Cranberry IPM Bulletin

Issue No. 3 June 9, 2017

Please note: The following recommendations are based on field monitoring data from cranberry fields in all 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

It's time to start thinking about getting pollinators in! Most fields are in the flower hook stage, with low levels of bloom scattered.

Keep in mind with flowers out in the fields even if hives have not been placed on your farm, natural pollinators are now present. Try to avoid spraying during bloom if at all possible. If not spray at night while pollinators are not active and wash off the chemical at dawn before the bees start foraging.

Fireworm

Fireworm moths have started to emerge in fields where fireworm had an early hatch. The moths are small, approximately the size of a cranberry leaf, and are brown and black in colour. You may see them flying in areas that have fireworm damage from first generation.


Jim Troubridge

Now that first generation fireworm sprays have been applied it is a good time to check over the spray system you are using before second generation starts to hatch. Fireworm damage in second generation will directly affect yield by damaged berries as well as the bud set for next year if the damage is severe. Observe for sprinkler blockages while irrigating, and check your overall pressure.


Photo by H. van Dokkumburg

The picture to the left is a field where the pressure was too low and when the first generation spray was applied, the sprinklers on one edge of the field didn't pump out enough chemical. This caused these small fireworm "burnout" patches directly in the middle of two sprinklers on an entire edge.

Cranberry Tipworm

Continue to monitor for tipworm infestations. Check in areas of lush growth in the field. This is likely where initial observation will be, as these are the uprights tipworm prefer to feed on.

Microscope assessments can be done by collecting healthy uprights and assessing the overall population. It is important to keep in mind that no sprays should be applied for tipworm until after bloom.


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Dearness Scale


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Scale assessed under the microscope this week have started to emerge. It is crucial to get in the habit of good biosecurity practices like disinfecting boots and equipment; a couple good products that are recommended to disinfect are Pace Disinfectant, Virkon, or washing well with water. It is also important to practice biosecurity on other farms. If at all possible avoid applying herbicide and doing labor intensive tasks throughout fields while scale is emerging over the next couple of weeks. Scale crawlers emerge and attach themselves to clothing, shoes, and machinery until they can find a new spot in the field to feed on over the next year. Each scale can have multiple crawlers so they can spread quite quickly. Unfortunately there are no chemicals registered to control this pest so prevention is key.

Frost

New signs of frost damage has been observed this week in all regions, some fields have been hit pretty hard with a substantial amount of damage. Just because it's warm outside keep in mind there is still frost on clear nights. From talking with several growers it appears this frost event occurred this past weekend around 3-4 degrees Celsius. Look for pink tinged cupped uprights, when opened the inside of the tip will be brown and soft.


Photo By T. Bence

Recovered frost damage

For more information…

Integrated Pest Management for Cranberries in Western Canada

http://www.bccranberries.com/pdfs/ipm-booklet/IPM%20for%20Cranberries%20Low%20Res.pdf

Cranberry Production Guide

http://productionguide.agrifoodbc.ca/guides/14/section/25


Photo by H. van Dokkumburg

New frost damage

Cotton ball

Cotton ball leaf infections are now present in fields with a history of this disease. Berries infected with cotton ball are unmarketable. Fruit infection occurs when spores are released from the infected uprights and enter the open flower during bloom. Watch for the interveinal browning, with drooping uprights. Later on a white conidia on the stem will become apparent.

Early interveinal browning

Advanced interveinal browning

Twig Blight

Historically twig blight has not been common in British Columbia cranberry bogs. In the last couple of years we have seen increased occurrence and damage which is not surprising as it is prevalent in Washington and Oregon cranberry bogs. This disease kills 1 year old uprights from the previous years infection, resulting in a lack of fruit production as these uprights will not bear fruit.

If damaged areas are noted in the field, a closer inspection should be made to look for dead uprights with black spores on the underside of leaves. Fungicides should be applied when it is noted that the spores are starting to open. This will likely occur in the next couple of weeks.

Weather

Very little rain has occurred in the last two weeks. Growing Degree Days(GDD) are about 100 GDD behind the 25 year average, showing that the last two years were out of the ordinary weather wise.

Bi-Weekly Precipitation	
April 1- April 14	96mm
April 15- April 28	41mm
April 29- May 12	198mm
May 13- May 26	93mm
May 27- June 5	12mm

Weather History Based on Vancouver Airport										
Cumulative Precipitation						Growing Degree Days Cumulative base temp 0				
Month	2017	2016	2015	Monthly Total 2017		Month	2017	2016	2015	25 year average
January	0mm	0mm	0mm	99mm		January 1st	0	0	0	0
February	99mm	169mm	159mm	129mm		February 1st	83.55	153.35	181.6	127.78
March	228mm	337mm	272mm	129mm		March 1st	179.8	364	385.15	277
April	445mm	486mm	428mm	140mm		April 1st	393.2	625.85	650.45	492.23
May	676mm	562mm	484mm	102mm		May 1st	678.9	979.4	930.3	777.17
June	678mm	573mm	491mm	7mm (June 5)		June 1st	1081.6	1425.4	1388.2	1180.9

Fruit Rot

With bloom in the fields now is a good time to plan for upcoming fruit rot sprays. Bloom assessments should start now once weekly to properly time preventative fungicide applications. Depending on historical fruit rot levels in the past couple years on your farm anywhere from 1-3 fungicide applications may be necessary.

If disease symptoms in vines or berries are apparent on your farm and it is not obvious what kind of disease is present, samples can be collected and submitted to the BC Ministry of Agriculture for testing. This is ideal as not all pathogens are susceptible to all fungicides.

Recommendations

- Monitor for sparganothis fruitworm. Ensure proper identification by checking the head capsule on the larva, which should be light brown instead of black. Try to time a spray with fireworm to avoid a second application.
- Monitor for new tipworm damage. Check for cupped leaves and late instar larvae, no spray recommendations until after bloom.
- Practice biosecurity while dearness scale is emerging over the next couple of weeks.
- Monitor for red leaf spot infections. If damage is evident try to limit the amount of Nitrogen applied the rest of the season and in the next growing season.
- Monitor for new cottonball infections. Look for interveinal leaf browning and drooping over uprights.
- Monitor for twig blight spores in areas with unexplained dead uprights.
- Monitor for new rodent damage.
- Check your nozzles, chemigation systems, and pressure to ensure future spray efficacy.
- Monitor bloom percentages to time fruit rot applications.

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.

Funding provided by:

Canada

Investment Agriculture Foundation of British Columbia

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