

## Minutes of the FGC Pest Management Subcommittee

Monday, Jan. 31, 2005: 1:00 – 4:00 PM

Telephone conference

**Present:** Robb Bennett (Chair), BC MoF  
Dan Gaudet, Vernon Seed Orchard Company  
Dave Kolotelo, BC MoF  
Ward Strong, BC MoF  
Staffan Lindgren, UNBC  
Jack Woods, SelectSeed  
**Regrets:** Dave Reid, BC MoF  
Tim Crowder, Timberwest Forest Company  
Roger Painter, BC MoF  
**Vacant:**

Coast pest management  
Interior industry orchards  
Nursery and seed pest management  
Interior pest management  
University pest management research  
Forest Genetics Council  
Ministry Orchards  
Coast industry orchards  
FGC (guest)  
Canadian Forest Service

### ACTIONS:

**Kolotelo**      **Monitor adequacy of base funding for fungal assays**  
**Bennett**      **Ensure adherence by 2004/05 *Leptoglossus* project principle investigator to 2004/05 final reporting procedures. Inform principle investigator of ongoing concerns with project progress. Monitor 2005/06 initiatives by principle investigator.**

**Bennett**      **Continue development of business plan including detailed pest loss estimates.**

**Kolotelo**      **Input to business plan regarding *Fusarium* work.**  
**Bennett**      **Organize Spring 2005 field-based meeting.**  
**Bennett**      **Discuss plans for end product of *Dioryctria* pheromone research with UCRiverside principle investigator.**

**Kolotelo**      **Monitor sampling procedures for *Fusarium* project.**  
**Bennett**      **Clarification of sterility protocols for *Fusarium* project.**  
**Bennett**      **Request revisions to pesticides project budget.**  
**Bennett**      **Prepare 2005/06 projects funding request.**  
**Lindgren et al.** **Develop “University Model” and other options for delivery of program research needs.**

CONVENED at ~ 1:00 PM.

### AGENDA and PREVIOUS MEETING MINUTES.

Agenda approved after addition of two items (spring field meeting (Bennett), projects feedback loop (Kolotelo). Action items from Nov. 22, 2004 Minutes reviewed as follows:

- Fungal assay base funding issue (Kolotelo) – **carry forward to Fall 2005.**
- Development of *Fusarium* proposal (Kolotelo) – **done.** Proposal submitted; see below.
- *Leptoglossus* project work shortfall discussion (Bennett) – **done.** Lab director (Dr. Gerhard Gries, Simon Fraser University, Biological Sciences) had assumed project was proceeding as best it could and thought that the lack of natural populations of insects was the biggest obstacle to progress in 2004. Gries was unaware of our lack of confidence in the technician assigned to this work and has discussed our specific concerns (forwarded by e-mail and telephone to Gries from Bennett). Gries agrees that best approach is to assign a graduate student to the project. Gries is currently

negotiating to take on an undergraduate NSERC-funded student to pursue this project in 2005. No proposal will be submitted by Gries for 2005/06 funding. **Bennett will review progress and provide report at Fall 2005 meeting. Bennett will inform Gries of this “probationary” status and will ensure that 2004/05 final report, including required level of funding accounting, is submitted.**

- Pest research needs presentation to FGC (Bennett) – **done**. Strong made 2 presentations to FGC in 2004: initial presentation specifically regarding “*Dioryctria* problem”, second outlining broader issue of delivery of entire provincial seed and cone pest management program. This has resulted in FGC request for this subcommittee to come up with a proposal for reorganizing pest management (see attached document and discussion below).
- Business plan spreadsheet development (Bennett) – **ongoing**. No progress since last meeting.
- *Fusarium* input to business plan (Kolotelo) – **ongoing**.
- Update Call for Proposals (Bennett) – **done**.
- Organize Spring 2005 field meeting (Bennett) – **carry forward**.

## PROPOSALS REVIEW

1. **Fir coneworm.** 2 proposals received for final year of work initiated in 2003/04. Gary Grant (Canadian Forest Service) - \$4,725: Identification of an effective sex pheromone lure for the fir coneworm, *Dioryctria abietivorella*, and demonstration of its efficacy in traps for monitoring coneworm populations in BC seed orchards. Jocelyn Millar (University of California, Riverside) - \$24,839: Identification of an effective sex pheromone lure for the fir coneworm, *Dioryctria abietivorella*, and demonstration of its efficacy in seed orchards. **Discussion.** General agreement among subcommittee members that excellent progress has been made and that funding for these complementary projects should not be interrupted. **Decision: Full funding for both proposals. Bennett will discuss with Millar his intentions with respect to business implications of “end product.”**
2. ***Fusarium*.** New proposal, modified from one rejected in 2004/05 review. Michael Peterson (Applied Forest Science Limited) - \$7,262.40: Reducing fungal infestations on A-Class seed to lower seedling mortality attributable to seed-borne *Fusarium* spp: Determining infection routes for seed-borne *Fusarium* spp. **Discussion.** General agreement among subcommittee members that this proposal is a great improvement upon previous submission from this investigator. Importance of determining infection route (systemic or surface contamination?) is recognized. **Decision: Full funding for this proposal. Kolotelo will ensure ISDA standards are followed in selection of seed samples for testing. Bennett will ask Peterson for clarification of techniques for ensuring**
3. **Conifer seed bug.** New proposal from a new proponent. Dezene Huber (University of Northern BC) - \$45,106.07: Identification, analysis, and isolation of P450 genes and their expression in feeding *Leptoglossus occidentalis*. **Discussion.** General agreement that, although Huber is an excellent worker with great potential to benefit our program, the proposed work is too preliminary in nature for our purposes and has limited chance for success or to result in beneficial applications. **Decision: No funding but Bennett will send a response to Huber encouraging future proposals from him.**

4. **Seed chalcids.** New proposal from a new proponent. Patrick von Aderkas (University of Victoria) - \$9,000.00: Protein markers of *Megastigmus* parasitism of Douglas-fir seed. **Discussion.** Although deliverables/outputs are unclear in the proposal, there was general agreement that the potential for orchard usage of the research results is very limited. Seed wasps are an important pest management issue; the von Aderkas lab has great potential to aid our efforts in this area. **Decision. No funding but Bennett will encourage future proposals.**
5. **Pesticides.** New proposal from a new proponent. Patti Brown (Canadian Forest Products) - \$36,996.00: Tests of systemic insecticides for cone and seed insect control. **Discussion.** Minor problems noted with budget and some procedures. Otherwise, this proposal addresses the biggest current concern of orchard managers. **Decision. Full funding for this proposal. Bennett will ask proponent to adjust budget as discussed (remove costs associated with second spray (unnecessary) in western redcedar trials, possible reduction of cone extraction costs) and submit revised funding request.**

#### PROPOSALS RANKING

Discussion centred on relative merits of the 2 *Dioryctria* proposals compared with pesticides proposal. The latter is seen as more immediately and directly relevant to conifer seed production; the *Dioryctria* proposals are important to the culmination of the research effort leading to development of a successful management plan for a very important pest. Research on *Dioryctria* is time-dependent – it is important to get this work done while population levels are high enough to allow adequate data collection. Pesticides trials are not time-dependent. **Decision. For subcommittee purposes, proposals are ranked as indicated in the table below. Bennett will prepare budget request by Feb. 23 for presentation to Forest Genetics Council.**

Proposal	\$\$ request	Recommend	Rank	Notes
<i>Dioryctria</i> – Grant	4,725.00	4,725.00	1	Time dependent
<i>Dioryctria</i> – Millar	24,839.00	24,839.00	1	Time dependent, check business implications
Pesticides – Brown	36,996.00	36,996.00	2	Adjust budget
<i>Fusarium</i> – Peterson	7,262.40	7,262.40	3	Monitor experimental standards
<i>Leptoglossus</i> – Huber	45,106.07	0.00	nr	Encourage future proposals
<i>Megastigmus</i> – von Aderkas	9,000.00	0.00	nr	Encourage future proposals
<b>Totals</b>	<b>127,928.47</b>	<b>73,822.40</b>		

#### RESPONSE TO FOREST GENETICS COUNCIL REQUEST

See “Pest research needs presentation to FGC” above under discussion of previous meeting action items and attached document.

**Discussion:** Desired model for delivery of pest management program has 3 components:

- Operations (regular monitoring, decision-making, and control activities). Staff at individual seed orchards responsible for regular on-site activities. Assistance from Tree Improvement Branch pest management staff on “on-call” basis. May need to upgrade OTIP 340 and 350 categories to ease funding for specific activities.
- Operational development, extension, training. Tree Improvement Branch pest management staff efforts concentrated in this area: Appropriate pest management training for orchard staff, collaboration with researchers, translation of research into useful tools, etc. Continued access to OTIP and PMP funds as necessary.
- Research (basic and applied). This component is the biggest unresolved problem and the focus of current discussion.

Subcommittee agrees that there are no major problems foreseen with desired delivery of operational components; the big problem remains how best to deliver research component. FGC recognizes the overall issue of a crisis in delivery of conifer cone and seed pest management in British Columbia, desires to see the issue resolved, and is willing to aid the process.

Current discussion focused on developing the “University Model” for delivery of research component. Two options were discussed:

- Use Gene Conservation Centre as model. The GCC is housed at UBC and funded by the Forest Investment Account through a contribution agreement between UBC and FGC. UBC provides facilities and faculty member (Sally Aitken) to run centre; FIA (through FGC) provides funds for operations, graduate students, post-docs, etc. GCC functions as a stand-alone program (similar to PMP and OTIP) within FGC hierarchy with lead sitting as member of FGC.
- “Buy-out” model. Under this relatively inexpensive model, FIA funds would be used to “buy-out” a university faculty researcher from teaching responsibilities, freeing up that person’s time to devote to seed and cone pest management research.

Regardless of option(s) pursued, there will likely be a continuing problem with adequate delivery of pure (versus applied) research needs. **Lindgren et al. will develop options for further discussion at next meeting.**

Further discussion on development of response to the FGC request was carried forward to a further teleconference scheduled for the afternoon of Thursday, 4 February 2005.

#### **OTHER NEW BUSINESS.**

Discussion on spring field meeting and projects feedback loop carried forward to next meeting

#### **ADJOURN.**

Meeting was terminated at 4:00 PM by expiration of teleconference booking.

Minutes compiled by R. Bennett, 7 February 2005.

The following document received from Forest Genetics Council by Bennett, 17 Dec. 2005.

## FGC request to the Pest Management Program (PMP) Steering Committee

Following the last two PMP presentations, FGC accepts that:

- There is a substantial financial loss, biological risk and risk to FGC goals associated with seed orchard pests,
- Pest numbers, diversity, scale and significance are increasing with time and/or number of seed orchards,
- Resources dedicated to pest management are inadequate to manage the risk, and
- the 'model' proposed by the PMP in the December gap analysis (identifying a major gap in delivery of research, and a smaller but still important gap in delivery of operational pest management activities) is an appropriate framework upon which to propose solutions.

Therefore, the FGC wants the PMP to prepare a proposal for the March 2005 FGC meeting that addresses the following:

- The impact of major seed orchard pests,
- The need for **Research (basic and applied), Operational Development, Operational delivery, and Extension.**
- Suggested organizational structures for the delivery of all program components,
- Performance indicators and a clear monitoring/reporting system,

The proposal should incorporate innovative ways of addressing the program deficiencies which can include requests for long-term (5-year) budget commitments; formalizing or creating new working relationships with academia; capacity building in CFS and MoF (TIB or Research, and dedication of existing program elements - eg. WBS #350) to proposed solutions.

FGC would like to be presented with Options - we suggest a Bronze, Silver and Gold level of resources wherein gaps addressed and probability of success grows with funding level. Although detailed work plans are expected by FGC following a decision on resources, these are not expected for the March presentation. Instead the focus should be on risk assessment (biological, financial, goal achievement), the integration of program components from research to operational delivery, organizational models, and the costs and impacts of planned mitigation strategies.