

To

Date

Thursday January 22, 2004

2 pages from Mario Lanthier

EXTENSION MEETING ON CHERRY FRUIT FLY RESEARCH

This meeting was organized by the Okanagan – Kootenay Cherry Growers Association and held on November 2 in Kelowna. About 60 people attended, mostly cherry growers and farm advisors. The same presentations were repeated the next day at the annual meeting of the Entomological Society of Canada, a more formal “scientific” program. Insects discussed were cherry fruit fly, apple maggot and blueberry maggot.

Cherry fruit fly in Germany and Europe.

Heidrun Vogt, BBA Institute Plant Protection

- *Rhagoletis cerasi* on sweet cherry and Lonicera. Tolerance is 2% damage.
- Chemical control:
 - Pesticide of choice: dimethoate (Cygon or Lagon). Will be removed from market 2004;
 - Growers now using acetamiprid (registered last year in Canada as Assail);
 - Spinosad (Success) works well but requires multiple applications, thus expensive.
 - Research results with yellow sticky traps (same traps are used in Okanagan):
 - Higher catches when installing traps in a cross pattern (2 traps placed perpendicular);
 - 8 traps per tree (cross-pattern traps) result in 50 to 60% capture of flying adults;
 - Yellow and red combination is better than yellow alone.
 - Non-chemical:
 - Netting over the tree (small farms), mass trapping with yellow traps (organic farms).
 - Future approach: possibly target the adults as they emerge from the soil.

Ecology, detection, and management in Washington.

Wee Yee, USDA, Yakima.

- Insect almost absent in commercial orchards. Very high in residential trees.
- Research results:
 - Significant reduction in number of infested fruit when using only red sticky spheres;
 - 2002: control 0.322 larvae per fruit, 1 red sphere per tree 0.251, 4 red spheres 0.102;

- 2003: control 0.272 larvae per fruit, 4 red spheres 0.010 larvae per fruit.
- Nematode *Steinernoma c.* gave 86% mortality in soil (control 12%), residual 6 days.

New management strategies in Michigan.

Larry Gut, Michigan State University.

- Black cherry fruit fly and Eastern cherry fly. Tolerance is zero damage.
- Chemical control: applied against adults before egg-laying.
- Acetamiprid (Assail in Canada) 2 sprays at high rate is better than untreated;
- Provado (Admire in Canada) 2 sprays is better than untreated.
 - Research results with sticky traps:
 - Trap height: significantly more captures when traps are high in the canopy;
 - Rebell trap is better than a red trap with ammonium carbonate is better than Pherocon;
 - Better traps will capture emerging adults earlier in the season, thus better spray timing.
 - Research with new methods:
 - Attract-and-kill is spinosad (Success in Canada) mixed with a protein bait (for smell);
 - Untreated 35% damage, Attract-and-kill 10% damage, best still Provado or Guthion.
 - Spinosad in the lab: effective kill only after many days of adults feeding on the product.

Recent developments with organic methods.

Tim Smith, Washington State University.

- Most control failures occur in the 10 days before harvest, and during harvest.
- Non-chemical control:
 - Post-harvest is critical for the survival of this pest on a farm or in a back-yard;
 - Few flies complete their life cycle on early or mid-season varieties if all fruit is picked;
 - To crash population on a small site, remove all fruit after harvest before larva emerge.
 - Chemical control: "we kill this pest with great malice".
 - Fruit maturity is not a factor for spray timing, females can lay eggs in green hard fruit;
 - Knock-down products (Malathion, Success): kill adults on contact soon after spraying;
 - Residual products (Sevin, Admire, Cygon): kill adults after feeding on treated surface;
 - Dimethoate controls larvae inside the fruit, most effective as dilute spray after harvest.
 - Research with "organic" spray:
 - New experimental product: bait GF-120NF, mixture of sugar, protein, 0.02% spinosad;
 - 6 sites with very high population, weekly application, sample 200 to 700 fruit per site;
 - Results: control had 28 larvae per fruit, GF-120NF had 0 larvae.

Alternative controls for the B.C. Interior.

Howard Thistlewood, Agriculture Canada.

- Examined 35 sites Salmon Arm to US border, found 8 species in wild trees.
- Research results with sticky traps:
 - Best results when traps higher in canopy and “newer” design (red colour, very large);
 - Trap height: 0.3 m from ground 768 adults, 2 m high 2,325 adults, 4 m high 16 adults;
 - Trap type: Frutoct (large red colour with lure) 230, Rebell 90, Pherotech 66, cylinder 8.