Cranberry IPM Bulletin

Prepared by: E.S. Cropconsult Ltd. *Volume 6 Issue No. 6* *August 2nd, 2022*

Please note: The following recommendations are based on field monitoring data from cranberry fields in all cranberry growing regions in British Columbia. Not all recommendations listed in this newsletter are applicable to all fields. Each cranberry field has unique insects and diseases. Field monitoring is strongly recommended before making any pest management decisions.

Plant Development

Green berries are progressing nicely in this recent heatwave. Most fields are in all stages of fruit set from pea sized to green berry. New budset is starting to develop in some fields depending on the variety; early varieties have substantial amounts of budset present.

Types of insect berry damage

Identifying what pest caused damage is important to plan for future insecticide sprays. Damaged berries can all look very similar but there are some slight differentiating features to the damage each pest causes.

Fireworm

Fireworm damaged berries can change shape as time progresses. In the early stages, fruit will be slightly shrivelled and progresses to completely shrivelled or rotten. Check the surrounding areas in the field for dead brown skeletonized leaves that fall apart to the touch (burnout), moths flying in the area, and old empty tents.


Fireworm larva


Fireworm berry damage

Sparganothis fruitworm

Sparganothis damaged fruits tend to keep their shape and firmness. This is due to the sparganothis mostly feeding on the seeds and leaving the rest of the fruit intact. Some surrounding fruits in the area will have small chewing marks on the exterior of the berry. There won't be any vine damage like you would see with fireworm.


Sparganothis berry damage

Cranberry fruitworm

Fruitworm damaged berries will be completely hollowed out and filled with frass. There will be a large clear exit hole on the side of the fruit and potentially other damaged fruits attached. Cranberry fruitworm will not damage the surrounding uprights. Check inside berries for the presence of green fruitworm larvae.


Cranberry fruitworm berry damage

Nematodes for girdler control

Girdler moth flight peaked on most farms in the last two weeks. Nematodes can be applied two to three weeks after peak flight to target young girdler larvae in the soil. Applying nematodes can be challenging especially in August during a heat wave. Ideally nematodes would be applied on a cool overcast day; irrigating prior to application helps with nematode mobility early on, it is crucial to continue watering daily for the following two – three weeks after application this keeps nematodes alive and moving in the soil.


Girdler vine feeding

Most growers apply nematodes to the entire field however if there are problem areas with prior girdler infestation applications by helicopter or backpack sprayers can target heavier rates on these hotspots. Best management practices would be to get on a nematode and sanding program, as well as keeping grassy weeds to a minimum in and around fields during moth flight to take away future habitats.

Where pests are at…	
Fireworm	Second generation hatch is now over. Watch for damage and moth flight. We may see a third generation hatch in the upcoming weeks.
Sparganothis	Moths are still being caught. Watch for newly hatched larvae and berry damage.
Tipworm	Timing is right to control for tipworm, monitor larval stages for maximum efficacy.
Cranberry Fruitworm	Damaged berries and larvae are now present in fields with history of this pest. Moths are still flying this week, although catches have decreased.

Precipitation

Rainfall during the month of July was higher than in previous years. We are substantially ahead of last year with the total rainfall, most areas are around 200mm more than 2021.

Region	Total Rainfall (mm) Jan 1st, 2022- August 1st, 2022	Total Rainfall (mm) Jan 1st, 2021- August 1st , 2021	Total Rainfall (mm) July 1st, 2022- July 31st, 2022	Total Rainfall (mm) July 1st, 2021- July 31st, 2021
Pitt Meadows	945 mm	695 mm	26 mm	0 mm
Richmond	620 mm	402 mm	29 mm	0 mm
Abbotsford	772 mm	556 mm	6 mm	0 mm
Comox Airport	635 mm	471 mm	35 mm	1 mm

Growing Degree Days

Temperatures are still much cooler than the past two years and below the 30 year average despite the recent heat wave.

During heat waves, monitor for signs of stress to the fruits and vines. Keep in mind sun scalding will always occur when fruit is sitting on the top of the canopy, this will look like a burn to the exposed fruit but fruits exhibiting signs of wilting and shriveling along with wilting, browning vines is heat stress due to lack of water.

Growing Degree Days Based on YVR				
	2022	**2021**	**2020**	**30 year average**
January 31st	130.5	164.5	159.7	129.24
February 28th	255.4	221.9	288.9	263.22
March 31st	479.9	462.25	455.2	479.92
April 30th	718	746.4	722	764.38
May 31st	1069.7	1134	1146	1171
June 30th	1520.4	1671.5	1611.6	1647.56
July 31st	2052.4	2268	2212	2174.6

Recommendations

- Monitor for remaining fireworm. If fireworm are found in more than 50% of samples taken throughout the field, apply a registered insecticide. Keep weather conditions in mind when choosing an insecticide.
- Monitor for sparganothis larvae and berry damage. If moderate numbers of larvae are found apply an insecticide for this pest keeping in mind not all products used for fireworm control are effective against sparganothis.
- Monitor for cranberry fruitworm moths and larvae in fruits. Apply a spray if moths have been caught consistently and pea-sized fruit is present in the field. Spray can be repeated 10-14 days later.
- Apply nematodes 2-3 weeks after girdler moth peak on a cool day. Get your farm on a rotation with sanding and nematode applications to keep populations down.
- Monitor for tipworm by checking uprights with a hand lens or microscope. Apply a spray when 30% of samples have larvae present. Note that pupae are not susceptible to sprays so if most samples are pupae, wait until the next generation to apply a spray.
- Monitor for cottonball berry infections. Plan to treat next season at budbreak.
- Monitor for berries exhibiting signs of fruit rot. If unsure how to control for the fungus present collect samples to submit to the BC Ministry of Agriculture for pathogen testing.
- Check fields regularly for dryness and heat stress symptoms.

The above recommendations are based on the BC Berries Production Guide and/or local IPM monitoring experience. Always consult your marketing agency for information on MRLs for various markets before applying pesticides.

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