



**UMass
Extension**

Cranberry Station Newsletter

JUNE 2013

UMASS CRANBERRY STATION

1 STATE BOG ROAD

P.O. Box 569

EAST WAREHAM, MA 02538

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

Bogside Workshop at the State Bog

When: Friday June 21st, 8:30 to 10:00 AM [rain date June 24th, same time]

Where: Bogside at the Station - State Bog

What: Technology and Hot Current Topics

1 Contact Hour

Join us as Katie Ghantous and Hilary Sandler demonstrate how to use hand-held flame cultivation devices to control weeds. We will be demonstrating a 'mini cannon' sprayer that can be mounted on an ATV, golf cart, or back of a pickup and sprays about 30 feet. Peter Jeranyama will cover irrigation issues, Carolyn DeMoranville will cover fertilizer use, and Frank Caruso will discuss disease management. This will be Frank's last event with us prior to his retirement at the end of the month!

Dodder Management Discussion Group

As part of the work plan for an EPA Regional IPM Grant given to the UMass Cranberry Station IPM/Weed lab, a small group of growers (8) and industry personnel met with the IPM/Weed personnel on March 29, 2013 to discuss various issues related to dodder control. Below is a recap of the meeting.

Casoron. Casoron applications were typically applied prior to or at cranberry budbreak with varying success. Some growers reliably controlled dodder with this timing while others noticed that it does not seem to work as well now as it used to. One grower felt Casoron worked better on beds where sanding was needed; perhaps the addition of sand increased the temperature at the surface and caused greater loss (volatilization) of the herbicide. Most used one application between 35-50 lb/A and one grower used two applications of 30 lb/A each (applied by ground). Several growers commented that they felt aerial

applications delivered less than the amount they expected to the ground.

Callisto. Callisto was used as a follow-up to early May Casoron applications, so applications went out late-end of May and then again mid-late June. Most applications were made by backpack and usually 2 applications were done. Most growers felt spot-application or boom applications worked better than chemigation. No one seemed to use Callisto as a preemergence herbicide; all uses were as a postemergence application. Others used pump cans for POST applications and had a mother tank available nearby for re-filling. Growers used two 3-4 oz/A Callisto applications with this method with good results.

QuinStar. There was little use of QuinStar due to MRL and export issues. Growers were not

envisioning QuinStar as being part of their IPM plan for dodder until these issues are resolved.

Raking. Growers mentioned raking after bloom (first or second week in July). They were not concerned about fruit loss due to raking since the dodder-infested area had little fruit anyway. Different kinds of rakes were employed including plastic lawn rakes or wooden rakes that had the tines ground to sharp edges so they could cut through dodder.

Application technology. Growers used different kinds of spot-applicators to control dodder. One modified a leaf blower with a wand nozzle to get a nice mist. Another retrofitted a Gephardt to deliver a fine mist and used a 25-gallon tank. Backpack sprayers were very popular; one grower used a boom sprayer. Getting the herbicide on a skinny, thin stem is challenging, so application methods and the use of surfactants are probably very important.

Miscellaneous observations.

- Growers would flag their infestations and then removed dodder by hand.
- Growers felt dodder was worse on Ben Lear and Howes; not so bad on Early Black.
- New plantings are NOT immune to dodder infestations.
- New varieties are NOT immune to dodder infestations.
- Geese may play a part in the spread of dodder. Perhaps other birds, too. Does dodder occur in bird seed used by people who live around the bogs?
- Fresh fruit growers may be less likely to do trash floods (not as much water around) and may have more of a dodder issue due to these factors.
- See what research has been done in citrus; other woody perennials.

What is unique about MA conditions that we have such a problem? This is obviously a complicated issue and no single answer seemed to fit the bill. It was mentioned that our winter and climate is different than WI (very cold and distinct ice-in and ice-out times) and the Pacific Northwest is very temperate, and New Jersey growers hold their winter floods later in the season than we do. It was discussed that the use of broad-spectrum fungicides (instead of

ferbam, maneb, etc.) may be affecting the natural pathogens of dodder and thus the dodder problem may be related to our intense fruit rot fungal complex.

Other questions that came up.

- Is spot-application the better way to go for control instead of chemigation?
- Are mist-blowers a good application technology to use?
- Does the use of Callisto lead to smaller berries?
- Would trash floods remove more dodder seed if the water is agitated?
- Is there any relationship between fertilizer use and dodder infestations?
- What is the relationship between irrigation and dodder infestations? Perhaps with better irrigation, less fungicides needed and natural pathogens can thrive?
- Does the type or frequency of pruning matter? Westerns tend to be better pruners; what are fresh fruit growers using and which ones have the worse dodder problem? Any correlation between pruning machine and dodder occurrence?

Future research ideas.

- Could we use plant extracts (such as castor beans, sunflowers) to prevent/inhibit attachment?
- Would it be useful to promote seed germination in trash piles or capture seeds during trash flows? How much agitation is needed to get debris from the bed surface up into the water?
- How can/should we deal with late-season germination?
- Can we disrupt the way dodder senses host plants? What is the mechanism?
- Should we re-evaluate the use of late water and dodder?
- Can we use enzymatic inhibitors to prevent haustorial development?
- Dodder will wind around cranberry vines that are breaking bud but where does it penetrate and could this be a point that we could intervene with a management practice?
- Consider validating the impact of removing early season hosts, like yellow loosestrife and narrow-leaved goldenrod.
- Is there a varietal preference for dodder attachment? It seems to occur more on hybrids (Ben Lear, new

varieties) and not so much on Early Black. Could this be related to carbohydrate reserves for the different varieties? Perhaps more carbohydrates are more attractive for dodder?

Thank you to everyone who participated in this discussion group. We will use this information to revise the UMass Cranberry Station dodder fact sheet and inform future grant writing. As part of the plan of work for this grant, we will also be developing a detailed survey that will be mailed out to the grower community in the near future. I hope you will call me to let me know about your dodder management concerns and if you have any comments related to what I have presented above.

Hilary Sandler with Katie Ghantous and Chelsea Hedderig

JUST A REMINDER

THE IPM CODE A PHONE
MESSAGE IS UP AND RUNNING
508-295-2212 EXT. 60
OR
YOU CAN FIND THIS INFORMATION
ON OUR WEB PAGE:

WWW.UMASS.EDU/CRANBERRY



Dr. Carolyn DeMoranville, Station Director

FINAL KEEPING QUALITY FORECAST

The Keeping Quality Forecast for June 2013 is for **VERY POOR** keeping quality.

We calculated 2 of a possible 16 points to arrive at this forecast. We were awarded 1 point for February sunshine hours and 1 point for April precipitation.

What does this mean? If you take no steps to manage fruit rot disease, you could end up with a high incidence of fruit rot at harvest and particularly during storage of the fruit. Inoculum produced during the current growing season might exponentially increase during the following year, meaning that more fungicide applications will be required to reduce the inoculum load for subsequent crops. Careful disease management this season can overcome this prediction.

This is a year that you should definitely not reduce your fungicide rates and/or the number of fungicide applications. If you have a bed that had late water held this spring, you can still reduce your fungicide inputs in spite of the forecast.

If you have any questions, you can call me at 774-238-0698 or email me at fcaruso@umass.edu if you have any specific questions or concerns about a particular bed. I'll be driving cross-country from July 3-9, and I'll be moving westward in time zones, concluding in the Pacific Zone (3 hours difference).

Frank L. Caruso, Extension Plant Pathologist

******* SEE INSIDE *******

BOGSIDE WORKSHOP AT THE STATE BOG

FINAL KEEPING QUALITY FORECAST

DODDER MANAGEMENT DISCUSSION GROUP

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OFFICIAL BUSINESS