Minutes of PMTAC Sub-Committee Meeting to Discuss the 2011 Pesticide Trial Proposal
Thursday, 17 February 2011: 2:00 pm PST

Present:	Jim Corrigan,	BC MoFML – Pest management extension
	Dan Gaudet,	Vernon Seed Orchard Company – Interior industry orchards
	Mario Lanthier	CropHealth Advising & Research – IPM Consultant
	Ward Strong,	BC MoFML – Pest management research

Concerning the PMTAC-supported trials done in 2009 and 2010, the lack of 'clean,' statistically-significant differences among treatments is a problem with using the results of these trials to support new registrations with the PMRA. Despite this, these trials did provide some insights into which pesticides seemed to work and which ones did not appear to suppress targeted pest populations. One major problem with previous trials was the very high sample-to-sample variability for seed counts and pest levels seen across the results of these trials. Another was the lack of pest effects on seed counts done at season's end for untreated control cones. It is difficult to evaluate the amount of improvement in performance of a particular compound if few-no seed losses were recorded on the untreated controls. The lack of damage to control cones was not a problem with the evaluation of the mid-season cone cuts, as untreated cones showed an abundance of pest damage when examined in the middle of a season.

It was stressed that we need to find ways to design future trials in a manner that would minimize spurious variation in the experimental results. It was suggested that we choose the candidate pest/host combinations carefully so that the pest load would be consistent across treatments, and that the amount of pest activity per cone would be sufficient for there to be differences between control (untreated) cones and those treated with the candidate pesticides.

The implication of these suggestions are that we must move beyond wide-scale 'screening' trials, in which large numbers of pesticide formulations are tested against a suite of pest insects, in favour of much more focused trials. In future experiments, the pest/host combination must be chosen very carefully to be:

A. Occurring at levels that will result in a high proportion of the cones being subject to attack by the pest species under study.
B. Occurring in such a way that potential damage is distributed relatively evenly among all cones chosen to be in the experiment.
C. The pest/host combination must be of real practical interest to the growers. This needs to be done because PMRA approved registrations are pest/host specific. There is little point in trying to register a compound against a pest species that is currently under control through sustainable and environmentally responsible measures or is not a really significant pest challenge to our operations.

With these constraints in mind, we set about discussing pest/host/pesticide combinations that would be most profitably examined in this year's trials.

The sub-Committee questioned the value of continuing any pesticide trials on spruce in 2011. With the possible exception of spruce cone maggot (*Strobilomyia neanthracina*) at Skimikin, we could not think of an important pest species on Interior spruce that satisfied all of the three criteria listed above. The spruce cone axis midge (*Kaltenbachiola rachiphaga*) was thought to be the closest candidate species that could be worked on in the Kalamalka Forestry Centre research plots. However, we felt that there were two other candidate pest/host systems that we would nominate for trials before considering a trial against Kaltenbachiola (or any other pest species) on spruce.

We leave discussion of potential trials on spruce to be continued in the PMTAC teleconference on Monday. In particular, we welcome suggestions for pest species in Interior or Coastal spruce orchards that would satisfy the criteria listed above as good candidate targets for pesticide trials in future years.

Both of the pest/host systems that were felt to be better 'fits' for our criteria for success occur on Douglas-fir.

The Douglas-fir cone gall midge (*Contarinia oregonensis*) is believed to represent a serious ongoing threat to production in Coastal Douglas-fir seed orchards. Population levels of this species are thought to be high in the

Douglas-fir research plots located at the Kalamalka Forestry Centre. A trial against this species would be a 'stand alone' experiment, targeted specifically for Contarinia with respect to the timing of the trial and the control objectives.

Provisionally, a 2011 trial would test the following pesticides:

Matador – synthetic pyrethroid, contact and ingestion activity, non-systemic
Movento – spirotetramat, systemic activity, limited spectrum (for Homopterans)
Safari – neonicotinoid, contact & systemic activity
Dimethoate – organo-phosphate, contact & systemic activity (as the 'status quo' control measure)

A series of sprays (likely three) would be done at/around the receptivity period for pollination of Douglas-fir, which is also the flight & oviposition period for the adult midges.

The Fir coneworm (*Dioryctria abietivorella*) is the most serious cone and seed pest of Douglas-fir in Interior seed orchards. Control measures (Dimethoate sprays) must be done annually to keep damage below serious (25-50%) loss thresholds.

Provisionally, a 2011 trial would test the following pesticides:

Delegate – spinosyn, contact and ingestion activity, some systemic activity
Matador – synthetic pyrethroid, contact and ingestion activity, non-systemic
Safari – neonicotinoid, contact & systemic activity
Dimethoate – organo-phosphate, contact & systemic activity (as the 'status quo' control measure)

The trials would be targeted to coincide with the onset of Dioryctria oviposition on the cones. Note that this trial is a stand-alone initiative that would be conducted at different times and on different ramets than those used in the Contarinia trial.

Finally, the PMRA will be sponsoring **trials for Matador versus the Western conifer seed bug (*Leptoglossus occidentalis*)** in 2011. The majority of the expenses associated with this trial will be covered by the PMRA.

The sub-Committee participants look forward to addressing any questions or concerns arising from yesterday's meeting during the PMTAC teleconference on Monday.

ADJOURN. Meeting adjourned at 3:50 pm PST.

Minutes compiled by Jim Corrigan, 18 February 2011.