

Pest Bulletin

May 2011



Flying Pests in Cranberries

There are many pests in cranberry but three of note here in BC are Sparganothis fruitworm (*Sparganothis sulfureana*), Blackheaded fireworm (*Rhopobota naevana*) and Cranberry tipworm (*Dasineura oxycoccana*). These are present on cranberry farms in BC in varying levels. Sparganothis fruitworm (SFW) and Blackheaded fireworm (BHFw) are slightly less damaging to fruit as they initially prefer to feed on the new tissue of the growing tips of uprights and runners. They make "tents" (feeding shelters) of the tips. Second and third generations of these two species also feed on foliage but the Sparganothis fruitworm prefers to feed on and within the cranberries.

Cranberry tipworm (*Dasineura oxycoccana*) is increasing in most cranberry-growing regions. This tiny midge lays its eggs in upright tips where the instars feed and eventually kill the growing tips. Secondary laterals will grow if damage is early enough, but later larval generations will kill next year's fruit buds.

Monitoring early in the spring will help reduce crop loss due to these and other pests. The main objectives of properly timed pest controls are to prevent defoliation and loss of flower buds in spring; to safeguard pollinators during bloom; to prevent damage to fruit in summer; to

prevent damage to roots throughout the growing season; and to minimize pesticide residues in the environment.

Pest control in cranberries is combination of chemical, cultural, biological and behavioural approaches. Consistent use of integrated pest management (IPM) procedures such as weekly or bi-weekly monitoring will determine which controls are the most appropriate. If you do not do your own monitoring for pests, make sure you hire a reputable consultant to monitor for you. Monitoring is vital to prevent crop loss.



Moth of Blackheaded fireworm



Cranberry tipworm

Blackheaded Fireworm

Rhopobota naevana (Hlön.)

- Overwinters as flat, yellowish eggs on the underside of leaves.
- Larvae are greenish or pale yellow with shiny black heads.
- Generation 1 larvae hatch in late April.
- Small brown moths hatch in late May through June and lay eggs.
- 2nd and 3rd generation larvae may enter and feed on berries.
- Larvae tend to be in the same locations year after year and are greatest around the edges.

Use one of the following insecticides:

- Confirm 240F, Diazinon 500E, Diazinon 50W, Malathion 85EC, Sevin XLR, Orthene 75 SP

WARNING: Some of these products are toxic to bees. Please check the labels.

Cranberry Tipworm

Dasineura oxycoccana (Johnson)

- Adult is a tiny (fly) midge that lays single eggs in upright tips.
- 3 instars from a clear 0.5mm maggot to 1.5-2 mm pink to orange colour.
- Injured growing tips from feeding die and turn dark brown. Leaves become cupped and slightly puckered. Early in the season, secondary lateral shoots will grow but damage by late-season tipworm can kill fruit buds set for the following year and reduce next year's yield.
- Use chemical control when 30% or more of the samples contain tipworm eggs or larvae.

Use the following insecticide:

- Diazinon 500E



Sparganothis Fruitworm

Sparganothis sulfureana

- Yellow-headed, greenish yellow caterpillar (larvae) that feed on and in cranberry fruit.
- Young larvae have dark heads and can be confused with Blackheaded fireworm.
- Adults are distinctive yellow moths about 1 cm with a cross pattern on their folded wings. 2nd and 3rd generation larvae prefer to feed on and within cranberries.
- Alternate hosts include highbush blueberry and yellow loosestrife, *Lysimachia terrestris*.
- Only apply chemical controls if necessary to preserve the natural enemies. If warranted, use Diazinon 500E at the same rate as for Blackheaded fireworm.



Cranberry fruitworm

Acrobasis vaccinii (Riley)

Though not yet found on farms in BC, monitoring for this pest should already be a part of production.

- Potentially serious pest as it feeds only on the berries.
- The strong flying moths are dark brown with noticeable white band on the forewing.
- Larvae remain inside berry eating and filling the berry with frass. Larvae may eat several berries.

New Registrations in Cranberries

Dow AgroSciences



Intrepid 240F

For control of Cranberry fruitworm, Sparganothis fruitworm and Blackheaded fireworm. For spring (overwintering generation) apply 1-2 applications during flower bud development depending on infestation level. For the summer generation apply 1st application during peak egg laying to early egg hatch. Reapply in 10-18 days. Read the label for rates for the target pest whether applied by ground or chemigation. PHI of 14 days. Maximum 2 applications per year.

Altacor

For control of Cranberry fruitworm, Sparganothis fruitworm and Blackheaded fireworm. Use when thresholds are reached. Thorough coverage essential for optimum control. Read label for rates for ground application and instructions and rates for chemigation. Maximum 2-3 applications per season with minimum 7 days between applications. PHI of 1 day. *Altacor is currently not registered in the USA. Confirm with your processor if they allow this product before you apply.*

Check the current Berry Production Guide or product labels which can be found on the TerraLink website for application rates and instructions.

Cranberry pests and controls vary from region to region. While reflooding and sanding work in some areas to control pests, each area has its own unique cropping system. Knowledge of insect life cycles is key to effectively control pests. With some pests becoming resistant to organophosphate insecticides, the development of alternative insecticides such as IGR's (insect growth regulators), microbials and derivatives and some neonicotinoids, pose less risk to the user and the environment. Changes to cultural, biological and behavioural pest control techniques are becoming more important.

Contact your TerraLink Representative to learn more about your pest control options.

References:

- Fitzpatrick, Sheila M. (2009) 'Cranberry Insects: Ecology and Management', Encyclopedia of Pest Management, 1: 1, 1-6
- Berry Production Guide 2009-2010, *Beneficial Management Practices for Berry Growers in British Columbia*, pgs 107 – 122.
- BC Cranberry Growers Association – *Integrated Pest Management for Cranberries in Western Canada*
- <http://www.bccranberrygrowers.com/ipm/index.htm>