



**UMass
Extension**

CENTER FOR AGRICULTURE

Cranberry Station Newsletter

JULY 2011

UMASS CRANBERRY STATION

1 STATE BOG ROAD

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

CUPPED LEAVES AND QUINSTAR

Just after the frost events of June 4-5th, we have heard of several reports of cupping of the tops of uprights on bogs that were treated with QuinStar (quinclorac). This is a photo of the injury (a color image is available on the June 10 IPM message on our website). The injury looks similar to Stinger injury. However, the vines seem to be coming out of it. All varieties are showing symptoms, but only after the frost event and on bogs where QuinStar was applied. If your vines have cupped leaves and you did NOT spray QuinStar, please let me know. We have not seen the injury on bogs NOT treated with QuinStar. We are not sure what is going on exactly but suspect that perhaps the herbicide may be making the vines a bit more susceptible to cold injury or may be exacerbating frost injury symptoms somehow.

It is not surprising that cupping would appear as a symptom associated with QuinStar. It is a growth-regulator type herbicide. Symptoms of quinclorac may resemble those of auxin-type herbicides, including mild bending of stems and petioles, stem swelling (particularly at nodes) and elongation, and **leaf cupping or curling**.

Minor injury due to frost can look similar to what we have seen (i.e., cupped tips), however the brown leaf margins that are usually associated with frost are not apparent.

Some growers have asked about using their second application of QuinStar (if they have the damage). I think you need to evaluate the benefit that you might gain (is the dodder really bad or can you live with the control provided by the first spray?). We do not have any experience to know if a second application will cause more injury to affected vines. If you have seen these symptoms (and apply a second spray), please let me know (x21). I would like to hear from you on how the vines recover and respond.

Hilary Sandler, IPM Specialist



Cupping of leaves on vines after frost event previously treated with QuinStar.

SEARCHING FOR A FEW GOOD DODDER STEMS

What we need from you!! We would like to take dodder samples in July from 30 – 50 bogs from all over our cranberry growing area. If you would like to help us out, we will need to visit your bog once to collect a few pieces of dodder stems (July), and possibly again in the fall to collect seeds. We will not be applying any chemicals, or setting up an experiment. Please contact Katie 508-295-2212 x 27 or Hilary x 21.

Why are we doing this? There are more than 100 species of dodder found all over the world. Species can only be identified by small differences in the flowers which can be hard to see, even under a microscope. The IPM lab is collaborating with a scientist who does genetic identification of dodders. This is an exciting opportunity for us to further our understanding of this troublesome weed.

It is thought that the weed found on cranberry bogs is “Swamp Dodder”, the species *Cuscuta gronovii*. However, we have our suspicions that there might actually be several different species found on bogs. If this is true, it could have the potential to impact dodder management strategies.

HELP A WISCONSIN COLLEAGUE WITH A HAIL PROJECT

The blurb below appeared in the “Cranberry Crop Management Newsletter” issued by the University of Wisconsin last month. We have occasional incidents of hail in our Massachusetts beds also, and I offered my assistance in gathering some data from an area that has more problems with fruit rot than Wisconsin. Answers to their questions will help us deal with this issue in the future. In years past, I have similarly wrestled with the question of whether a fungicide is needed after a hail event. When I have recommended a fungicide, I have asked growers to leave a sprinkler head blocked so that I could compare berries in treated and untreated areas prior to harvest. I have not observed any differences in the past, but these things need to be periodically revisited. At any rate, if you have hail affecting one of your beds, please contact me and we can generate some data that will help Dr. McManus and her graduate student. The blurb follows...

WHEN HAIL HAPPENS Patty McManus, UW-Extension Fruit Crops Specialist and Lindsay Wells, UW Graduate Student

After a mid-to late-summer hailstorm, should you spray a fungicide to protect berries from fruit rot pathogens? Just about every year this question arises, and we have generally discouraged growers from spraying. Our reasoning is two-fold. First, Teryl Roper did an experiment in which he “dinged” detached berries and then sprayed some and left some not sprayed. He found no benefit from fungicides. Second, fruit rot pathogens mostly infect during bloom and early fruit set stages, so they are firmly entrenched and out of reach of fungicides, especially since fungicides registered on cranberry are mostly protective and not systemic in activity. Still, it’s always bothered us that except for Teryl’s non-replicated, picked-berry experiment, we don’t have research to support our recommendation. Therefore, we began research on this question last year and are continuing in 2011. In some experiments, we are simulating hail by blasting pea gravel at berries in the field. But we would also like to test the effect of fungicides following a natural hail event. If you suffer hail and would be willing to let us set up a small trial (about 8 x 12 ft) or two on your marsh, it would provide data valuable to the entire industry and to a graduate student working on her degree!

Alternatively, if you get hail and decide to spray a fungicide, it would be great if you could mark off a small area or two to leave NOT sprayed. Then, just before harvest, we could sample from the sprayed and not sprayed areas to see how the fungicide performed.

So, if hail strikes here in MA, and you are willing to help us with this research, please contact **Frank Caruso (508-295-2212 x 18 or fcaruso@umext.umass.edu)**. The sooner after the event that you contact Frank, the better. Thanks for keeping us in mind. Although we hope to hear from someone, we hope it’s someone else and not you!

DISEASED DODDER AND LOOSESTRIFE

In your travels, if you observe either dodder or yellow loosestrife (mudweed) dying, please let me know so I can get samples and culture the causal fungal pathogen. We have two projects funded by the CCCGA where we are trying to investigate the possibility of using either one of these pathogens as a mycoherbicide. My contact information is in the previous writeup.

Frank L. Caruso, Plant Pathology

NEW HYDROLOGIST ON BOARD

We are pleased to welcome Dr. Casey Kennedy, who will be studying varied aspects of hydrology in the cranberry industry in Massachusetts. Casey started on June 19, 2011 and is the first USDA-ARS scientist to be housed at the UMass Cranberry Station since the 1960’s. He has a strong background in watershed hydrology, physical and chemical hydrogeology, groundwater modeling, and soil chemistry. His specific tasks will include developing an analytical water quality lab at the station and establishing hydrological monitoring stations for measurement of water usage and nutrient cycling associated with cranberry agriculture.

Casey was most recently a post-doctoral fellow at Purdue University, West Lafayette, IN. He was awarded his MS and Ph.D in Geology/Hydrology in 2004 and 2008, respectively, from North Carolina State University; he obtained his BS in Geology with a minor in mathematics from Guilford College, Greensboro, NC in 2002. He has teaching experience in the classroom and laboratory and has 6 first-author publications. At Purdue, he was the leader for a project that was trying to partition the components of groundwater, soil water, and storm event water in nitrogen exports from agricultural watersheds. He also participated in a USDA-funded research effort to quantify the transport of nitrogen from groundwater to a stream in a large agricultural watershed.

Carolyn DeMoranville, Director
