Cranberry IPM Newsletter

May 12, 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

With the warm weather this past week we are seeing some progress in plant stages, however keep in mind we are quite behind last year in all regions. To put this in perspective we are approximately 400 degree days behind last year (based on January 1st start with a base temperature of 0° C). No need to panic if you are putting on applications later than last year. The majority of plants are still in tight bud, bud swell and cabbage head stages within the middle of the field, field edges are ahead slightly in bud elongation and roughneck stage.

Tight Bud | **Bud Swell** | **Cabbage Head** | **Bud Elongation** | **Roughneck**




B. A. Workmaster, J. P. Palta, and T. R. Roper. Terminology for cranberry bud development and growth.


Photo by H. van Dokkumburg

Fireworm

Fireworm can have anywhere from 1 to 3 generations a season, we are starting to see the first generation beginning to hatch this week on some farms. Populations can vary from farm to farm. A staggered hatch is expected this year based on the alternating cold and warm weather so far this season. Fireworm can be anywhere from 0.5mm to 8mm in length. At this point they will be closer to 0.5mm as they are just starting to hatch.
Monitoring: Check the tips of uprights close to the buds for "tents" - fireworm web the leaf tips together forming what appears to be a tent which stands out compared to normal uprights. Use the tip of a pencil to open suspect tents; try to do this over a clipboard as fireworm can wiggle out quickly which makes distinguishing between sparganothis or fireworm difficult.

Sparganothis Fruitworm

Sparganothis have 2 generations per year, the first generation of sparganothis hatch along with fireworm in early spring. Sparganothis larvae look very similar to fireworm. They have a light green/beige body with a brown head, sometimes microscope identification is necessary to ID this pest.
Monitoring: Monitor for sparganothis the same as you would for fireworm. Sparganothis tents can appear messier than fireworm tents and may include more than one upright.

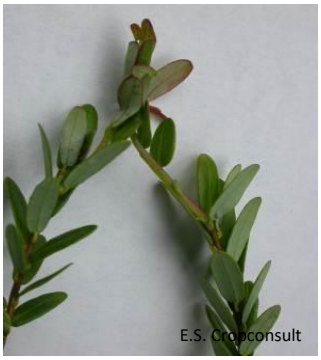
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Photo by H. van Dokkumburg

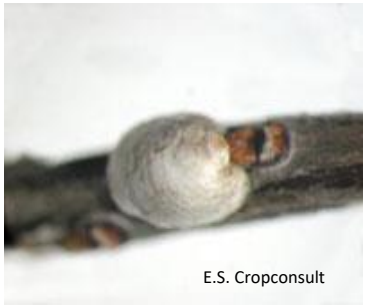
Clay coloured weevils

We are starting to see weevil notching in some fields. Historically dry pick fields tend to have a problem with weevils, as the fall flood for harvest will kill most overwintering larvae. If a large amount of weevil damage is found in a wet pick field it is recommended to hold the flood water longer in that field. The clay coloured weevil adults feed for a few weeks and then lay eggs in the soil where the larvae feed on the cranberry roots.

Monitoring: Notching is found on the leaves of cranberry uprights. (see left) Any weevil control should only be done well before bloom, as the chemicals registered for this pest are very toxic to bees.

Dearness Scale

Scale is a softbodied insect that is covered by a shell, under each shell can be multiple overwintering eggs that hatch into "crawlers". The crawler stage is the most concerning to a cranberry producer as each crawler when it emerges attaches itself to a new vine to feed on over the winter. It is key to target any applications to emerging crawlers as this is when this insect is most vulnerable to insecticides, once a new shell is formed it is protected from most control options.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Monitoring- Part uprights to view the "woody" part of the vine. Visually observe for white scales and note how many you see. 1 scale = low over 10 = high infestation. Monitor around the edges and in the middle of fields to see what the overall level is on your farm.

NOTE: Diazinon was previously the only chemical used to control dearness scale. At this point there are no new options to control scale, it is very important once crawlers start to emerge to try to limit worker activity in fields. The crawlers attach themselves to boots, clothing, and machinery so it is essential to disinfect these items after being in a scale infested field. Until we have a new control option prevention is our only method.

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

2016 Canadian Pesticide Chart

http://productionguide.agrifoodbc.ca/sites/pg.localhost/files/files/2016%20Canadian%20Cranberry%20Pesticide%20Chart%20Printable.pdf

Rose bloom


Photo by H. van Dokkumburg

This is a fungal disease that affects the uprights of cranberries. It can reduce yield because infected uprights will not produce fruit. If there is a high level present monitor for spore development with a hand lens. If spores are present it is advisable to apply a fungicide.

Cottonball


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This is a fungal disease that directly affects yield. Infected fruit is filled with a cotton-like fungus and is unmarketable. The first symptom is interveinal browning; the infected leaves turn a tan colour and start to droop before bloom. This fungus is not present on all farms, your fruit handler would inform you at harvest if this is present on your farm.

Rodents

Fresh rodent activity is present in fields, with holes and trails under vines and on dykes. Voles and mice feeding on the roots during the winter reduces plant vigor and can also kill areas within the field. Rodent holes could be from previous years, so look for freshly killed vines (orange). When these particular vines are pulled on they will be severed and have a slanted cut coinciding with rodent feeding. If using rodenticide bait stations, it is important to place rodenticide bait in tamper-proof bait stations to protect non-target wildlife, pets and children. Do not place bait stations in the field. Rather place it around field edges or areas where rodents may go to nest (ie. Other plants, piles of wood, close to shops etc.)

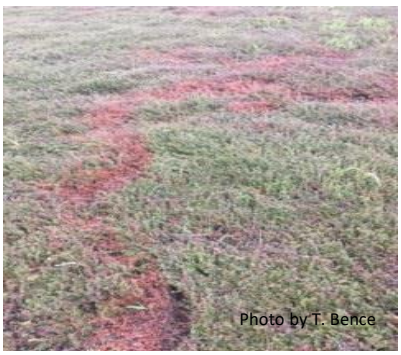
Photo by T. Bence

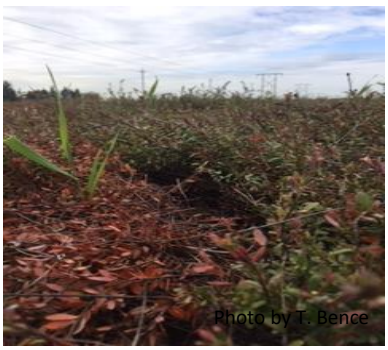
Photo by T. Bence

Always consult your marketing agency for information on MRLs and pesticide products for various markets before applying pesticides.

Recommendations

- Monitor for Fireworm. If fireworm are found in more than 50% of visual samples apply a registered insecticide.
- Monitor for sparganothis fruitworm. Ensure proper identification by checking the head capsule on the larva, which should be light brown not black. Currently there is no threshold for sparganothis, so first generation sprays are usually recommended on farms with a history of sparganothis.
- Monitor for dearness scale emergence. Once emergence starts limit worker activity in field. If entrance is necessary disinfect boots and equipment before entering the field and after exiting the field.
- Monitor for clay coloured weevil notching. If notching is found throughout the field on a dry pick farm, an insecticide should be considered. It is important to apply this at night as this is when weevils are active and registered insecticides are contact control. Registered insecticides are very toxic to pollinators so application must be done well before bloom.
- Monitor for rose bloom. Watch for sporulation and apply a fungicide spray when sporulation starts. If outbreaks are localized within the field this spray can be done with a backpack sprayer.
- In fields with a history of cottonball apply a fungicide when the majority of the field is in the bud break stage. If the infection is bad a second application can be done 10- 14 days later.
- Monitor for new rodent damage. Set up trap stations in areas around the fields where rodents would frequent- burn piles, other plants, around buildings and shops.

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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