



**UMass
Extension**

Cranberry Station Newsletter

APRIL 2012

UMASS CRANBERRY STATION

1 STATE BOG ROAD

P.O. Box 569

EAST WAREHAM, MA 02538

<http://www.umass.edu/cranberry>

SPRING FROST 2012

Due to the record warm winter (the November to March period was the warmest in our records), plant development is well ahead of that in an average year. As a result, frost warnings and the need to protect from frost began in the last week of March this year. This presents unique challenges, as nights can be very cold. On March 26-27, it was so cold that tolerance temperatures were reached even though there was wind. Such conditions present challenges for frost protection with sprinklers.

In areas where limited water is applied due to poor sprinkler patterns with wind, the ice that forms on the vines may evaporate in the wind, causing damage to the buds. The formation of ice protects from frost because in the transition from liquid water to solid ice, heat is released (heat of fusion) -- this heat release protects the buds from frost damage. The 0.1 inch per hour rate of our sprinkler systems is needed to get enough heat release. As the ice transitions back to water (melting) heat is taken away from the plants -- this is why we do not turn sprinklers off until the temperature rises 3-5 degrees above tolerance.

However, in cold, windy conditions, the ice can evaporate directly into water vapor, skipping the liquid phase. If this happens, the loss of heat from the plants during the transition is 7 times more than if the ice melted. If on a windy night, ice forms and no liquid water remains on the ice surface (all freezes), evaporation loss can occur, damaging the plants. This could happen if you shut down during cycling or in areas that are poorly covered due to wind. This is only a problem during the night. In the morning, as the temperature rises and the sun hits the ice, the ice is melting, *not* evaporating. In those conditions, you can shut down once the temperature is 3-5 degrees above tolerance (this is enough to account for the heat lost in the melting process).

Frost tolerance updates and photos are available on the Station webpage - follow the links in the news section at www.umass.edu/cranberry.

CAROLYN DEMORANVILLE

PRELIMINARY KEEPING QUALITY

FORECAST

As of April 1, there is only 1 point out of a possible 10 that favor keeping quality for the 2012 Massachusetts cranberry crop. The sole point was awarded for favorable rainfall in March. Consequently, the forecast is for **POOR** keeping quality. The final keeping quality forecast (issued after June 1) could be upgraded if we have a cool and dry April and May. Based on the present forecast, fungicide applications and the rate of fungicides applied should NOT be reduced, and close attention should be paid where fruit rot has been a major or regular concern.

Carolyn did not recommend holding late water because of the earliness of the season -- we are running about 23-25 days ahead of a normal schedule. At this point it is too late to start late water. There are several factors that could also help contribute to higher levels of fruit rot in 2012. Minimal sanding was done this winter due to a lack of ice. Sanding is one of the best cultural control strategies, as it covers overwintering inoculum. The mild temperatures probably resulted in a reduced mortality of a certain percentage of this overwintering inoculum as well. Should this drought pattern continue (we are currently 7 inches below normal for precipitation for the year), this will be another stress on the plants, possibly contributing to higher levels of fungal infection during bloom. Warmer than average temperatures will only continue this trend of increased susceptibility of the cranberry vines. At any rate, expect the worst regarding fruit rot in what appears to be a very odd growing season. If you have any questions, please contact me (extension 18) or Carolyn (extension 25).

Frank Caruso, Plant Pathology

Dr. Carolyn DeMoranville, Station Director

AM I WASHING MY HERBICIDE AWAY?

Some growers may have already applied PRE herbicides (most likely Devrinol). There is always the concern of when to apply in relation to a predicted string of frost nights. Devrinol needs to stay within the upper root zone to be effective. For this season (as of April 6), I think the window for using Devrinol is still open (plant growth has been delayed due to the cooler weather). So, if you applied PRIOR to a string of frost nights, it is likely that you have washed the herbicide past the root zone and will have reduced efficacy. You could probably stand 1 or 2 short frost nights, but much past that, you will likely not see the weed control you would have hoped for with Devrinol. If you have held off applying and a string of frost-protection-free nights are predicted, you should still get expected efficacy from Devrinol applications provided your target weeds have not emerged yet.

With Casoron, the important thing is soil temperature. It has probably been too cool to apply Casoron. Casoron needs to volatilize to form a vapor barrier through which the germinating plants will pass. This is basically how we get weed control with this herbicide. If the soil temperature is below 50 F, the herbicide will not vaporize and efficacy will be reduced and you have a greater chance of washing ‘non-volatilized’ herbicide past the root zone during frost nights. Casoron has a bit more tenacity to hang in the root zone than Devrinol, but applying more than 1 inch of water is likely to reduce efficacy with Casoron.

HILARY SANDLER, WEED SPECIALIST

WINTER MOTH UPDATE!!

Winter moth larvae are NOT on the bogs YET!!

We expect to start seeing them on the bogs in the 3rd or 4th week of April. It would be wise to sweep at least once or twice towards the end of April. Winter moth larvae are green spanworms. There is no official threshold for winter moth, but a general gauge would be 18 since it is a spanworm. These spanworm will eat the developing bud and can do substantial damage.

Winter moth larvae have hatched in the area and are actively feeding on blueberry, apples, and maples. They are tiny, about 2 mm, and are very hard to see. They feed inside the blueberry bud and often do substantial damage without being seen. Cranberry is apparently still too small for them to use as a food source, but once we reach cabbage head stage, they may appear.

There are many control options for spanworms including Avaunt (not on flow-throughs), B.t., Delegate, Intrepid, Confirm, Imidan, Lorsban, Orthene and Pyronyl. If you have a history of bad winter moth, or saw moths flying in November and December near your bog, you should consider a prophylactic spray towards the end of April. Damage may be done to the developing tips before populations can be detected.

It was reported to be a very high population year for winter moth in our area of southeastern Massachusetts. However, the early hot spell (week of 3/19-23) followed by the remarkable cold nights (3/26 on) may have caused substantial mortality. We are scouting blueberry and cranberry each week. We have been finding them at many sites with blueberry at a 5-10% infestation. We have not found any winter moth on cranberry this year YET.

There is excellent information, an updated winter moth fact sheet and links available through the UMass Landscape, Nursery and Urban Forestry Website (<http://www.umassgreeninfo.org/>) and the link to the landscape message gives scouting information by region including winter moth hatch info (http://www.umassgreeninfo.org/landscape_message/landscape_message.html).

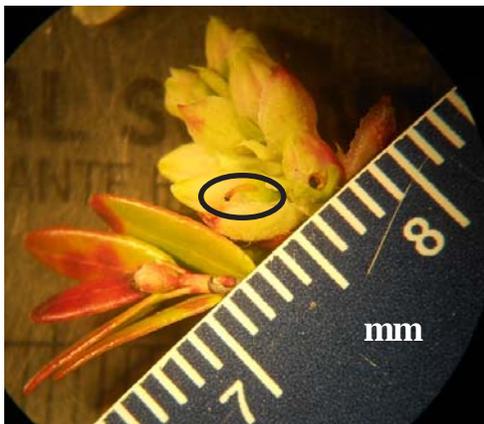
MARTHA SYLVIA & ANNE AVERILL, ENTOMOLOGY

Winter Moth remains the top insect of interest at this time in MA for the landscape, nursery, and forest, as well as for blueberry and apple growers. The caterpillars have now virtually all hatched on the North Shore, greater Boston area, South Shore and Rhode Island. They still lag behind on Cape Cod due to cooler climate at this time of year but will be very active within a couple of days. Initial observations from the Elkinson lab at UMass Amherst suggests that approximately 20% of winter moth eggs (not on Cape Cod or in RI) were killed by the excessive temperatures during the third week in March and that as many as another 20% were killed by cold temperatures after hatch on the night of March 26. However, there were millions of eggs over-wintering on host trees in MA this past winter and now the many remaining yet tiny caterpillars are actively finding and feeding on the foliage and flower buds of those plants experiencing early bud opening. Some tiny caterpillars are still seen sitting on the trunks of trees waiting for warmer weather to venture up to the canopy. The warmer temperatures predicted for this week should drive this process quickly. Oak buds are still rather tight and therefore not available to the caterpillars but apple, blueberry, lilac, birches, and all maples are well-enough along to provide food for these caterpillars.

For infested plants with opened or opening buds, a spray of *Bacillus thuringiensis* Kurstaki (B.t.K.) can be quite effective. However, B.t. needs to be ingested by the caterpillars to be effective and if the foliage is not yet near to being fully expanded, then wait for that to happen. Otherwise, the new foliage material that appears over the next several days, after spraying B.t., will not be covered with B.t. thus allowing the caterpillars more leaf surface to damage before ingesting the pesticide. An application of a product that contains Spinosad as the active ingredient should provide excellent results at this time or in the coming weeks during the caterpillar feeding stage. Many pyrethroid insecticides are labeled for caterpillars as well. Avoid spraying apples and crabapples with Spinosad or pyrethroid products if they are in bloom. Pyrethroids can be very harsh on pollinators, such as bees. Spinosad products are toxic to bees at the time of application but this threat diminishes significantly 24 hours after application.

<http://extension.umass.edu/landscape/news/latest-winter-moth-information>

Reported by Robert D. Childs, Extension Entomologist, Plant, Soil and Insect Sciences Department, UMass, Amherst



WORKER PROTECTION TRAININGS Cranberry Station Library 2-4 PM

Worker Protection Trainings for cranberry workers in the handler category will be offered in 2012: April 25, May 30, and June 20. Send any workers, weeders, scouts, and mechanics. Training good for 5 years! There is a \$5 fee to cover the cost of the WPS training manual. If you have a pesticide license, you do not need this training.

Contact Martha Sylvia: 508-295-2212, x 20 to sign up or for additional information.

See Inside:

**Preliminary Keeping Quality Forecast
Spring Frost 2012
Herbicide Questions
Winter Moth Update**

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