

Cranberry Station Newsletter

APRIL 2001

UMASS CRANBERRY EXPERIMENT STATION

1 STATE BOG ROAD

P.O. Box 569

EAST WAREHAM, MA 02538

<http://www.umass.edu/umext/programs/agro/cranberries>

ORGANIC CRANBERRY CONFERENCE MAY 14, 2001

CRANBERRY EXPERIMENT STATION

UMass Extension Cranberry Experiment Station will be hosting a meeting on producing and marketing organic cranberries. The meeting will be held on Monday May 14, 2001 from 9 AM - 3 PM in the library at the Cranberry Experiment Station in East Wareham, MA. The preliminary agenda includes presentations from local growers (cranberries and other commodities), local distributors, NOFA, and the Cranberry Station staff. Please call the station 508.295.2212 x 10 by Tuesday May 1, 2001 to register for the meeting. No fee will be charged for the meeting, but please call to let us know if you will be attending as we need a head count for lunch. For more information, contact Hilary Sandler (x 21) or hsandler@umext.umass.edu.

TENTATIVE AGENDA

Grower Discussion Panel
Don Franczyk, NOFA- Overview of new
USDA Guidelines
Barbara Sanderson, Jonathan Farms -
Packaging, Distributing, Marketing
Bob Anderson, Certification and Marketing
Perspectives
Kristine Keese, Cranberry Hill Farm:
Organic Cranberry Growing - a 10-year
perspective.
Growing cranberries organically in MA -
Pest and horticultural concerns
Research idea brainstorming

WATER QUALITY IMPROVEMENT FUNDING AVAILABLE

Applications are now available for Fiscal Year 2002 funding for farmers who wish to install best management practices to protect water quality. The Massachusetts Department of Food and Agriculture's Agricultural Environmental Enhancement Program (AEEP) is making \$200,000 available to producers in Massachusetts who farm five acres or more.

Cranberry growers must have three acres under production.

This is a reimbursement program for the purchase of *materials only*. A maximum award of \$20,000 per farm is available to eligible farmers. These funds are available from the Rivers Protection Act Legislation. This is the fourth year of a five year program which will fund \$1 million to farmers for water quality improvement measures. Additional funding from the Massachusetts Department of Food and Agriculture could be available after July 1, 2001 depending on authorization.

To request an application contact Susan Phinney, AEEP Coordinator at 617-626-1772. Applications are also available on-line (www.massdfa.org/farmfunding/aEEP) and through the Lancaster and Amherst DFA offices, MA Farm Bureau, Farm Service Agency and Natural Resources Conservation Service.

Applications must be postmarked no later than May 14, 2001 and mailed to MDFA, 251 Causeway Street, Suite 500, Boston, MA 02114, and ATTN: Susan Phinney to be considered. *Faxed copies are not acceptable.*

Note: This program is similar to the EQUIP program, but funded by the State.

CRANBERRY STATION UPDATE

The search is on to replace Bruce Lampinen. We have received the green-light from Amherst to begin the search for a new Environmental Physiologist. As you know, Bruce left the Station last summer to return to his roots in California and work on almonds and walnuts. With both the directorship and Bruce's position vacant, staffing has been quite short. We are delighted to begin the search for a new addition to the staff. The position will be advertised in April and May and we hope to begin interviewing by the end of the summer. We are looking for a person to develop an active research program (including field research) in one of the following areas: winter hardiness and cold stress, dormancy, water management and quality, factors limiting fruit set, anaerobic stress, and root zone physiology.

We are pleased to announce that we have received \$250,000 in the 2001 State Budget for upgrades to the research and extension capability of the Station and to provide programmatic support for the research efforts in 2001. Kudos to our Board of Oversight and particularly to Rep. John Quinn and Sen. Therese Murray for securing this funding. We plan to upgrade our facilities for producing printed materials and to communicate with growers (phone and internet), purchase important laboratory and greenhouse equipment and supplies, and support summer labor

UMass Cranberry Experiment Station
1 State Bog Road, P.O. Box 569
East Wareham, MA 02538
(508) 295-2212 FAX (508) 295-6387

Carolyn DeMoranville, Acting Director

APRIL 2001 Issue

Deborah Cannon, Editor

Trade names are used for identification, no company endorsement or product discrimination is intended. The University of Massachusetts makes no warranty or guarantee of any kind, expressed or implied, concerning the use of these products.

Carolyn DeMoranville,
Assistant Extension Professor

for our field and laboratory research projects. Projects supported include studies of weevil and fruitworm (A. Averill), fruit rot and upright dieback (F. Caruso), weed management and ecology of new plantings (H. Sandler), and cultural practices and phosphorus management (C. DeMoranville). In addition we will fund studies on water quality improvement and nutrient management, and provide support for studies of cranberry health benefits, marketing, and open space value.

After many years of waiting, we have finally begun the process of capital improvement for the Station. Money (\$500,000 for the Cranberry Station) was put in place by bond issue several years ago for University wide capital improvements. The Station has begun the process of identifying our improvement needs, prioritizing those needs, and developing specifications for bidding on the projects. We have identified our electrical systems as the top priority for this round of funding. In addition, fume hoods will be updated, fire suppression systems will be put in place, and structural issues will be addressed. We hope to see the projects underway this fall.

Work is nearing completion on an above-ground fuel storage tank on the Station grounds. This long-awaited replacement for our underground tanks will allow us to once again purchase gasoline in bulk, freeing up scarce research dollars for better uses.

Finally, many of you may have heard that, effective April 1, Frank Caruso has stepped down as Acting Director of the Station. I hope you will join with me in thanking Frank for his excellent efforts in this, his third round as acting director. You may also have heard that we were unable to entice our top candidates to accept the position in the recent director search. Until a new search is initiated, I will be assuming the responsibility of Interim Director of the Cranberry Station. I look forward to working with you in this capacity as well as in my continued role as plant nutrition specialist.

Carolyn DeMoranville,
Acting Director

SECTION 18 PERMIT GRANTED FOR STINGER

Exemption expires December 31, 2001

Stinger is a postemergence herbicide used to control wild bean, narrow-leaved goldenrod, asters, Joe-Pye weed, ragweed, pitchfork, and white clover. Other susceptible weeds in the treated area may also be controlled.

You must sign a liability of waiver prior to using Stinger in 2001. In addition, the MA DFA requires you to submit a grower reporting form documenting the amount used and the acreage treated. All forms will be available through local ag dealers and at the Cranberry Station. We should be receiving the documents from Dow Chemical any day now.

Very low rates of Stinger are very effective, especially against the most susceptible weeds, such as wild bean and clover. Rates as low as 1/16 of an ounce have been effective against wild bean. **USE THE LOWEST EFFECTIVE RATE.** Stinger will cause injury to cranberry vines. Be very careful in your applications and minimize contact of the herbicide to the vines as much as possible. Growers have reported that seriously injured vines may take up to 3 years to recover. If you are using Stinger as a broadcast application, you should apply when the vines are dormant. Foliar spot-applications may be made to weeds present in the midst of growing cranberries. Applications may also be made after harvest.

Recommended rates as per the label:

Spray applications: 0.25-0.5 ounce per gallon water.

Wiper applications: 2.5 ounces per gallon water.

Stinger has a 50-day PHI. **DO NOT APPLY THROUGH THE CHEMIGATION SYSTEM.** Do not apply within 5 hours of expected rainfall or irrigation. Do not apply to weeds tolerant of Stinger such as loosestrife, sedges, grasses, rushes, and violets.

Information is also available in the 2001 Chart Book. Please feel free to call me if you have additional questions.

Hilary Sandler, Cranberry IPM Specialist

SECTION 18 PERMIT GRANTED FOR KERB 50-W

Exemption expires June 1, 2001

Kerb 50-W is a pre-emergence herbicide formulated to control dodder. You are permitted up to two (2) applications per season, applying a maximum of 2 lb product per acre. Applications must be made by chemigation or boom-sprayer (20-50 gallons of water). Aerial applications are NOT permitted. Kerb may be applied any time prior to dodder emergence through roughneck. Make NO applications after May 31, 2001.

If making two applications of any pre-emergence herbicide for dodder control (Kerb alone or in combination with Casoron, or two Casoron applications), allow 2-4 weeks between applications. This is primarily to widen the window of activity against dodder as much as possible (rather than being a phytotoxicity issue).

Do not open the soluble pouches. When making the application, constantly agitate the solution. Be sure to run the irrigation system after application such that at least 0.1-0.2 inches of water follow the herbicide. You need to make sure the herbicide is washed off the foliage and watered into the soil. Dodder seeds are in the uppermost portion of the soil and the herbicide must be in the vicinity of the germinating seedling in order to work.

In 2000, many growers reported good efficacy with Kerb, especially when applications were made from the second week of May through the end of the month. It is critical to know the germination pattern of dodder on your bogs. In addition, Kerb works best on irrigation systems with good coefficients of uniformity. Application should be made by licensed applicators or persons directly under their supervision. It is recommended to hold water on the bog for several days after application. Do not mix with other chemicals. The REI is 24 hours.

You must fill out a DFA Grower Reporting Form when you use Kerb. These forms will be available at your local ag dealers and the Cranberry Station.

Hilary Sandler, Cranberry IPM Specialist

SELECT 2EC AND PRISM APPROVED FOR PRODUCING BOGS

Select and Prism, both postemergence grass herbicides, were approved for use by EPA on producing cranberry bogs. Both Select and Prism have a 30-day PHI. Do not apply more than 8 fluid ounces per acre of Select per application, with a maximum of 32 fl. oz. per acre per season. Prism has a maximum application of 68 fl. oz. per acre per season. Do not apply more than 17 oz per acre of Prism in any one application.

Both compounds are most effective when applied to actively growing grasses prior to flowering. Use a higher rate (check label for specifics) when grass pressure is high or when grasses are at the maximum height. Use higher amounts for perennial grasses. Labels should be available through the local ag suppliers.

Hilary Sandler, Cranberry IPM Specialist

BEWARE OF ROOT ROT

As I write this, it is raining cats and dogs and we are approaching the all-time high record precipitation value for the month of March. That's good for many of our water-related practices such as frost protection, irrigation and flooding, but it could be disastrous as far as Phytophthora root rot is concerned. The fungus is beginning to get active again and with the water table raised as it currently is, there will definitely be standing water in the low, poorly drained areas of the beds. I realize that with the possible marketing order and the depressed price of the berries, many of you will continue to be in a reduced management situation. You must watch your beds that have had the disease very closely for symptoms of the disease. Sample the vines and we will test them for the pathogen. Ridomil may be beyond your budgeted items, but you should not avoid improving the drainage. My observations in 2000 indicated that the disease was making a comeback in many beds already. Our March rains will no doubt accelerate that process.

Frank L. Caruso
Plant Pathology

SECTION 18 PERMIT GRANTED FOR SPINTOR 2SC

Exemption expires October 1, 2001

The emergency Section 18 registration that we submitted for the insecticide SPINTOR 2SC has been granted for the 2001 growing season via EPA and MA Department of Food and Agriculture. This is a fast acting biorational insecticide, but keep in mind that it is highly toxic to aquatic invertebrates and bees.

Required paperwork: You may proceed directly to your AG supplier for product and required paperwork. You do not need to work through us at the Cranberry Experiment Station this year to obtain SpinTor. It is critical that you fill out the Grower Reporting Form for the Pesticide Bureau if you use the product. Those who buy SpinTor and who do not submit paperwork truly compromise any future Section 18 emergency permits for the industry.

Application: For growers with organophosphate (e.g. Lorsban) resistant Sparganothis fruitworm, this compound may be important for management of outbreak populations. Five to ten oz./A (0.078 to 0.156 lb ai/A) in three applications per season can be made but not exceeding a total of 29.5 oz. per season. Lower rates of SpinTor will work fine where coverage is expected to be good (6 minute or better washout). Applications are allowed via helicopter, ground equipment, or chemigation. Your best bet for effective control with SpinTor is by attacking the first generation.

Optimal timing: There are two generations of Sparganothis per year. For first generation, problems will be discovered by looking for larvae through sweep net sampling starting in mid-May. Your best bet for effective control with SpinTor is by targeting this first generation. For second generation, pheromone traps should be deployed in the first week of June and treatment applied 10-14 days after peak moth capture. This second generation is more difficult to control.

Anne Averill
Entomologist

UMASS FRUIT TEAM DEVELOPS NEW WEB SITE

The fruit team on the UMass Amherst Campus has developed a new web site — Fruit Advisor. The site is designed to provide information for growing fruit in Massachusetts. While this is *not* a source of cranberry information, it is an excellent resource for information regarding other fruit crops. As many cranberry growers consider diversification, this site may provide useful information. Currently the site has links to the online version of Massachusetts Berry Notes (excellent small fruit information), Fruit Notes (tree fruit), and extension programs. You can find Fruit Advisor on the web at www.umass.edu/fruitadvisor.

NEW INFORMATION ON CRANBERRY STATION WEB SITE

Hilary Sandler has recently updated the Cranberry Station web site. Go to “What’s Hot?” on the home page (www.umass.edu/umext/programs/agro/cranberries) for links to handouts from the Cranberry Management School (held in January) and the Research and Extension Update (held on March 17th). A presentation on fertility management for new and producing beds by Carolyn DeMoranville will be added soon. Don’t forget to watch the web page for updates on Section 18s and Keeping Quality and remember that old issues of the newsletter are also available through the web site.

BEGINNERS CRANBERRY SCHOOL CRANBERRY STATION LIBRARY TUESDAY - APRIL 24, 2001 5:00 - 8:00 PM

TENTATIVE AGENDA

4:45	Registration
5:00	Introduction - C. DeMoranville, Acting Station Director
5:05	IPM - Hilary Sandler
5:30	Diseases - Nora Catlin
6:00	Insects - Anne Averill
6:30	Coffee, Juice Break
6:45	Nutrition - C. DeMoranville
7:15	Frost - C. DeMoranville
7:30	Water mgmt. - C. DeMoranville
8:00	Credit Paperwork

CRANBERRY GROWERS PROVIDE IMPORTANT WILDLIFE HABITAT

According to *North American Birds*, a publication of the American Birding Association, working cranberry bogs provide important habitat for American Kestrels. Wayne Peterson of Mass Audubon reported:

“Considering the apparent decline in the number of American Kestrels breeding the Region, 115 young banded out of 45 occupied nest boxes in s. Plymouth [county], MA (JM, MM) was most encouraging. The majority of these boxes were erected in the vicinity of working cranberry bogs, underscoring the importance of these habitats to kestrels in s. New England.”

These birds were monitored by Joey Mason and Mike Maurer of the Cranberry Country Bird Banding Project. The Banding project has been supported by cranberry growers for more than 10 years. Bluebird nesting has also been encouraged and monitored by the Banding project with the cooperation of cranberry growers. Wayne Peterson of Mass Audubon also reported:

“An Eastern Bluebird study in se. Massachusetts cranberry bogs documented 57 bluebird nesting attempts resulting in 28 pairs successfully fledging 152 young (JM).”

Currently, Joey Mason is developing a project to assist cranberry growers in protecting raptors such as osprey that nest and perch near electric lines around cranberry bogs. In a time of increasing urbanization and pressure to change land uses around our farms, it is important to recognize the critical role our open space plays in the success of wildlife species in our area. For more information about preserving and providing wildlife habitat, contact Joey Mason at extension 27.

WORKER PROTECTION TRAININGS CRANBERRY STATION LIBRARY 2-4 PM

Worker Protection Trainings for cranberry workers in the Handler category will be offered in the spring: April 25, May 30, and June 27 (2-4 PM). Anyone working on the bog must be trained unless they are a family member or already have a pesticide license. There will be a \$5.00 charge that includes training book and EPA verification card. Contact Debbie (ext. 10) or Marty (ext. 20) to sign-up.

INTERACTION OF SANDING, IRRIGATION, AND NITROGEN FERTILIZER — A PROGRESS REPORT
Bruce Lampinen and Carolyn DeMoranville

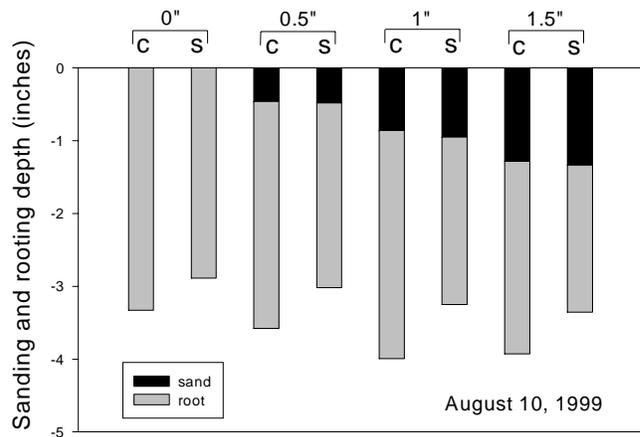
In 1999 (and continuing in 2000), a study was initiated on a commercial Stevens bed to examine the interaction of sanding, nitrogen fertilization, and irrigation regimen. At opposite ends of the bed, two blocks of plots were set up, one for each irrigation regimen. In each block, combinations of sanding depth (0, 0.5, 1, and 1.5 inches) and nitrogen rate (0, 30, and 60 lb/A) were applied to individual plots. One block received grower initiated irrigation throughout the season (irrigated treatment) and the other received sprinkler irrigation only when the soil moisture dropped below 18" from the bed surface (cut-off treatment). Throughout the season, we monitored soil moisture, light interception by the canopy, growth variables (length, dry weight), and fruit retention. In September, yield was estimated from 2 ft² (1999) or 1 ft² (2000) samples collected from each plot. A separate sample was collected for fruit color (TAcy) analysis.

As expected, there was no significant effect of nitrogen treatment in the first year with the exception of increased fruit rot when high N and high irrigation were combined. However, irrigation and sanding effects were observed. Overall, the depth of the water table averaged 8" deeper in the cut-off irrigation treatment compared to the full irrigation block. This resulted in significantly deeper rooting in those plots at all levels of sanding treatment (see figure). Despite the increased energy devoted to root production in the cut-off block, yield was not reduced (it was similar in both treatments). The irrigated block showed a decreased ability to retain fruit (significantly more uprights that flowered but retained no fruit), especially in the plots that received 1.5" of sand.

Sanding decreased the percentage of light intercepted by the canopy (decreasing the amount of photosynthesis) significantly in the season of sanding. This translated into decreased yield in the sanded plots (see table, pg.7). Light interception remained below that in the unsanded plots until late in July but then

recovered, indicating that the yield suppression should not carryover into the second year. The number of vegetative uprights increased in the sanding treatments — this was also expected to translate into a yield increase in year two. Likewise, the increased rooting in the cut-off irrigation treatment was expected to relate to increased cropping in the second year. However, the anticipated increases in yield for the year following sanding were not realized in 2000. The only sanded treatment with increased yield over 1999 was the 1.5 inch sand in the sprinkler cut-off area. This may have been due to the fact that 2000 was a significantly wetter year than 1999 and the inadvertent application of approximately 0.5 inch additional sand to all plots during the winter prior to the 2000 season. Yield remained suppressed in the 1.5 inch sanded plots in the irrigated area. Further, cumulative yield (1999 and 2000) was greater in unsanded controls than in any sanded treatment except 0.5 inches in the cut-off area.

This study will continue in 2001, when we hope to be able to see the benefits of increased rooting depth in the cutoff irrigation plots, confirming our hypothesis that rooting depth, along with leaf area will correlate with ability to set and retain fruit.



Actual sand deposition and rooting depths as measured on August 10, 1999. C and S refer to cut-off and sprinkler irrigation treatments respectively.

**PRELIMINARY
KEEPING QUALITY FORECAST**

As of April 1, there are **0** points out of a possible 10 that favor keeping quality for the 2001 Massachusetts cranberry crop. The forecast is for a **VERY 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 this present forecast, this would be a particularly good year to hold late water. Unless the forecast improves in June, we do **NOT** recommend cutting corners on fungicide applications or rates for fruit rot management, particularly in a bed that has a history of higher fruit rot incidence.

Frank L. Caruso
Plant Pathology

FIRST CLASS
POSTAGE AND FEES PAID
USDA
PERMIT NO. G268

COOPERATIVE EXTENSION
U.S. DEPARTMENT OF AGRICULTURE
UNIVERSITY OF MASSACHUSETTS
AMHERST, MA 01003-0009
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300