications, etc.
<b>Workshops with field components</b>	also includes workshops in general
<b>Interpretive and/ or field guides</b>	may include actual field guides or other interpretive guides/manuals for 'how to' descriptions on particular activities.
<b>Extension notes (4 pages or less)</b>	semi-technical publications on a single topic – may integrate a number of technical issues
<b>Newsletters</b>	TICtalk, Seed and Seedling Extension Topics, etc.
<b>Trade or professional magazine articles</b>	e.g., Truck Logger, Canadian Silviculture, ABCPF Forum
<b>Direct notification</b>	email, fax or phone with specific info.
<b>Personal contact</b>	personal contact by a specialist or extension agent, on-site visits
<b>Forum</b>	exchange of information in an academic setting, informal scientific or operational presentations, short topical summaries of work being done or completed, opportunity for discussion between specialist, users, students and others
<b>Extension team</b>	group with a main focus on TI extension activities, extension and communications specialists
<b>Website</b>	websites for Forest Genetics Council, Tree Improvement Branch, Research Branch or others as appropriate- most written articles etc. to be posted as a matter of course

## Appropriateness of Vehicle to Various Target Audiences

H high; M medium; L low <This is quite subjective>

Vehicle	Users	Specialists	Decision-makers	Public	Educ. Institutes
TI Newsletters	M	L	M	M	H
Trade or professional magazine article	H	M	M	L	M
Direct notification	H	(H)	H		
Website	M	M	M	H	H
Forums	(H)(M)	H	M		H
Local meetings	(H)	(H)	(M)	(M)	(M)
Workshop with or without field component	H	M	L		M
Field demonstration sites	H	H	M		M
Interpretive and/or field guide	(M)	(M)	(M)		(M)
Extension Team	H	M	L		
Extension notes (min 4 pg)	M	H	M	L	M
Personal contact	H	H	M		(H)

*Handwritten signature*

**Table 1 Goals, messages, and audiences for extension. Audiences are ranked for each message. Highlighting indicates key messages and audiences. This work was done by the ETAC Planning Subcommittee for approval by ETAC.**

Goal *	Messages	Ranked Audiences for Messages			
		Users	Decision-makers	Specialists	Public
1	To foster the support needed to achieve Council's goals for the provincial forest gene resource management program.				
2	To provide a central directory of information sources relating to tree improvement with opportunities for user feedback and to disseminate information about Forest Genetics Council activity, tree improvement policy and related technical information.				
3	To assist users and specialists in acquiring and developing needed technical information and encourage the sharing of information among researchers, producers, and users of improved reforestation materials.				
4	To encourage and assist with the development of curricula, workshops, and educational materials in the field of forest gene resource management.				

\* The original ETAC goals 2, 3, 4 were combined

# ETAC Project Summaries

## for consideration in the Activity Plan 2000/01

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## Article on Benefits of Improved Reforestation

**FGC Goals, Messages:** 1.1, 1.3

**Audience(s):**

Users of improved reforestation materials  
Forestry community

**Project Description and Objectives**

An article on the benefits of improved reforestation that can be “sized” for placement in various trade and professional magazines (Canadian Silviculture, ABCPF Forum, Truck Logger) to inform readers of:

- the type of benefits (e.g., volume gain, pest resistance, wood quality)
- the MOF policy regarding use of Class A seed
- the work of the Forest Genetics Council and Forest Renewal BC in supporting a provincial forest gene resource management program.

**Rationale**

MOF policy requires the use of Class A seed where available. Users should understand the benefits associated with using improved reforestation materials on short-term and long-term objectives.

Articles help spread the word on the Forest Genetics Council and Forest Renewal BC Tree Improvement Program.

**Project Tasks**

1. Approach key publications to confirm their interest in the article and their requirements (length, submission deadline and process).
2. Consult experts for quotes.
3. Draft article for review by ETAC member(s), FGC program manager.
4. Submit article; revise as required to assure publication.
5. Write abstract for inclusion in FGC cooperator newsletters/advertising on FGC home page.

**Suggested Budget**

**\$5000**

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## Slides/Speaker's Notes on Benefits of Improved Reforestation

**FGC Goals, Messages:** 1.1, 1.3

**Audience(s):**

Users of improved reforestation materials  
Forestry community (e.g., Northern, Southern Interior, and Coastal Silviculture Committees)

**Project Description and Objectives**

Slides and speaker's notes will be available to FGC Councillors, TACs, and other FGC cooperators to use in responding to requests for information on the benefits of improved reforestation in local communities.

Objectives as for the article on this topic.

**Rationale**

The existence of support materials will encourage Council cooperators to initiate/respond to requests for presentations in their communities.

**Project Tasks**

1. Draft presentation treatment (content outline, desired images, template for slides and overheads) and review with ETAC member(s) and FGC Program manager.
2. Solicit desired photos from TI community
3. Draft PowerPoint presentation and accompanying speakers notes
4. Submit to ETAC designate for review.
5. Produce 2 slide sets and 2 colour overhead sets in addition to PowerPoint file
6. Develop accompanying "instructions to speaker" on how to modify presentation for various groups (e.g., Rotary, high school, youth groups)
7. Post advert of availability to FGC Website. Contact ForED BC, Forest Alliance, MOF Public Affairs and Forest Renewal Communications regarding availability of speakers and presentation materials.

**Suggested Budget**

\$4000

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## **Rack Card/Fact Sheet/FAQs on Benefits of Improved Reforestation**

**FGC Goals, Messages: 1.1**

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Forestry community  
Public

**Project Description and Objectives**

A rack card and set of FAQs on the benefits of improved reforestation.

**Rationale**

As for article on same topic. The handbill and FAQs could accompany the FGC display and also be distributed in card racks from facilities such as seed orchards, nurseries, forest information centres.

**Project Tasks**

1. Identify key facts and critical questions; review with ETAC member(s) and FGC Program Manager
2. Design rack card and Fact Sheet/FAQs
3. Identify most cost-effective printing process and numbers required for each product
4. Print.

**Suggested Budget**

**\$2000**

Suggest that the rack card be combined with the rack card on Tree Breeding vs GE (see project under Goals/Messages 2.4)

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## First annual TI forum for information exchange – a prototype

**Goals and messages addressed:** 1.1, 1.2, 2.1, 2.2, 3.2, 4.1

### Audience(s) –

for students, professionals and technicians to discuss current projects relating to the use of select materials in the field

### Outline of project

For many years, the University of Victoria has held an annual Biology Forum as an opportunity for local students, researchers, professionals and technicians to present and discuss operational testing or academic research informally. In addition, it has provided a venue for other interested parties to learn more about the practical side of science.

This proposal is to develop and test a prototype forum, based on that format, but devoted more specifically to the use of select material in reforestation. Ideally, it will be accomplished with the cooperation of one or more educational institutions and offer an opportunity for learning as well as networking in the forestry community. The location would rotate between various areas of the province on an annual basis.

The aim is to identify 'real world' opportunities and problems. Adaptive management insists that research results be put into practice, monitored and adapted through more research as additional information comes to light. Often, this testing takes the form of field trials and plantation assessments done by woodlands foresters and in student projects. There is often little opportunity for them to share the results more widely. This forum would bring these interested parties together locally and informally to discuss results and observations- both pro and con – about their use of select material. Operationally, the lessons learned could help guide research and influence the development of policy.

### Partnerships

UNBC, CanFor, etc., ETAC, UNC

**Budget - \$5,000** 3 forests

Travel for invited speakers/facilitators, room rental for one day (incl. overheads, slide projector, etc.), basic refreshments

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## **Develop extension note on latest information on quantification of genetic gain by species**

**Goals and messages addressed:** 1.2

### **Audience(s)**

Seed users, tree improvement specialists, decision makers

### **Rationale**

Genetic gain is the main reward that the B.C. forest genetics program has for local forestry. Research on this has been so convincing, that the Chief Forester now includes potential gains from 'select' reforestation material in Annual Allowable Cut (AAC) calculations throughout the province.

However, the concept is relatively new in operational forestry. Many (most?) foresters in the field have not had the time or resources to catch up on all the latest information in this rapidly developing field. A summary of concepts, available information and how it is applied, both in operations and in determining the AAC would help the foresters address tree improvement issues.

### **Outline of project**

Produce an extension note of 5 – 6 pages or less, providing:

- definitions and illustrations of genetic gain and genetic worth
- general examples as to how the data is collected and values calculated
- general examples as to how the numbers can be used in an operational sense
- a summary of current and future gains expected in specific breeding programs

This extension note would be a 'learning aid' for those using or planning to use information in existing species plans. It would provide background information that would aid in their interpretation

### **Partnerships**

Geneticists

Timber Supply Branch

ETAC

Field Forester(s)

### **Budget**

Project team meetings	\$1000
Publication	\$2,000
Total	<b>\$3,000</b>

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## **Prepare and conduct tours of appropriate research demonstration plots**

**Goals and messages addressed:** 1.2

### **Audience(s)**

Field foresters, decision makers

### **Rationale**

Forest genetics research has been going on in B.C. for almost 30 years and during that time, a wide variety of research plots have been installed around the province. These installations are used to provide information on the adaptability and performance of trees in provincial breeding programs. While most of the plantations are less than 15 years old, many are old enough to start showing differences in growth and pest resistance between the trees.

Many field foresters are expressing interest in how gains are measured and what to expect in operational situations when they use 'select' material. Some of these forest genetics plantations are suitable for illustrating this material in the field and for stimulating discussion about its operational use.

### **Outline of project**

Many of the forest genetics research plantations will not be suitable for this type of activity. Young age, potential site disturbance and site security are just a few of the reasons that it may be inappropriate to invite tours to research sites

In conjunction with the various breeders, regional reforestation foresters and others, this project would:

- develop a list of potential plantations and review those currently used for demonstration;
- select up to 6 sites around the province that have the potential for local or regional tours;
- review the successes of the Jordan River site as a model;
- prepare background and site contact information for at least one regional site and describe what can be illustrated there;
- organize and hold at least one local tour;

### **Partnerships**

Research Branch	ETAC
Regional forester	SIFERP

### **Budget**

Travel, bus transportation, light refreshments, background research and material preparation -  
**\$2,000**

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## Develop extension note on cost/benefit analysis of TI investments

**FGC Goals, Messages:** 1.1, 1.2

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Specialists  
Forestry community

**Rationale**

This project supports Goal 1 (fostering support for the program) with messages 1.1 (benefits) and 1.2 (quantifying genetic gain, sound investment).

**Outline of project**

This project would produce an extension note of not more than 10 pages summarizing and generalizing to the extent possible:

- methods used in British Columbia to evaluate the benefits and costs of tree improvement
- results of these analysis.

The extension note should include a good bibliography. It should focus on the British Columbia context. The note should clarify for users how the benefits of tree improvement are realized, where the costs are incurred, and how both can be measured.

**Partnerships**

- MoF Timber Supply Branch
- MoF Research Branch
- ETAC
- Field Forester(s)

**Budget**

research	\$5000
writing and editing	\$4250
graphics and layout	<u>\$750</u>
TOTAL	<b>\$10,000</b>

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## Develop extension note on incorporating genetic gains into timber supply analysis

**FGC Goals, Messages:** 1.1, 1.2

### Audience(s):

Users of improved reforestation materials  
Specialists  
Forestry community

### Rationale

Timber supply analyses have been undertaken in BC for the last 9 years as part of the Timber Supply Review (TSR) process for determining Allowable Annual Cuts (AAC). The TSR timber supply analyses are now becoming important as a benchmark against which the benefits of any forestry investments (e.g., silviculture) are being measured. Parameters for specifying genetic gain have recently been added to the MoF's yield model (TIPSY), and tools are being developed by Tree Improvement Branch to improve our ability to estimate genetic gain for timber supply analysis. It is essential that genetic gain be incorporated in TSR timber supply analyses, that people understand how this is being done, and that users recognize the timber supply benefits of tree improvement investments.

### Outline

This project would produce an extension note of not more than 10 pages, that would summarize timber supply analysis methods used in TSR, including the data used, and focusing on how genetic gain is represented in the timber supply analysis. It would explain in general how genetic gain affects timber supply, and would summarize what is being found where it has been incorporated in TSR to date. The note would also address the problems encountered so far in accounting for genetic gain in TSR timber supply analyses, and what is being done to address them.

### Partnerships

MoF Timber Supply Branch  
MoF Research Branch  
MoF Tree Improvement Branch

### Budget

Writing	\$5000
Editing	\$500
Figures and Layout	<u>\$1000</u>
Total	<b>\$6,500</b>

## **Tree Improvement (Forest Genetics) Workshop(s)**

**Goals and messages addressed:** 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.2

### **Audience(s):**

Seed users (Industry and Ministry), Tree Improvement Specialists

### **Rationale:**

- The use of Class Seed A seed
- Background on genetic programs and trials
- Understanding of seed orchard operations
- Incorporation of methodology of seed ordering and seed availability
- The importance of gene conservation in the forest genetics/tree improvement program

### **Outline of project:**

Two separate one-day workshops to be held at Smithers (PRR) and Prince George (PGR). Format will be presentation style by various presenters as modeled at the prototype workshop held March 15, 2000 in Nelson (OTIP 99). Speakers will be mainly the same as the Nelson workshop. A conference call after the Nelson workshop allowed presenters to review their presentation, coordinate with other speakers and develop a more useful workshop package. A main component will be the incorporation of time for an open forum and audience participation.

### **Partnerships:**

Research Branch, Genetics Section  
FGC  
Tree Improvement Branch  
Private Seed Orchards  
Regions – Prince George & Prince Rupert  
Private forest companies

### **Budget:**

Travel for speakers \$17,000.00

Business expense (room rental and morning and afternoon refreshment) \$2500.00

Miscellaneous office expenses \$500.00

Total **\$20,000**

### **Timing:**

November at a time convenient to the speakers and with the workshops to be held at Smithers and Prince George in a one-week time frame.

*See also p. 20*

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## **Review current brochures, etc. for appropriate content**

**Goals and messages addressed:** 1.2

### **Audience(s)**

Public

### **Rationale (goals, messages)**

In the fall of 1999 and spring of 2000, tree improvement programs in B.C. became the target of eco-vandals. In taking credit for their destructive acts, these vandals focused on words and phrases from various tree improvement publications to supposedly 'prove' that genetically modified organisms (GMO) were being produced and used in the forest.

Many foresters and tree improvement specialists subsequently expressed concern about some of the terminology used in the industry and whether we were sending the wrong message out to the public. The suggestion was made that existing publications be reviewed to ensure that messages were being stated clearly and unambiguously.

### **Outline of project**

The goals of this project are to:

- develop a comprehensive collection of existing publications
- review for possible terms, phrases or contextual issues that may be ill-defined or misused, given the purpose of the publication and the current potential for vandalism

And to recommend:

- status quo
- withdraw from general circulation
- minor edits and republication
- re-write or re-design and replace with other material
- guidelines for future publications

### **Partnerships**

ETAC, FGC Secretariat, Extension Services, Breeders, SIFERP, orchards

### **Budget**

Peer review, editor, word processing, travel to team meetings - \$5,000 - \$10,000

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## Update and Classify FGC Database

**FGC Goals, Messages:** all

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Specialists  
Forestry community  
Public

**Project Description and Objectives**

Update and categorize the FGC access database for each target audience. Establish listserv addresses for each group (or subdivisions of groups) so that factual "hooks" can be sent to notify audiences of new material pertinent to their interests (e.g., link to FGC Website of article or directory of field demonstrations). The objectives are to maintain contact with key audiences and to find a way to target key and perhaps sensitive information to target audiences rather than broadcast posting to the FGC Website.

**Rationale**

The FGC is a cooperative council serving the interests of many audiences involved with or that benefit from the provincial forest gene resource management program. Security issues in light of recent vandalism have made it dangerous to use the FGC Website to distribute information that could put people at risk. As a result, information such as demonstration tours, research projects and findings, etc. cannot be posted for unlimited access. A current and key-worded database will make it possible to alert specific audiences to information pertinent to their interests.

**Project Tasks**

1. Identify a more detailed classification system for the FGC database and gaps in audience information; review with ETAC member(s) and FGC Program manager.
2. Update and develop Database
3. Implement practice of scanning new information for relevance to FGC audiences and contacting them in a non-intrusive manner.

**Suggested Budget**

**\$3000**

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## **Review FGC Website Strategy**

**FGC Goals, Messages:** all

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Specialists  
Forestry community  
Public

**Project Description and Objectives**

The current FGC Website was designed to support a Web-based information distribution strategy. This must be revisited in light of security issues.

**Rationale**

Linked to project for classifying FGC database.

**Project Tasks**

1. Reassess the FGC Website in light of vandalism concerns.
2. Investigate opportunities and utility of passwording information for key FGC audiences.
3. Ensure that the Links portion to other sites dealing with forest genetics activities is robust and sufficiently comprehensive; contact those sites to request reciprocal links.

**Suggested Budget**

\$3000

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**Extension Note entitled – “A checklist of legal obligations under the various Provincial Forest Practices acts and regulations with regards to the use of improved seed and some guidance on how to comply with the requirements in the operational world”.**

**FGC Goals, Messages: 2.3**

**Audiences**

Users of improved seed and those that make policy decisions etc etc etc

**Procedure and objectives**

During the past number of years, various acts, regulations and Codes have been developed to incorporate the advances of tree improvement into the field of forestry. With this inclusion comes the operational reality of what legal obligations exist pertaining to the use of this improved seed and how does one know when it has been complied with. The use of acts and regulations usually involves legal definitions, terms and interpretations, all of which can confuse those that have to apply the rules on the ground. On many occasions it has been suggested by the users of improved seed that some form of document containing a checklist of all of the different legal obligations surrounding the use of improved seed be created along with some legal guidance about how to comply with them. It is the intent of this publication to address that need. What follows is a brief outline on how the publication would be developed.

**Step 1:**

Review all acts, regulations and codes within the province of British Columbia and the country of Canada, and list all relevant legal conditions pertaining to the use of improved material in forestry. (This could possibly have already been done – or, if not try to find a law student in need of some extra income, or contract it out?)

**Step 2:**

Consult with legal council (inside and outside government) on the interpretation of all pieces of legislation and develop possible options on how to comply with the laws of the land.

**Step 3:**

Write these items up into an extension note and send out for external review (inside and outside government).

**Step 4**

Submit the article for publication to JEM as a joint publication between the Ministry of Forests and the Southern Interior Forest Extension and Research Partnership, following their publication procedure.

**Location**

**Output and Deliverables**

- Review of all acts, regulations and codes – quarter one
- Work with legal council on options for compliance – quarter one and two

- Write article and submit for review by legal council – quarter three
- Submit to JEM for publication and follow publishing procedure – quarter four

**Project Team**

Compliance and Enforcement Branch lawyers – e.g., Jordan Mckay

Tree Improvement Extension Team – Don et al

Director of Gen Seed ? - Jack Wood

SIFERP – Kathie Swift

Legal Council – Garry Mancell (?) (Davidson & Co.)

Cortex consulting – as FGC secretariat

**Budget**

SIFERP/ TIPB time – 15 days, Legal Council – 3 days	\$8,400
Travel	\$1,500
Contract for legal review of literature	\$2,000
Contract for publishing article (includes English edits, desktop publishing, etc)	\$2,500
Administrative costs	\$600
<b>Total</b>	<b>\$15,000</b>

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## Article on Tree Breeding vs Genetic Engineering, Genetic Diversity

**FGC Goals, Messages: 2.4**

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Forestry community  
Public

**Project Description and Objectives**

An article on British Columbia's tree breeding program to clarify the difference between breeding for selected characteristics and genetic engineering. Tailor versions of article for placement in various trade and professional magazines (Canadian Silviculture, ABCPF Forum, Truck Logger) to inform readers of:

- the purpose and steps involved in tree breeding (the how and why of selection from natural stands, progeny testing)
- the efforts to protect genetic diversity in tree breeding
- FGC does not support research in genetic engineering
- no genetically modified organisms are used in reforestation of Crown land.

**Rationale**

Genetically modified organisms (GMOs) are an emotional subject that receives ongoing media attention. 1999 demonstrations at the World Trade Organization meeting in Seattle and vandalism of BC seed orchards and research facilities brought the issue to our doorstep. It is important for Council to clarify the difference between tree breeding for selected naturally occurring characteristics (volume, value, pest resistance) from genetic engineering -- the addition or deletion of genetic material.

Articles to forest sector trade and professional magazines will help inform the forest sector community, which will help spread the message in a low-key, personal way throughout the province. The published article(s) can be posted to the FGC Website and sent to media as needed.

**Project Tasks**

1. Approach key publications to confirm their interest in the article and their requirements (length, submission deadline and process).
2. Consult experts for quotes.
3. Draft article for review by ETAC member(s).
4. Submit article; revise as required to assure publication.
5. Write abstract for inclusion in FGC cooperator newsletters/advertising on FGC home page.

**Suggested Budget**

**\$6000**

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## Slides/Speaker's Notes on Tree Breeding, Genetic Diversity

**FGC Goals, Messages: 2.4**

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Forestry community (e.g., Northern, Southern Interior, and Coastal Silviculture Committees)  
Public

**Project Description and Objectives**

Slides and speaker's notes will be available to FGC Councillors, TACs, and other FGC cooperators to use in responding to requests for information on tree breeding in their communities.

Objectives as for the article on this topic.

**Rationale**

The existence of support materials will encourage Council cooperators to initiate/respond to requests for presentations in their communities.

**Project Tasks**

1. Draft presentation treatment (content outline, desired images, template for slides and overheads) and review with ETAC member(s) and FGC Program manager.
2. Solicit desired photos from TI community
3. Draft PowerPoint presentation and accompanying speakers notes
4. Submit to ETAC designate for review.
5. Produce 2 slide sets and 2 colour overhead sets in addition to PowerPoint file
6. Develop accompanying "instructions to speaker" on how to modify presentation for various groups (e.g., Rotary, high school, youth groups)
7. Post advert of availability to FGC Website. Contact ForED BC, Forest Alliance, MOF Public Affairs and Forest Renewal Communications regarding availability of speakers and presentation materials.

**Suggested Budget**

**\$4000**

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## **Rack Card/Fact Sheet/FAQs on Tree Breeding, Genetic Diversity**

**FGC Goals, Messages: 2.4**

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Forestry community  
Public

**Project Description and Objectives**

A rack card, fact sheet, and set of FAQs on British Columbia's tree breeding program to clarify the difference between breeding for selected characteristics and genetic engineering.

**Rationale**

As for article on same topic. The rack card, fact sheet, and FAQs could accompany the FGC display and also be distributed in facilities such as seed orchards, nurseries, forest information centres.

**Project Tasks**

1. Identify key facts and critical questions; review with ETAC member(s) and FGC Program Manager
2. Design rack card and Fact Sheet/FAQs
3. Identify most cost-effective printing process and numbers required for each product
4. Print.

**Suggested Budget**

\$2500 (suggested print run of 2000)

Suggest that the handbill portion of this product be combined with the rack card on Benefits of Using Improved Reforestation Material (see project under Goals/Messages 1.1)

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## Panel on Tree Breeding for FGC Display Unit

**FGC Goals, Messages:** 2.4

**Audience(s):**

Users of improved reforestation materials  
Decision-makers  
Forestry community  
Public

**Project Description and Objectives**

Produce a panel (text, graphics) on tree breeding to clarify the difference between breeding for selected characteristics and genetic engineering, e.g.:

- the purpose and steps involved in tree breeding (the how and why of selection from natural stands, progeny testing)
- the efforts to protect genetic diversity in tree breeding
- FGC does not support research in genetic engineering
- no genetically modified organisms are used in reforestation of Crown land.

**Rationale**

same as for article

The FGC Display travels to various professional and trade meetings around BC (Regional Silviculture Committee meetings, Truck Logger AGM, ABCPF AGM) and is sometimes on display in MOF Victoria offices.

Copies of the article and/or a fact sheet on the topic could accompany the display.

**Project Tasks**

1. Write key text, identify graphics for panel
2. Review by ETAC member(s), FGC Program Manager; revise as appropriate
3. Design and produce panel

**Suggested Budget**

**\$3000**

*See also p 11*

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## Terminology Review and Recommended Usage

**FGC Goals, Messages:** 2.4; all

**Audience(s):** all

### Project Description and Objectives

In collaboration with FGC cooperators, develop a protocol on terminology use as a means of reducing confusion associated with tree breeding and the use of genetically selected reforestation materials.

Write a memo on the terminology protocol to Forest Renewal BC and others emphasizing the importance of avoiding terms that can be interpreted as genetic engineering. Write an article on this subject for the Forestry Chronicle to bring it to the attention of foresters across Canada.

### Rationale

Some of the terms associated with tree breeding and the production and use of genetically selected reforestation materials (e.g., tree improvement, genetically modified) are potentially misleading to those who are unfamiliar with these activities. A review of current terminology and consideration of alternative terms will contribute to clearer communication with stakeholders and the public.

### Project Tasks

1. With FGC cooperators, develop a checklist of potentially misleading or inflammatory terms and identify possible alternatives to these terms
2. Draft a protocol on terminology for review by ETAC and representative FGC cooperators; incorporate input
3. Recommend a protocol on terminology use for all FGC cooperators
4. Write memo/article to key agencies (e.g., Forest Renewal BC) and forest sector associations (ABC PF, CIF) to explain the need for such a protocol.

### Suggested Budget

\$6500

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## Pollen workshop

**Goals and messages addressed:** 3.2

### Audience(s)

Specialists (seed orchard managers and technical staff)

### Rationale

Pollen management is an extremely important aspect of overall crop management in seed orchards. On-going research and operational improvements need to be shared so that those involved are up-to-date on the latest information in technology and practice. Timely workshops that bring together researchers and specialists to discuss their activities, play an critical role in keeping industry information current.

### Outline of project

Topics:

- Pollen Handling (collecting, drying, storage, rehydration)
- Viability testing theory and hands-on)
- Pollen Application (SMP + control pollinations)
- Pollen Monitoring and evaluation of monitoring process
- G/A application (preparing stock solutions, dosage determination, application)
- Climate and environmental monitoring
- Set-up of data gathering devices (e.g., CR10 or Hobo)
- Launch of program and download of data

### Partnerships

ETAC, Research Branch, Industry and Ministry orchards

### Budget

Room Rental for 2 days + snacks:	\$600
Travel for 4 people from Vict for 4 days:	\$1,600
Course Materials:	\$500
<b>Total</b>	<b>\$2,700</b>

## Short book: The reproductive biology of western white pine

*(A formal proposal has been received for this from John Owens)*

**Goals and messages addressed: 3.1**

### Audience(s)

Specialists

### Rationale

Since the 1950's in the US and the 1980's in Canada there have been active rust resistance selection programs in white pine. These involve selection and breeding. The latter requires knowledge of the reproductive biology including cone induction, phenology, pollination, pollen management and cone, seed and embryo development. Breeders and researchers, seed orchard staff, field foresters, and cone collectors need readable reference on the reproductive biology of the species. Few of these people have the time or the resources to review all the original literature. The purpose of this project is to write a non-technical booklet summarizing the relevant scientific information now available for *Pinus monticola*. This can be used as a simple source and guide for everyone working with western white pine.

### Outline of project

Over 4 years, write or revise 8 booklets on conifer reproductive biology (see previous publications), including : western white pine, Douglas-fir, interior spruce, western and mountain hemlock, western red cedar, yellow cedar, lodgepole pine, *Abies* species and larch..

In the current and following year, write an original booklet for western white pine: about 45 pages, 8.5 x 11, double column; divided by topic, including glossary of terms, photos, figures, tables

### Partnerships

UVIC, MOF, seed orchards

### Budget

Salaries and benefits (contractors and technicians)	\$20,125
Materials and supplies	\$1,400
Rentals	\$600
Administrative costs	\$1,107
Total	\$23,232

## Select seed workshop on how to order and acquire seed, new nursery technologies

**Goals and messages addressed:** 3.2

### Audience(s) –

Users, specialists (nurseries, users, tree improvement specialists), decision makers

### Outline of project

Seed workshops have been held on a number of occasions in the past. The purpose of these workshops has been to teach basic seed acquisition, processing, handling and growing techniques to existing and new participants in the reforestation industry. In addition the workshops have provided a forum for the extension of new ideas, processes and methodologies associated with regeneration from seed.

Because of the value and often limited availability of select seed, many of the steps involved in its procurement, processing and eventual use require some alteration to accommodate it. These changes may not always be intuitively obvious and many have operational impacts, which can lead to increased costs of the final product (seedlings). Justification of the latter is important to those burdened with those extra costs.

There is a need to demonstrate the value of select seed to the end user, and explain the need for changes associated with shifting from basic “wild” to “select” seed. After this it is also necessary to help with implementation (how to) of any new protocols. A select seed workshop is an excellent forum for this type of extension. The workshops can be held in several (3) locations in the province to facilitate reaching the majority of the audience.

### Partnerships

ETAC

Extension Services, TIB, BCMOF

Tree Seed Center, TIB, BCMOF

### Budget

Travel for invited speakers/facilitators, room rental for 3 days (including overheads, slide projectors, etc.), basic refreshments.

Travel for 5 presenters including facilitator	\$ 750			
1 room for one day (incl. Equipment)	\$ 300			
Refreshments	\$ 300			
Handouts	\$ 250			
Total	\$1600	X3	=	\$ 4800.

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## **A technical FAQ on seed availability and ordering**

**Goals and messages addressed: 1.2**

### **Audience(s)**

Users, (Field foresters and technicians)

### **Rationale**

For many field personnel, reforestation is only one small part of their job. Given the periodicity of this activity in forest management, it is easy for them to lose sight of the steps necessary to locate and order seed and seedlings when busy with other issues during the rest of the year.

It may be useful to have a FAQ or summary of the steps involved in locating and accessing seed. This would act as a resource and quick reference for those involved in reforestation programs.

### **Outline of project**

In a question and answer format, this project will:

- Provide an outline of the various sources of seed and how it is accessed;
- Provide time lines and key dates relating to seed and seedling ordering;
- Provide an overview of the information needed in researching the availability of and accessing seed;
- Provide references to other useful publications or contacts for additional detail;

### **Partnerships**

ETAC, TIB, SIFERP, Nurseries

### **Budget**

Planning and review meetings, editing, distribution - \$1,000

## Develop one local tour to operational plantations of select material

Goals and messages addressed: 3.2

### Audience(s)

seed users, seed production decision-makers and the general public.

### Outline of project

Demonstrating the merits of select/improved reforestation materials is part of the process by which the tree improvement program can sell itself. Even if legislators are convinced of the benefit, there is still a need for those working on the ground to see for themselves. When individuals believe in what they are doing, the job at hand is made easier and benefits are more certain to be expressed.

Besides demonstrating the value of tree improvement as a concept, there is a need to assure users of select reforestation materials that the additional investments they make will be recouped at some (foreseeable) future date. It is imperative that the ability of select plantations to "pay their way" is demonstrable upon incorporation into a timber supply analysis, and protocols designed to accomplish this are in place.

A field tour to a number of plantations is preferable. Each can be a case study. Some may be successes, some failures. This allows investigations into what worked and/or didn't work, and give indications as to what may be required to ensure "select" stock gives "select" performance. A classroom component emphasizing the economic, scientific and theoretical aspects of using select reforestation stock would complement the field tour. The field and classroom components need to be one day each. It is recommended that the Chilliwack Forest District be chosen to allow working with coastal species, some of which having been part of the tree improvement program since its inception.

### Partnerships

Extension Services      Timber Supply Branch  
Research Branch      Chilliwack Forest District

Various Licensees in the area, e.g. CANFOR-Agassiz, Pretty's Timber, GVRD, JS Jones.

### Budget

Travel for invited speakers/facilitators, room rental for 1 days (including overheads, slide projectors, etc.), basic refreshments.

Travel for up to 4 presenters including facilitator	\$ 750
1 room for one day (incl. Equipment)	\$ 300
Refreshments	\$ 300
Handouts	\$ 150
<b>Total</b>	<b>\$1500</b>

*Buss?*

## Lecture information and/or series for educational institutions on some of the technical aspects of tree improvement

**Goals and Messages Addressed:** 4.1

**Audiences:** Academic institutions

### Procedure and objectives

- Approach the different provincial academic institutions to evaluate the need and potential response to a proposed lecture series on some of the technical aspects of tree improvement. Included in the discussions should be appropriate time frames within which the lecture series could take place.
- Work with local instructors to determine the content of specific lectures to ensure that they link and/or enhance activities, academic and those geared towards the general public, already underway. Determine the appropriate number of lectures to be presented per institution and the specific target audience (some lectures may be useful for the general public, but the information and the lecture would have to be tailored accordingly).
- Synthesize the information required for the lectures and develop a contact list of personnel most appropriate, and available, to deliver the talks.
- Coordinate times, locations, speakers and travel for the lecture series.
- Work with local academic institutions to advertise the series to ensure appropriate saturation of the target audiences.
- Develop an evaluation form to be handed out at the end of the lecture series. This evaluation form should determine the effectiveness of the lecture series.

### Location

The lecture series would have the potential to take place in all academic institutions that have some form of natural resources programming (UBC, UNBC, UCC, BCIT, OUC).

### Output and Deliverables

#### Project Team

- Extension Team/ SIFERP
- MOF Tree Improvement Branch and academic research communities
- Seed Orchard Managers.

#### Budget

Travel	10,000
Materials & Supplies	\$500
<b>Total</b>	<b>\$10,500</b>

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## **Production of a 'Westland' television episode focusing on the provincial forest genetics program**

**Goals and messages addressed:** 1.1, 4.2

### **Audience(s)**

Decision makers, public

### **Rationale**

The mass media can be an effective tool for public education and information sharing. Television (video) in particular offers a way to reach a wide audience. However, there are very few positive images presented on forestry in the media. In fact, in recent years there has been a preponderance of negative images shown regularly in the news and on documentaries about the environment.

Westland is a local program that documents B.C. resource management issues in a balanced manner. With a mix of video illustration and interviews, pros and cons of many issues have been presented by the series on local commercial and public television. The variety of sponsors includes government, forest companies, professional organizations and environmental groups and attests to the show's success.

With all the negative 'press' on forestry and more recently, on forest genetics in particular (read eco-vandalism in seed orchards), there is a need to develop additional outlets for presenting more balanced information on the 'state of the art' in the industry. This project is to plan and develop an episode on Westland as a way to begin meeting that need.

### **Outline of project**

Produce an episode on forest genetics with the TV show Westland. Broadly explore the provincial forest genetics program, including gene conservation, policy, breeding, seed production and gains to be made. The project should result in a comprehensive program overview with just enough detail to indicate: the science involved, stewardship issues, timber supply advantages and linkages with the future with respect land use planning. Points should be made through a combination of video, interviews and textual material.

Year 1: Plan, organize, script and if possible film an episode for Westland TV series on forest genetics in B.C.

### **Partnerships**

ETAC

### **Budget (best guesstimates)**

Year 1: Travel \$1,000; short term contract with scriptwriter \$5,000 Total \$6,000

Year 2: Travel \$2,000; scriptwriter \$5,000; production \$30,000??? Total \$37,000

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**A consolidated information package, in the form of a CD Rom for teachers on the benefits of improved reforestation material. (This project is potentially stage one of another project entitled “Tree Improvement component for programs currently being offered in Grades 8, 11 and 12 in British Columbia”)**

**Goals and Messages Addressed:** 4.2

**Audience:** Teachers, Public

**Procedure and objectives**

One approach to making the public more aware of the principals and science behind tree improvement is through the introduction of the subject into our learning institutions as part of their curriculum of instruction. Having tree improvement included in our learning institutions, however, requires the development and presentation of TI material in a manner that teachers can access, understand and readily use. One possible way of accomplishing this is the production of a Tree Improvement Information CD Rom.

The reasoning behind the selection of a CD Rom as the tool of choice is simple.

- A lot of information can be stored in a small location.
- Almost every school in BC has access to computers with CD Rom interface.
- The teacher can select the information relevant to their needs at the time.
- There is potential to make the CD Rom interactive, thus being a tool that the students can also use as part of their learning experience.
- CD are relatively inexpensive to reproduce and distribute and can be easily updated (depending on the level of CD interactivity developed).
- Interactive CD's are common tools in schools and could be available for use by the Orchards for school and general public tours.

To accomplish the task of developing the CD, the following specific activities and time frames are expected.

**Year One**

1. In consultation with teachers, pull together all relevant tree improvement information that would be of use to teachers/ schools in general. This would include both elementary and secondary schoolteachers. (In very general terms this appears to be already taking place through extension services in Surry. Specific guideline requirements for schools could be developed in consultation with the teachers so that only the most relevant material is channelled into a package for this group.)
2. Working with the teachers used during the initial material preparation stage to develop an outline on how they feel this information would be best presented within the framework of the CD. A tactical plan should be the product of this consultation including specific instructions with regards to the amount of interactiveness required for the program.

3. Contract out the development of the interactive CD (\$480/day for 6 weeks - \$14,400). Part of the agreement with the successful design company would be to work with the multi-agency extension group to ensure a consistent message is maintained through out the process. There is the possibility of working with some of the computer science departments within local universities to have this CD developed as part of some form of learning activity if we wish to cut some costs out of the equation. This would require some adjustment on time frames.

#### Year 2

1. Field test the CD with local teachers and or have the general public test it during orchard tours conducted during the summer period.
2. Fix or modify the CD based on information generated during the field trials.
3. Produce and distribute CD on a broader scale for field-testing. Modify accordingly.
4. Produce and distribute CD's to the general school system (\$1,000.00).

#### Location

#### Output and Deliverables

##### Year 1 - Quarter 1 and 2

- Collect and synthesize tree improvement information relevant to elementary and secondary schoolteachers. Develop a tactical plan in consultation with the teaching community to determine what format would work best.

##### Quarter 3

- Contract out interactive CD Rom design.

##### Quarter 4

- ETAC and FGC test CD and provide initial feed back on CD.

##### Year 2 – Quarter 1 and 2

- Field test CD in three schools – one on the coast, one in the southern interior and one in the northern interior.
- Field test CD during summer tours at three different orchards – one on the coast, one in the southern interior and one in the northern interior.

##### Quarter 3

- Modify CD based on comments from field tests.
- Send out for a second test to a broader school group.

##### Quarter 4

- Modify CD based on second set of comments.
- Produce and distribute CD to the general school system.



**Project Team**

- Suggested/ volunteering teachers
- Extension group/ SIFERP
- Members of ETAC
- Vernon Seed Orchard Company, Canfor's nursery in PG, and West Frasers' Orchard on the Coast?

**Budget**

**\$14,400**

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## Phase 2 – Develop a Tree Improvement curriculum for grades 8, 11 and 12 in British Columbia

**Goals and Messages Addressed:** 4.2

**Audiences:** High School Students

This is the second phase of a two-phase approach to making the public more aware of the principals and science behind tree improvement. This second phase involves the actual development of a school-focused program that will be linked with activities taking place in Grades 8, 11 and 12.

During the Phase 1 component of this project, an Interactive CD Rom was developed and tested in local schools as an introduction to the tree improvement program. The Phase 2 component of this project involves the linking of this CD into an actual tree improvement component of local school curricula. This process will involve a number of stages.

Stage 1. Review the broad based curriculum to determine the appropriate grade level and fit for tree improvement information. For example, a good fit might be Grade 8 Science where they look at natural resources, and/or Biology or Forestry 11.

Step 2. Select a test area and a time frame in which to pilot the project.

Step 3. Work with one or two teachers to review the information available on the CD Rom and together determine the structure and style of the unit. For example, will the information be disseminated through a mini unit with presenters or will it be an actual teaching unit?

Step 4. Develop the actual unit. This could be as simple as having specific resource people available for class presentations, additions to the CD Rom, and finally, to an actual teaching unit.

Step 5. Using training workshops present the unit to teachers so that they have an understanding of the principals involved. Make any modifications that are required.

Step 6. Present unit options to the pilot area school board for approval of the unit to schools in area.

Step 7. Have resource people available to conduct field activities or on hand to answer questions that may arise from the unit. This may require the hiring local support to perform this task.

Step 8. Evaluate at the end of the pilot for any KASA changes (knowledge, attitude, skills and aspirations).

### Location

The location depends on a number of items including;

- Access to resource people
- Access to a seed orchard for field trips
- Openness of schools – may want to focus on schools that already have a Forestry program in existence.

### Output and Deliverables

#### Year 1 – Quarter 1 and 2

- Select the target grade for the unit as well as the test area and time frame for the project.
- Decide if any additional resource people need to be added to the project.
- Update the CD Rom based on the target audience selected. This should not be too difficult if the CD was field tested properly.
- Determine what the unit will look like.

#### Quarter 3 and 4

- Develop the Tree Improvement Teaching Unit.

#### Year 2 – Quarter 1 and 2

- Conduct training workshops to teachers in the pilot area on how to use the TI unit.

#### Quarter 3 and 4

- Continue to workshop with teachers and seed orchard managers on how to use the TI unit.
- Make presentation to pilot school board for approval in school curriculum.

#### Year 3

- Continue to test and modify program as well as conduct an evaluation on success of the unit.

*Budget?*

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## ETAC Administration

### Audience(s)

ETAC

### Rationale

In any program, there are extraordinary costs incurred. ETAC is no different. Someone or some organization has to pay for a variety of activities and administrative support in order for things to happen smoothly. For the most part, members are expected to contribute on a voluntary basis and any funding takes place on a specific project basis. However, there are some cases where there is no organizational support or where administrative support has to be out-sourced. There is a need for the Committee Chair to have access to some form of funding for these extraordinary events or items.

There are also times when there is a need for a quick response to an issue at hand or where a small project opportunity presents itself. Having access to a small fund for this type of activity would allow the Chair to approve a small amount of support directly. This would be quicker than polling the entire committee for approval.

### Outline of project

This project will provide a small amount of funding for ETAC administration and support.

Specifically, funding (at the discretion of the Chair) would be for:

- assisting with some of the sundry costs of participating ETAC members where the activity is outside regular committee meetings and where there is no other organizational support;
- covering ETAC meeting expenses, including room and equipment rental and basic refreshments;
- extraordinary costs for administration support
- funding small, ad hoc, but useful communications/extension activities

### Partnerships

### Budget

Administrative costs for ETAC:

- sundry costs for member participation in special projects - \$5,000
- meeting expenses - \$500 for this year. (potentially \$1000/yr in future years)
- admin support - \$1000
- discretionary projects (w/ ETAC approval) \$3000

Total = \$10,000

Project Suggestions for ETAC Activity Plan 2000/01 <key messages and projects highlighted>

Message	Audience	Suggested Projects	Estimate \$	Rank
Benefits of improved afforestation material	Users	Write on benefits of improved afforestation to Truck Loggers, Canadian Silviculture ABCP Forum, post to FGC website, abstract for inclusion in agency newsletter	5,000	
	<also D-makers, Specialists>	Develop slide/speakers notes on benefits of using improved afforestation materials for Northern, Southern Interior, and Coastal Silviculture Committees	4,000	
		Back Card, Fact Sheet, FAQs pertaining to common questions on benefits	2,000	
		Annual TI forums relating between academic institutions around the province to discuss current activities, reports on local projects, using select material	5,000	
		Develop extension note on key information on quantification of genetic gain by species	3,000	
	<also Specialists>	Organize and conduct tours of appropriate research demonstration plots	2,000	
		Develop extension note on cost/benefit analysis of TI investments	10,000	
		Develop extension note on incorporating genetic gains into timber supply analysis	6,500	
	2. Decision-makers	Genetics and tree breeding workshop to bring people up to date on technology and event	20,000	
		Review current brochures for appropriate content and identify priorities for updating and/or producing new material	10,000	
	Users, Decision-makers, Specialists	Update and classify FGC database to identify target audiences and subcategories to facilitate direct email contact notification of topics pertinent to their interests (e.g. link to FGC website of article to upcoming presentation, or directory of field demonstrations)	3,000	
		Develop series of generic articles for agency newsletters – e.g. Forest Service News		
2.1 Council and its TACs are active, open and operate through a comprehensive gene resource management program	1. Users 3 Specialists	Develop short overviews for submission to trade, professional, agency newsletters		
2.2 Tree Improvement is a cooperative effort, technical information is freely and easily available, extension expertise is accessible, and feedback is welcome		Review FGC Website and develop a strategy to address issues of security, need for FGC stakeholders to access information on Council, its program, and cooperators, need for a central repository and database of TI resources and extension material, linkages to other TI websites	3,000	
		Establish a central repository and database of tree improvement extension material; Develop a list of TI resources		
2.3 Policy developments in tree improvement and information on operational implications	1. Users	Develop extension note on a checklist of legal obligations under the various Provincial Forest Practices acts and regulations with regards to the use of improved seed and some guidance on how to comply with the requirements in the operational world*	15,000	

Message	Audience	Suggested Projects	Estimate \$	Rank
2.4 GE and GMOS are not currently used and genetic diversity is being lost	Users Decision makers	Develop article on tree breeding genetics and genetic diversity to be published in Canadian Silviculture, ABCPP Forum	6,000	
	1. Public	Present slides, speaking notes on tree breeding genetic diversity to local meetings (e.g. Regional Silviculture, CIF, ABCPP Regional Public Affairs Committee, SIERRA)	4,000	
	All	Develop fact sheet on genetic diversity for display at FGC displays, FGC Website	2,500	
		Develop panel for FGC display	3,000	
		Develop a protocol for terminology to decrease use of false labels and inflammatory terms (e.g. tree improvement, genetically improved) and promote consistent use of clear terms to describe forest genetic resource management activities	6,500	
3.1 Information on production processes and costs	1. Specialist	Develop Pollen workshop for orchard personnel	3,000	
	2. Users	Develop a technical report on the reproductive processes of Pw	24,000	
		Select seed workshop on how to order seed, how to acquire seed, new nursery technologies	5,000	
		Develop a technical FAQ on seed availability and ordering	1,000	
3.2 Operational gains attributed to improved reforestation materials	1. Users	Develop a technical report on operational implications of seed orders	1,500	
3.3 Practices to implement timber supply gains	1. Specialists	see projects under 1.2		
4.1 Technical info on TI science	1. Educ. Institutes	Develop lecture information and/or series for educational institutions on some of the technical aspects of tree improvement	10,500	
		Participation in curriculum development committees		
4.2 General information packages	1. Public	Westland TV episode on the provincial forest genetics program	6,000	
		CD Rom for teachers on the benefits of improved reforestation material	14,400	
		Develop a TI curriculum for grades 8, 11 and 12	Not specified	
		ETAC Administration	10,000	
			<b>185,900</b>	