



**UMass  
Extension**

# Cranberry Station Newsletter

**DECEMBER 2009**

UMASS CRANBERRY STATION

1 STATE BOG ROAD

P.O. BOX 569

EAST WAREHAM, MA 02538

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

## It was a very wet year -- Notes from the Seventh Annual Cranberry Summit

On December 1, a group of Massachusetts growers, handlers, and researchers came together at the Cranberry Station to discuss the 2009 growing season. We discussed management challenges, research and education needs, and as always — the weather, this year’s winner for hot topic of conversation and records set. This is a summary of the discussion arranged by the topics covered.

### General

Crops in general were down in 2009, with the Massachusetts crop down about 22% but still better than those in 2005 and 2007. Howes were down the most compared to last year, with Stevens crops the least affected (as shown in the table below, only the Stevens did at all well in 2007, too). However, it should be noted that some growers had good Howes crops this year, with size coming on late.

Some data (average bbl/a) were provided by Joe DeVerna of Ocean Spray (2007 and 2008 cultivar data were presented at previous summits):

<u>Massachusetts</u>	2007	2008	2009
All cultivars	123	189	147
Early Black	119	168	126
Howes	115	162	116
Stevens	213	227	191
Ben Lear	180	260	200

In comparison, for all cultivars, the average bbl/a in 2006 was 155 and in 2005 was 115. These data illustrate the strong tendency of non-hybrids towards biennial bearing, that is, they alternate large and small crops. However, the hybrid Stevens does not show this trend, one of the attractions to planting hybrids. Note that Ben Lear, while large-fruited and high-yielding, is not a hybrid and does tend to biennial trends. Joe noted that despite biennial trends, the data show that the MA crop is trending upwards over time.

Parker Mauck of Decas Cranberry Sales reported that their growers also had reduced crops compared to last year but similar to their 5-year average. Both handler representatives noted that color was average in 2009.

Other comments — “This year, any bog where we had neglected drainage was a big deal.” “I had my best crops where drainage was good.” Most agreed that once again, weather was a major factor in the final outcome of the season. On the other hand, most had expected the outcome to be even worse given all the adverse weather.

### Weather

The 2009 growing season had many negative factors relating to weather — cold January with much sanding done, little sunshine in June, well above average rainfall in June, July and August (about an inch above normal in June and August, but five inches above normal in

July), and below normal temperatures during fruit development (June through August).

Surprisingly, all agreed that pollination was not particularly affected by the weather, with at least average pollination reported. One grower noted a good set on medium bloom. This was supported by the observation that while fruit size was below normal, the fruit were not lacking in seeds. More likely, the cool temperatures during fruit development were responsible for lack of sizing.

While there was some indication that fruit rot was up some, most growers used additional fungicide applications to overcome the poor keeping quality forecast and deliver good quality fruit.

One grower noted that much of the rain came in large storm events. He felt that as weather forecasting and bog drainage systems have improved, growers can plan for these events and prevent bogs from going under water or staying saturated for long periods even in a wet year. Since saturated conditions after fruit set can negatively affect fruit retention, this is important.

Marty Sylvia noted that the plants and insects in Carver last summer were at least a week ahead of Wareham. This led to a discussion of growing degree days. We have looked at them in the past and can generally relate to plant development but have not gone further to try to determine the utility of degree days in planning management activities.

### **Pollination**

Pollination was reported as average. Anne Averill noted that many beekeepers are investing more in the care of hives and this is paying off. She also reported that her graduate student is finding that at locations where growers are bringing in extra honey bee hives (more than recommendation), native bees decline.

### **Water management**

*Drainage.* With the wet season, drainage was a hot topic. Many growers are working to improve drainage on existing beds by adding tiles and/or changing how they set ditch levels. Most agreed that they include drainage tile in all renovations and new plantings. Carolyn noted that when we began to manage State

Bog with lower ditch levels, we saw increased root depth in the first year and improved crops beginning in the second year. It was noted that these improvements can also decrease weed pressure. Peter Jeranyama is working with growers to evaluate drain placement and spacing. One grower who is implementing 20 ft spacing indicated that on bogs with the poorest drainage, yield was down and Yellow Vine Syndrome was up. It was also noted that keeping ditches clear, especially main ditches, is very important in managing drainage. A 'ditch spinner' imported from Italy was described as an alternative to digging out main ditches periodically.

*Frost protection.* Carolyn asked about use of cycling during frost nights. Several are using this, and combined with automation, it is saving money (labor, fuel, water). Most agreed that on really cold nights (well below tolerance) they do not cycle. Otherwise, they are using set points for starting at 2-3° above tolerance, then shutoff 3-4° above that. It was noted that wireless temperature sensors were key to monitoring various parts of the bed in case the coldest area changes from night to night. However, some noted that their sensors ran warm so calibration is critical.

*Irrigation scheduling.* Growers are interested in using probes and tensiometers for this purpose and some are experimenting with them with assistance from Peter Jeranyama. The key is knowing what reading should trigger irrigation. Peter will be testing a proposed trigger reading next summer. If you are interested in participating, call him at extension 29.

### **Nutrient management**

Carolyn noted that adoption of low-P fertilizer was increasing. On the Station bogs we are using a 1:1 N:P ratio in the spring (partially slow release) and 18-8-18 at bloom/set. We started that protocol at Rocky Pond 3 years ago and had our best crop ever in 2009 (287 bbl/a). Many are using 18-8-18 but another popular choice was 13-13-13. Some mention was made of growers who felt they did not get as good an outcome with 13-13-13 compared to 12-24-12. One reason is they want more P for flowers. However, Carolyn pointed out that P for flowering is more a timing issue rather than a need for a high rate. The 13-13-13 is ammonium N but growers noted that they were looking

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for an ‘ammoniated’ product to replace 12-24-12, citing the desire for uniformity in particles along with a desire to reduce P use.

Some growers reported that they switched to low P fertilizer and have had excellent crops. They cited the need to reduce P due to environmental and neighbor issues. The consensus was that we need to use less P and we need to find the right high-quality products with low P.

Mike Utley reported that he is working with a manufacturer to distribute polymer-coated slow release products with low P (1:1 and 1:less than 1 ratios). Like ammoniated products, each particle has all of the elements. These materials release over a period of time (determined by the thickness of the coating) based on temperature. During the midsummer peak demand, release would be greatest (warmest weather). Carolyn noted that her preference is for slow release early and quick acting materials at bloom, but that all slow release could be an excellent choice on new plantings. The question was asked regarding slow-release mechanism — is release depending on moisture or temperature preferable? Carolyn stated that temperature is better since we have a lot of water around early in the season with rain and frost and that could lead to releasing too much N early in the season with a water-based release product.

Some noted the need for less fertilizer in 2009 due to all the rain. Soil and tissue testing was discussed. Carolyn recommends that unless you are diagnosing a problem, every 4 years for soil and every 2-3 years for tissue sampling is sufficient, with more frequent tissue testing if you are changing your fertilizer practices.

## Diseases

*Fruit rot.* Generally keeping quality turned out to be good in 2009 despite a forecast of poor. Most growers applied three fungicides for fruit rot and many alternated other compounds with Bravo. Mancozeb use increased, likely due to the removal of color incentives (previously, use was limited since it delayed the development of fruit color). It was noted that Dithane would no longer be available in 2010 but that

other mancozebs would be. Many are going to the dry-flowable formulation for Bravo. Growers noted good success using Indar for fruit rot. The Indar/Abound combination is good on new beds and also works on fairy ring. Frank noted that the weather presented two challenges: high rot potential due to dreary June and difficulty of dodging the rain to get fungicides out.

*Other diseases.* Some classic leaf drop was seen in the spring, typical for beds where oxygen deficiency occurred while the bed was flooded. Phytophthora root rot incidence was higher and expected to increase in 2010 due to infections that occurred during the wet 2009 season. Drainage improvement is key to managing this disease. Growers should watch for symptoms (look for reddened vines in May or August) and remember that Frank can provide diagnosis within 72 hours with lab testing of samples. Two minor diseases, red leaf spot and red shoot, showed up in 2009, again likely related to the rainy weather.

Fairy ring is becoming more of a problem and is a big problem in New Jersey. Stevens and Ben Lear are highly susceptible and often symptoms start to show up about 6-7 years after planting or renovation. Indar and Abound are effective on this disease but it is critical to water well both before and after the application.

## Weeds

*Callisto.* Most people applied earlier in 2009 compared to 2008, most getting the first application on before the end of May. Some tip flashing was observed, but generally went away within 2 weeks. However, some reported lingering off-colors in the vines even up to post-harvest that they attributed to Callisto applications. Growers particularly pointed to the change in the nonionic surfactant (NIS) used with the herbicide, noting the high recommended NIS rate for chemigation and difficulty in its use at that rate. Many reported success with a lower rate of NIS when chemigating. To maximize Callisto’s usefulness as a spot-treatment, application timing needs refinement, particularly in regards to effectiveness against specific weeds. Many noted more flashing after the second application when made late in the season. The possibility exists to explore finding a different NIS.

Hilary Sandler asked if anybody could relate yield reduction to Callisto use. One grower reported a bog pair where only one had Callisto with full rate NIS (the other no treatment); the treated one had a lower crop.

Growers noted the good cleaning up of beds using Callisto via chemigation (and integrating hand weeding for woody weeds) but some noted a preference for going back to spot treating once the big problems were under control. However, all of this must fit within the 2 allowed applications per season.

*Quinclorac and dodder.* Nobody in MA achieved dodder control with this material in 2009 due to issues around timing and formulation. However, some reported control of Yellow Loosestrife (mud weed). Hilary plans winter greenhouse work to determine if other formulations of quinclorac can be as effective against dodder as the materials originally tested in MA and WI (made by a different registrant). Since the product for which good field efficacy has been demonstrated is not going to be registered for cranberry, we need to find a formulation and use pattern for the available material that works.

Recommendation for dodder management in 2010. Hilary will continue to work to determine how best to use quinclorac but suggests that growers plan to manage dodder with early-season Casoron followed by Callisto post-emergence. There is good evidence that Callisto inhibits the production of viable dodder seed.

*Evital.* Some are using on new plantings but most use is in the fall. Fall spot treatment on clumping rushes is effective.

### **Insects - insecticides**

*Winter moth.* Some growers had problems in 2009 with winter moth infestations. Delegate was reported to control this pest. It was noted that the moths are flying now and appear to be in large numbers. Growers reported having to treat as early as May 8 in 2009, so early scouting will be key in the 2010 season.

*Cranberry fruitworm (CFW).* Anne Averill reported that while trap counts showed many moths present, worm pressure on the bogs was generally low in 2009

but the population was there from June into August. She emphasized that the female moths preferentially lay eggs into developing fruit so that egg laying occurs at different times for the different cultivars. When planning construction and renovation, it is critical to separate management units for chemigation by cultivar.

For CFW control, Delegate did as well in trials as Diazinon and Lorsban. Carolyn noted that on the Station bogs, Delegate, Sevin, and Assail were used for CFW management. No diazinon was used in 2009. Results were good. Other growers also reported good success with CFW using Delegate and no diazinon.

*Other insects.* Weevil pressure was low to average and well controlled by Avaunt. It was also reported that Avaunt is working well on other pests present with weevil in the spring (worms). Where present, Sparganothis did not show up until August. Pockets of yellow-headed fireworm have been reported.

*Insecticides.* Many compound choices. Delegate is working well on CFW but the registrant is suggesting that for other insects, growers rotate with Intrepid to avoid resistance issues. One can do this by using Intrepid early when the insects are small, and Delegate later as the early season insects get larger and for CFW. Our best new compound for CFW is about 2 years away from registration. Canada is phasing out diazinon (2012 target). Nextar use was up in 2009 due to increased Southern Red Mite pressure.

**Best Management Practices.** We will be revising some of our BMPs during the next few months, updating and adding practices and consolidating all into a BMP book. This will be available online when complete. If you have ideas of what we can add to our current BMPs (current versions are on our website) or are willing to help review drafts, please contact Hilary at extension 21.

**CAROLYN DEMORANVILLE AND STAFF**

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**Cranberry Management Update**  
**Wednesday, January 20, 2010, 7:30 AM – 4 PM**  
**Radisson Hotel Plymouth**

**MEETING SCHEDULE**

**REGISTER NOW! PAGE 7!**  
**4 Contact Hours, \$20!**

- 7:30 - 8:00**    **Registration (with coffee)**
- 8:00 - 8:15**    **Station Update - Carolyn DeMoranville, Director**
- 8:15 - 8:55**    **Weed Management - Callisto and Quinclorac Updates - Hilary Sandler**
- 8:55 - 9:10**    **Flame Cultivator Study Update – Katie Ghantous**
- 9:10 – 9:45**    **Pathological Observations for the 2009 Growing Season – Frank Caruso**
- 9:45 -10:00**    **Casoron Update – Jay Angle, Chemtura**
- 10:00 - 10:30**    **Coffee break**
- 10:30 - 11:00**    **Plant Physiology Research - Peter Jeranyama**
- 11:00 - 11:45**    **Nutrient Management BMPs - Carolyn DeMoranville**
- 11:45 – 1:00**    **LUNCH BREAK (on your own)**
- 1:00 - 1:50**    **Insect Update – CFW Timing for varieties, CFW Spray Trials  
and Tipworm Update - Anne Averill**
- 1:50 - 2:05**    **Factors Affecting Native Bee Pollinators – Molly Notestine**
- 2:05 - 2:20**    **Molecular Detection of Parasites in Bumblebees – Anna Morkeski**
- 2:20 - 2:40**    **Pest Management Practices for Bees – Anne Averill**
- 2:40 - 2:50**    **Winter Moth Warning – Martha Sylvia**
- 2:50 - 3:10**    **New Planting Pest Management Techniques – Station**
- 3:10 - 3:55**    **Construction and Renovation Techniques – Grower Panel  
Matt Gordon, moderator, Ag Innovation Renovations**
- 3:55 - 4:00**    **Wrap-up and Paperwork**

**Business Training for Farmers**

The Massachusetts Department of Agricultural Resources (MDAR) offers an Agricultural Business Training Program (ABTP) responding to planning needs of farmers, through training and technical assistance. In cooperation with Pilgrim RC&D, courses are offered in Eastern Massachusetts. MDAR is currently accepting pre-applications for winter 2010 courses for beginning (Exploring Your Small Farm Dream) and advanced (Tilling the Soil of Opportunity) farm operations. If enough farm operations register, these courses will be held. For more information and program applications visit the Pilgrim RC&D site (<http://www.pilgrimrcd.org/announcements.htm>) or call Irene Winkler at 508-295-1317 x130.

**NOW AVAILABLE!**

**2010 UMASS EXTENSION GREEN  
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The 2010 UMass Extension Green Directory is a comprehensive guide to educational resources for Massachusetts agriculture industry professionals. This 37 page guide is used as a reference all year long!

The directory includes:

- \* Contact information for UMass Extension Agriculture and Landscape Specialists and Faculty
- \* Upcoming UMass Extension conferences, seminars and workshops
- \* UMass Plant Diagnostic Lab submission information for insect, tick, disease and cultural problems
- \* UMass Soil and Tissue Testing Lab information
- \* Pesticide license information, including test dates, training workshops, and how to get a pesticide license
- \* Phone resources to refer home gardener questions
- \* Extension newsletters, web sites and publications
- \* Frequently used phone numbers related to Agriculture and the Green industries

Available in pdf format online at <http://www.umass.edu/agland/>. Click on 'Green Directory'.

For a hard copy, call (413) 545-0895,  
fax request to (413) 577-1620,  
or email [greeninfo@umext.umass.edu](mailto:greeninfo@umext.umass.edu)

**MARK YOUR CALENDARS!!!!**

**2010 UMass Cranberry  
Station Meetings**

- January 20 - Cranberry Update Meeting  
Radisson Hotel – Plymouth
- April 07 - Pesticide Safety Program  
Elk's Hall – East Wareham

**Training Workshops to Prepare for  
Pesticide Applicator License Exams**

This workshop, which is sponsored by Pesticide Education, UMass Extension, is designed to help individuals **prepare** for the pesticide applicator license exam. This workshop provides a review of the study manuals and is not intended to replace a thorough reading of the study manuals on your own. Dates for this training here at the Cranberry Station Library are set for February 9 - 10; April 8 - 9; and May 6 - 7, 2010. To register for workshops contact Natalia Clifton at 413-545-1044.

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**LOOKING FOR FAIRY RING FIELD  
SITES FOR 2010**

As part of a collaborative project with Peter Oudemans at Rutgers, I'll be looking to test a wide range of materials for control of fairy ring next May. If you have a cranberry bed with numerous good-sized fairy rings and are willing to be a cooperator, please call me at 508-295-2212, ext. 18 or email me at [fcarus@umext.umass.edu](mailto:fcarus@umext.umass.edu). You won't need to do anything different on the bed except for letting me do the fairy ring applications and allowing me to evaluate the plots in May and June.

**FRANK L. CARUSO, PLANT PATHOLOGY**

**CAROLYN DEMORANVILLE  
STATION DIRECTOR**

**Registration Form for Cranberry Management Update**  
**Wednesday, January 20, 2010 7:30 AM - 4 PM**  
**Radisson Hotel Plymouth Harbor**

Please register for the meeting using this form.

COMPANY \_\_\_\_\_

CONTACT \_\_\_\_\_

PHONE \_\_\_\_\_

**Return with payment by:**  
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NAMES OF ATTENDEES \_\_\_\_\_

Include check made out to:  
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Attach additional sheets as necessary.

**CRANBERRY STATION NEWSLETTER & REVISED 2010 CHART BOOK RENEWAL**  
**YOU MUST RETURN THIS FORM EACH YEAR TO STAY ON OUR MAILING LIST!!**

The Cranberry Station Newsletter is provided **FREE to all MA growers, cranberry researchers and IPM consultants nationwide**. Annual subscription fee of \$15 is required for out-of-state growers and industry personnel. All persons wishing to receive this newsletter (whether paying or not) must complete and return this renewal form to maintain a subscription. All out-of-state or industry personnel must include a check (made out to UMass) with the renewal form. **All subscriptions sent by email, including out-of-state and/or industry personnel are FREE.**

**Everyone must respond to this notice by Dec. 31, 2009**  
**or your name will be taken off of our mailing list for 2010!**

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## **SEE INSIDE**

- \* CROP SUMMIT UPDATE
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- \* 2010 GARDEN CALENDAR
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- \* WINTER MEETING SIGN – UP FORM
- \* 2010 NEWSLETTER RENEWAL FORM