

# Cranberry IPM Bulletin

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**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.

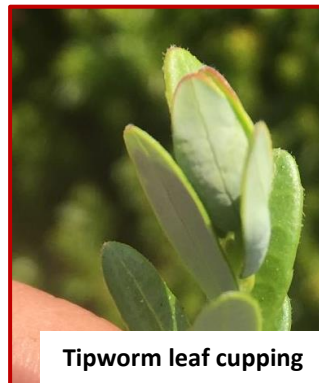
## Plant Development

Bloom is progressing quickly. Early varieties have very low levels of pinhead fruits being observed. It is time to start thinking about bringing in pollinators, if you haven't already.



## Tipworm

- Tipworm larvae are now being found in all regions.
- Leaf cupping and pupae are being found and are obvious to see with the naked eye.
- In order to see eggs and first instar larvae a microscope or hand lens must be used.
- Spraying for this pest cannot be done until bloom is over, and all honeybees are removed from the farm as the only registered product is very toxic to pollinators.



## Rusty Tussock

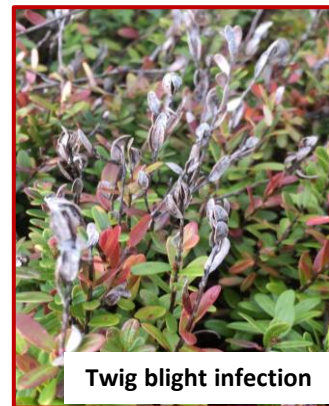
- Rusty tussock is a sporadic pest of cranberries.
- Larvae feed on cranberry flowers and can be devastating to a field in full bloom because they eat large amounts of cranberry flowers in a short period.
- No rusty tussock larvae have been observed this season but be sure to keep an eye out for this pest.
- Monitor the tops of uprights for caterpillars feeding on flowers and watch fields overall for spots that look bare of flowers.



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

## Twig Blight

- Monitor for the swelling and opening of twig blight spores. Fungicides need to be applied once spores start to open.
- It is difficult to see spores opening with the naked eye, so a hand lens or microscope is helpful for checking.
- In fields with high disease pressure, anywhere from 2-3 fungicide applications may be necessary.



## Fruit Rot

Now that bloom is underway on most farms it is time to start thinking about preventative fungicide applications. The pathogens which cause fruit rot infect the flowers, well timed sprays during blossom are critical for fruit rot prevention. Timing and number of applications can be dependent on a variety of things.

- Rot history and pathogens present
- Which product(s) are being used and order of application
- Number of applications planned
- Variety and susceptibility to rot
- Weather during the growing season as high levels of precipitation increases the risk of fruit rot
- Irrigation water can introduce pathogens into the flowers. Irrigate in the early morning hours to reduce the time water sits on the canopy and on flowers.



If these factors are present on your farm you may want to consider multiple fungicide applications. To prevent resistance and to control multiple pathogens rotate fungicides with different modes of action.

As a general guideline:

- **If applying one fungicide application**, apply at ~30% in bloom
- **For two applications**, aim for 20-25% in bloom and the second application 10 days later
- **For three applications**, apply at 15% in bloom and then at 10 day intervals for the second and third applications



Note that there are other factors that can contribute to timing fungicide applications.

### How do I calculate % bloom?

- Divide the field into three areas
- Collect 10 uprights from each of the three areas
- Count the total number of hooks/flowers/fruits per upright
- % in bloom =  $\frac{\# \text{ open flowers}}{\text{Total number of flower hooks and open flowers}} \times 100 = \% \text{ in bloom}$

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## Frost Damage

On Monday and Tuesday morning (June 5<sup>th</sup> and 6<sup>th</sup>) temperatures dropped low enough to trigger frost protection in several regions. Unfortunately, some damage is being observed from these events, but luckily it appears to have hit mostly low spots in the fields. No widespread damage has been observed at this point. This is a good reminder to keep sensors in fields.



## Recommendations

- Monitor for straggler fireworm hatch. If live fireworm are found in more than 50% of samples taken throughout the field, apply a registered insecticide.
- Conduct post spray checks 5- 7 days post spray as well as two weeks after insecticide applications to make sure control was effective and no straggler larvae have hatched.
- Monitor for sparganothis fruitworm in cranberry uprights like you would for fireworm. Note sparganothis tend to use multiple uprights in their tents and have a translucent or brown head capsule. Apply a registered insecticide if levels are of concern. Note not all insecticides for fireworm are effective against sparganothis.
- Monitor for tipworm damage and late instar larvae during field monitoring. You can check for eggs and early instar larvae using a microscope or hand lens. If tipworm is found at concerning levels plan to spray for this pest after bloom is over and honeybee hives are removed.
- Monitor for rusty tussock caterpillars during bloom. If larvae are found apply a registered insecticide for caterpillars.
- Monitor for cottonball leaf infections. If disease is detected plan to treat with fungicide next year at bud break.
- Monitor for twig blight spores on the undersides of leaves. When spores open, apply a registered fungicide to prevent further spread of this disease.
- If fruit rot is a concern on your farm plan to treat with anywhere from one to three fungicide applications during bloom.
- Monitor for new rodent damage. Set up trap stations in areas around the fields where rodents would frequent such as burn piles, other plants, and around buildings and shops.
- Keep frost protection detectors in fields and adjust to the changing weather accordingly. One frost event can be economically devastating to your crop.
- Keep pollinators and beneficial insects in mind when choosing which pesticides to spray. Time applications for at night when pollinators aren't active. This includes fruit rot fungicide preventative sprays.

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.