
MINUTES

FGC Interior Technical Advisory Committee (ITAC)

Business Meeting - 19 January 2016

Location: Prestige Inn, Vernon, BC

Attendance: Brian Barber, Mike Brown, Guy Burdikin, Dan Gaudet, Gary Giampa, Hilary Graham, Barry Jaquish, Stephen Joyce, Dave Kolotelo, Dan Livingston, Greg O’Neill, Roger Painter, Alana Phillips, Alan Rasmussen, Todd Schmidt, Margot Spence, Michael Stoehr, Nicholas Ukrainetz, Tia Wagner, Darrell Wood, Jack Woods

Summary of Motions

Motion	Moved By	Status
To accept the budget for Sx, Fdi, Lw as presented at level of \$501K	Painter/Gaudet	CARRIED
To accept the budget for Pli, Pw as presented at level of \$337K	Painter/Kolotelo	CARRIED
To register Orchard 352 in the CP in addition to PG	Ukrainetz/Gaudet	CARRIED
To support orchard expansion for the three northern SPUs for Lodgepole pine with best available material, to seek more information on projected demand, and to delay retirement of first generation orchards	Joyce/Painter	CARRIED

Summary of Action Items

Action	Responsibility	Due Date
Identify FGC Objective #5 (Use of pest resistant seed for reforestation) as an FLNRO goal	Brian Barber?	
Hire support staff for data analysis	?	
Initiate outreach and regional liaison for pest management	?	
Coordinate support / relationships for pest management	?	
Lead discussion on priority processing and report back to TAC	Dave Kolotelo	April 4, 2016
Register Orchard 352 in CP, and investigate as to registering Orchard 352 in BV as well.	Nick Ukrainetz	
Seek more information on projected demand for Pli seed	Jack Woods	

1. Meeting Opening *Stephen Joyce, FLNRO*

The meeting was opened at 09:30 am by Stephen Joyce. The Agenda was accepted as presented. Stephen also thanked the Organizing Committee for their efforts.

2. Strategic Plan Objective #5: Pest Resistance *Jack Woods, FGC*

Jack Woods presented an overview of Objective #5 (“Use of pest resistance seed for reforestation”) in the 2015-20 Strategic Plan. Discussion followed, with the following main points:

- Public Relations: previously there has been a perception that a gain in volume related to a decrease in pest resistance; this objective will reinforce long-term goals of increasing production at same time as enhancing pest resistance. Extension efforts are needed to inform practitioners of the benefits of pest resistance.
- More resources / capacity are needed to be able to accomplish this objective. It would be helpful to have the objective identified as a Ministry goal and/or approved by the Chief Forester, so that resources can be allocated.
- Better to have a target and miss it than to have no target at all.

ACTION: Identify FGC Objective #5 (Use of pest resistant seed for reforestation) as an FLNRO goal (*Brian Barber*)

3. Breeder Presentations: *Sx, Fdi, Lw* *Barry Jaquish, FLNRO*

Total budget for 2015-16 was \$319K. Some site maintenance was deferred due to budget constraints. 2015-16 highlights:

- Douglas-fir: Measurements were taken at numerous 6yr, 25yr, 30yr and 40yr sites. Some funds were set aside for maintaining clone banks and tests at seed orchards. Pest screening for *Armillaria* was attempted at PFC, but there were issues with the inoculation units; switching to screening for *Phellinus* instead.
- Western larch: Finished breeding in Nelson zone (focus on Barnes Creek); most of work being done there now is seed prep. This program is moving ahead very quickly / successfully. Effort was spent on recalculating breeding values for the Larch program.
- Spruce: All crossing finished in Nelson low zone. Funds in future years will need to be allocated to 2nd generation testing. Climate change project (SSTAC): maintained and thinned 4 of the plantations in climatically unique testing sites across BC. Lots of measurements in Prince George zone including realized gain tests.

Proposed budget for 2016-17 is \$501K. Activities primarily involve seedling work across species; some additional funding is for auxiliary field staff.

- Douglas-fir: Same budget request for breeding materials as previous years. Barnes Creek location continues to be valuable. Maintenance is needed on older test sites.
- Western larch: Focus is now on raising progeny crop for 2nd generation testing; we need to find and establish test site locations.
- Spruce: Test sites – have been screening Seed Orchard #211 parents for resistance to weevils; this has been very successful. Want to expand that screening program to southern areas as starting to receive more concerns about weevils from those areas.
- Last year, we collected seeds from Nelson; want to grow out and complete another breeding cycle to enable looking at pest resistance. Money requested to sow and lift. Can screen whole populations within 3-4 years. The 819 Series PG needs to be measured. Also want to measure East Kootenay material and maintain these sites. Have 15 year data but nothing older. Several sites under threat due to road construction etc.; need to complete last series of measurements before closing down test sites.

- Several support projects are also included in the budget, eg: *Phellinus* study, weevil screening at Kalamalka, Coast-Interior Douglas-fir adaptation study. Hire auxiliary staff to develop and look after the blocks.

MOTION (Roger Painter/Dan Gaudet): To accept the budget as presented at level of \$501K. CARRIED

Discussion:

- SE (somatic embryo) tests should be low priority in budget allocation as it's an obsolete method. However, this is also a good idea to finalize this trial and summarize the results.
- The group noted that more capacity in data analysis for long-term data sets is needed. Eg. If we ever want to get these huge long-term data sets analyzed, we're going to need to hire more staff for that purpose. Over \$150,000 of budget is for support for auxiliary workers to help out

ACTION: Hire support staff for data analysis.

4. Breeder Presentations: Pli, Pw, Py Nicholas Ukrainetz, FLNRO

Total budget for 2015-16 was \$298K. Some site maintenance and several F1 forward selections were deferred due to budget constraints. The Nelson F1 forward selections were not completed due to lack of space at nurseries / clone banks. 2015-16 highlights:

- Lodgepole Pine: *Dothistroma* resistance and *Comandra* resistance studies are progressing. MPB resistance screening project (Prince George) has wrapped up.
- White Pine: Finished planting Series 5 F1 sites. ARRT (Age Related Resistance Trial) planted at Similkin.
- Extension: Nick attended 2 conferences and presented papers (IUFRO Tree Biotech Conference (Italy) and IETIC Meeting (Coeur d'Alene)). Nick also provided presentations and workshops (UVic seminar: presenter; UVic workshop: instructor with Michael Stoehr) and attended a Direct Seeding Workshop in Williams Lake.

Proposed budget for 2016-17 is \$501K. Activities primarily involve F1 forward selections, pest resistance research, and wood quality; some of the funding is for auxiliary field staff. Note that no budget is allocated for yellow pine or ponderosa.

- Lodgepole Pine (\$296K): CP F1 maintenance and measurements have already been deferred a couple of years so is a priority. Ongoing disease assessment for *Comandra*. Seed Orchard Realized Genetic Gain (SORGG) and Realized Genetic Gain (RGG) trials are planned. Would be helpful to have pathology testing on RGG sites.
- White Pine (\$41K): SORGG measurement, MGR project, controlled inoculation follow-ups.

MOTION (Roger Painter/Dave Kolotelo): To accept the budget as presented at level of \$337K. CARRIED

Discussion:

- *Elytroderma* has not been a priority for screening, even though extension participants are reporting disease presence in local areas. TIB needs to do more outreach to participants, and liaison with Regionals. Top-down approach might be effective to explain priorities for pest resistance screening/research, particularly as it relates to Objective #5 (Pest Resistance).
- Clone bank expansion: budget does not include land clearing at Skimikin ; however this shouldn't be required.
- Project planning has limited capacity to investigate pest resistance without significant increase in capacity and resources. Requires learning about species-specific pathogens, and modifying methods for different tree species. Timing conflicts with harvest. Would need to hire long-term staff and/or create more partnerships as this project requires expertise so can't be done by auxiliary workers.

ACTION: Initiate outreach / regional liaison for pest management (*assigned to ??*)

ACTION: Coordinate support / relationships for pest management (*assigned to ??*)

Additional discussion: Western Gall Rust

- Nick (and Hilary) presented a process for calculating percent of trees expected to be gall-free at 15 years from planting, for use in gall rust resistance trials. Using these rules, Orchard 352 (Low Gall Rust Resistant) trees were found to be 71% gall-free, while control orchards with no selection for GRR were more likely to be infected. At Orchard 352, 100% of clones are from Central Plateau; moving clones would be contrary to assisted migration.
- Nick identified the following concerns: GW for volume in these GRR stocks = 2.5%, therefore can this orchard be registered as an A-class seedlot, and should deployment in PG be restricted? Also, can we register this orchard for CP and BV?
- Group discussion: General support for registering Orchard 352 in CP; registering in BV needs more analysis. Discussion around best way to present % gall-free rating (deviation from 0?). The group agreed that there should be an Extension document on this topic.

MOTION (Stephen Joyce/Dan Gaudet): To register Orchard 352 in the CP in addition to PG. CARRIED

ACTION: Nick Ukrainetz to register Orchard 352 in CP, and investigate as to registering Orchard 352 in BV as well.

5. TSC Priority Processing: Protocols, Expectations and Ranking *Dave Kolotelo, FLNRO*

The current system for priority processing at TSC is not meeting clients' needs, and is not sustainable/realistic for everyone to get their seeds into SPAR by November. Pinch points are primarily seed sales (many entities depend on this income), and increase in competition for seed sales among some of the entities. While the system is under review, no priority processing requests are being accepted until after April 4, 2016. Since 2011, has been introduction of fee of \$150.00.

Considerations identified by the TSC:

- Biological considerations: condition of material on receipt, pest issues, degree of dormancy
- Amount of seed in inventory by SPU: Reserved vs. Available is important, SPU ranking
- Need of registered seedlots for sowing requests: season of production, nursery allocation schedules. GSE = Germination Seedlot Estimate = better estimate; GSA = Germination Species Average = not ideal. Some seedlots modify billing practices.
- Need of registered seedlots for seed sales is primary driver for requesting priority processing services, enables clients to recover seed production costs.
- Operational considerations and efficiencies: machine breakdown, space efficiency, staffing levels, trials, shipment receipt. Extraction Efficiency = acceptable operational scale seed loss.

Feedback / discussion on how priority processing of seedlots should work:

- Fine-tuning sowing curve to single GC increments is important.
- Capacity building needed? More staffing? Additional shift? Increase size of facility? Should clients pay for additional kilns?
- This is the start of a further discussion on this issue and it will also be brought up at CTAC. Question was brought up whether this item should go out to larger group.

ACTION: Dave Kolotelo to lead further discussion and report back by April 4th, 2016.

6-8. FGC Action Items

Action items from the previous meeting:

Item	Responsibility	Action
6	Stephen	Stocking standards update on seed supply and demand
7	Jack	Review the report “Class A Seed Supply and Demand Profiles for Interior Lodgepole Pine, Spruce, and Douglas-fir See Planning Units – Dec 2015” and provide recommendations to the FGC
8	Stephen	Opportunities to engage with ENGO reps

6. Stocking standards update on seed supply and demand *Stephen Joyce, FLNRO*

The Williams Lake TSA has submitted an Enhanced Stocking Standard request to Revenue Branch / Competition and Innovation Branch with the aim of increased densities and use of A class seed materials. The modelled increased Yields /Timber value along with shorter rotation lengths play a role in timber supply and as such should be compensated for under Specified Operations in the Appraisal Manual. This will have an effect on higher seed use (especially Lodgepole Pine, if that regime is chosen) and more mixed species planting with Douglas-fir. This proposal will be available to all in the Interior Appraisal Manual, not exclusive to the applicant (Williams Lake TSA).

This proposal is presently before Treasury Board with an expected approval in the July Appraisal Manual. Once approved, this proposal will require Licensees to amend their FSP’s to include the Enhanced standards, it is hoped that TSA’s will engage one set of standards to aid in monitoring and assessment.

Bottom line: will create upward and downward pressures on seed production

7. Report on Class A Seed Supply and Demand Profiles *Jack Woods*

The report was prepared for FGC and was actioned for ITAC review in Dec 2015. Jack acknowledged the hard work of staff from West Fraser Timber (Larry Gardner, Jeff Mycock), Canfor (Neil Spendiff, Carl vanderMark), and VSOC. The report objective was to identify SPUs where there is insufficient seed production capability to meet FGC objectives. The report concludes with a recommendation to expand orchards to enhance seed production for lodgepole pine.

Methodology:

- Seed demand data came from licensee forecasts and included 13 management units and 7 TFLs; did not include all MUs, all TFLs, or FFT planting. Includes most interior planting. Projections were estimated for 2 periods: 2013-17 and 2018-27. Forecasts are by division or unit for: AAC, % natural regen, species preference, planting density. Forecast accuracy was verified by comparing 2013-17 forecast to the actual 5yr average. Licensee forecasts were aggregated by SPUs for data analysis.
- Limitations and errors considered: not all MUs were included (although >90%); forester assumptions for AAC changes, species preference, spacing, etc; other planting demand not known (eg Forests For Tomorrow), post-fire planting; climate-based seed transfer impacts not well known.
- Other factors considered: Douglas-fir is hard to get established; Fdi seeds are expensive and not always readily available. With new climate-based seed zones: future deployment area where a particular seed can be grown will change compared to existing ranges.

Group discussion:

- Are these data still relevant given that the climate change forecast has changed since the data review?
- Should the northern seedlots that are not meeting demand be merged or otherwise reorganized? We need more orchards; no point in removing existing orchards.
- Another idea is mixing A and B at planting, which might be an efficient way of using up B stock.

MOTION (Stephen Joyce/Roger Painter): To support orchard expansion for the three northern SPUs for Lodgepole pine with best available material, and to seek more information on projected demand. CARRIED

Discussion on the motion:

- Discussion on expanding with the second generation material as it becomes available and to delay the removal of first generation orchards until seed supplies are sustainably met. Best available material includes 2nd generation, top BV 1st gen, and disease resistant material. This strategy will enable us to grow 2nd gen, increase supply and also reorganizing in response to changes to demand in the future.
- Risk of doing nothing? Retaining first gen orchards is important. Object is to expand capacity, not replace existing capacity as we move from first gen to second gen material.
- East Kootenay: operators concerned about gall rust issues, might be a good time to expand this orchard as upgrades will be needed to address gall rust resistance.

ACTION: Jack Woods to seek more information on projected demand for Pli seed.

8. Opportunities to engage with ENGO reps *Stephen Joyce*

If anyone has ideas/contacts for ENGOs to engage with, please forward to Stephen Joyce.

9. Extension Needs and Delivery: Group brainstorm activity

Comments:

- Involve Timber Supply - engage analysts: how can realized gain information be used in projections of growth? (task for TIB rather than ITAC? – Margot, Nick?). One way to generate funding is to demonstrate production value. Joint tour of realized gain trials and breeding sites would be useful.
- Regular tour of northern offices (Nick, Jason).
- Establishing new demos at Kalamalka, Skimikin and VSOC – (1) A vs. B stock, and (2) demonstrating seed transfer for climate. Can also be done for other sites.
- Reminder that genomics is a tool that supports the breeding – we need to communicate that these sophisticated methods are being used to produce a better tree. Tour of realized gain trials is an effective way to demonstrate the results.
- Most operational foresters have little interest in genomics. They put their trust in the breeders.
- Role of FGC is to project confidence that we are thinking about these issues that operational foresters deal with in the field and that we are using sophisticated methods to address them.
- Breeders like Nick could do more face-to-face interactions. Go to NSC meetings where the operational foresters are giving opinions on these sorts of thing; good opportunity to address misconceptions and lack of knowledge of the science.
- Create videos and put on YouTube. Many operational foresters have never heard of FGC and genomic work. Good way to engage with younger generation of foresters. Take videos on road show.
- OFs want A class seed. Bottom line.
- Impression exists even in Forestry Service that there is no genetic gain; important to explain the benefits of this program.
- Extension: timing is important. Go on tour during sowing season when seeds are more on their mind (or just before sowing season). A bit early to be talking about seeds in Jan. However, important to keep messaging throughout the year. “doing what we are doing will only get us what we got.”
- Reminder that there is already a lot of extension info on the FGC website – but face to face interaction is always better.
- Please send links to any useful videos or other online material to Jack so that he can put it on the FGC website.

10. Wednesday’s ITAC Extension Meeting

No changes noted.

11. ITAC Membership Discussion

Membership updates:

- Guy Burdikin is retiring from West Fraser, but will be staying on ITAC as an independent.
- Todd Schmidt and Tia Wagner are joining ITAC.
- Margot Spence should attend FGC meetings but not necessarily be on this TAC.
- Add pest expertise – pathologist/entomologist?
- Add forest health person / growth and yield person?
- It was noted that it's advantageous to invite people from other groups to TAC meetings, as then they'll reciprocate.

The meeting was adjourned at 4:00 PM.

Next meeting: 23-24 January, 2017, in Vernon.

Minutes prepared by Alana Phillips, FLRNO

APPROVAL OF MINUTES:

These Minutes of the ITAC Business Meeting on 19 January 2016 were approved at the following ITAC Business Meeting on 23 January 2017.

ADDENDUM:

A letter from Vernon Seed Orchard Company (VSOC) dated January 19, 2016, was received by Stephen Joyce on behalf of ITAC on Jan 24, 2016. The letter requests that the FGC review the Guiding Principles Respecting Public and Private Seed Orchards in BC with regard to seed production relating to VSOC. The letter is attached as an appendix to these minutes.



March 17, 2014

Re-submitted January 19, 2016

Dear Forest Genetics Council,
ITAC

Vernon Seed Orchard Company (VSOC) was formed as a joint venture in 1989 with the original partners Northwood Pulp and Timber Ltd, The Pas Lumber Company Ltd, Weldwood of Canada Ltd, West Fraser Mills Ltd and the Ministry of Forests. The mandate of VSOC was to establish orchards to satisfy the partner's seed needs for the northern seed planning units (SPU), specifically, Central Plateau, Prince George and Bulkley Valley. Since its inception, VSOC has been committed to tree improvement in British Columbia and annually provides 40% of A Class seed produced for the interior of the province. Today our ownership includes Canadian Forest Products, West Fraser Mills Ltd and Lakeland Mills Ltd.

In the last decade, additional pine orchard sites were established throughout the Okanagan to fulfill the Forest Genetic Councils (FGC) business plan goals and projected seed needs. As tree improvement moves forward and new orchards are being established and replaced, the importance of the Guiding Principles Respecting Public and Private Seed Orchard Management in BC should be recognized;

- Section 6 of the principles states '*Orchard redundancies are to be avoided through FGC discussion and stakeholder cooperation*', with anticipated coming reduction in the annual allowable cut and the need for seed production to be efficient and cost effective.
 - **Request: FGC give consideration to committing all new or second generation orchards not be duplicated.**

- Section 4 of the Guiding Principles '*FGC of BC coordinates seed production in the province...they can also ascertain which party or parties are best positioned to establish, maintain or expand seed production capacity*'.
 - **Request: FGC continue to give VSOC genetic material scion copies for second generation selections to propagate at our facility. We feel we are strongly suited and aligned with our internal business plan, as well as our history and success, for this consideration.**



- **VSOC has seen it's commitment to purchase property in Quesnel for pine seed production succeed with increased seed yields and projected optimism moving forward.**
- Section 5 of the Guiding Principles '*MFR and Private-sector to provide notice of significant orchard changes in advance*' and Section 3 '*Private ownership and management of seed orchards is to be encouraged*',
- **Request: FGC recognize and consider VSOC's formal request for the second generation SPU's, #12 Prince George Pine, #17 Bulkley Valley Pine and #18 Central Plateau Pine.**

We would sincerely ask that the FGC review the Guiding Principles Respecting Public and Private Seed Orchards in BC document prepared for the provincial Chief Forester, in regards to our request.

We look forward to the long term sustainability of our business and our continued contribution to the tree improvement program in British Columbia.

Sincerely,

Dan Gaudet
Orchard Manager
Vernon Seed Orchard Company

Cc: Steven Joyce/ITAC Chair, Mark Tamas/FGC Chair, Brian Barber/FGC chair