OKANAGAN-KOOTENAY
STERILE INSECT RELEASE PROGRAM

Codling Moth Management in Organic Orchards

Successful control of codling moth under organic production systems requires a thorough understanding of the moth's life cycle and behaviour, awareness of codling moth levels, and application of management practices to supplement the OKSIR Program area-wide control (sterile moth release or mating disruption). This factsheet describes the recommended management practices conventional as well as organic growers can apply to reduce and keep codling moth levels below damaging levels.

1. **Ensure all fruit trees are properly pruned, thinned and sprayable**
Trees should be pruned to open up the canopy for better sunlight and spray penetration, and to improve detection of codling moth infested fruit from the ground. If host trees need to be sprayed (see 4 below), they must be accessible for spraying on all sides. Inspect trees in yards, along fence lines, adjacent to buildings, steep banks and roads, etc. to ensure they are accessible on all sides. If they are not, they must be removed. If you are unsure about spray coverage, contact the OKSIR about using water-sensitive paper to detect gaps in tree coverage. Fruit should also be thinned properly as codling moth larvae, just like leafrollers and bud moth, like to enter fruit near where they touch. Thinned fruit also improves detection of codling moth infested fruit, coverage of the fruit by sprays, fruit sizing and colouring.

2. **Remove and destroy all codling moth infested fruit**
Although OKSIR Program field staff visually inspect all orchards at least once during July and August for codling moth damaged fruit, it is extremely important that <u>the manager also conduct visual inspections to find and destroy infested fruit</u> This involves walking the orchard at least once a week beginning early July for 6-8 weeks and looking at the fruit for signs codling moth attack (stings, exit holes, etc.) and disposing of the fruit by crushing, burying or submerging in a barrel of soapy water for at least 2-3 weeks. This activity should become a regular management practice.

3. **Follow weekly codling moth trap counts**
Check weekly trap counts to see if codling moth levels have reached action thresholds. Counts are found on the bottom of the trap, the SIR website (www.OKSIR.org) and in your weekly e-mails. The website posts accumulated degree days for all areas of the Program plus a chart that describes the degree day totals at which codling moth life stages or events appear. Use this information to determine when codling moths are beginning to emerge in your area.

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4. **Apply additional control products if and when required.**
If the codling moth levels in your orchard reach an action threshold recommended by the OKSIR Program staff, apply either Entrust™ or a live virus product such as Virosoft CP4™ or Cyd-X™ following label instructions as soon as possible, weather permitting. Entrust™ kills by contact and by eating. The virus products must be applied weekly and be eaten by the larvae in order to be killed, so thorough coverage of the fruit is essential. However, all these products only suppress codling moth. That is, they kill less than 90% of the larvae.

5. **Keep orchard free of wood debris**
Besides pome fruit trees, codling moth larvae will make cocoons in which to change into moths on any kind of wood under or near the trees. Therefore do not leave any large prunings, wooden ladders, bins, scrap lumber and firewood in the orchard. Destroy all wood from host trees removed in order to replant to newer varieties by chipping or burning. Do not bring host firewood onto the property unless it was cut more than 2 years ago, and do not store it within 10 metres of fruit trees.

For more information on growing pome fruit using organic production methods, consult the Organic Tree Fruit Production section of the latest edition of the Tree Fruit Production Guide available from the BC Fruit Growers` Association. If you have any questions or require any further information, please contact your packinghouse field person or the OKSIR Program (1-800-363-6684).

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