



**UMASS
EXTENSION**

Cranberry Station Newsletter

August 2005

UMASS CRANBERRY STATION

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CRANBERRY STATION FUNDING UPDATE

Often, when I see growers out and about, they ask me how the Station's funding is holding up. I am pleased to be able to report that, currently, our funding outlook is quite good. Through the efforts of our legislative members of the Cranberry Station Board of Oversight, Senator Therese Murray and Rep. John Quinn, and political support from CCCGA, the Station continues to have an earmark in the UMass section of the State budget. This year, through efforts by Senator Murray, the Station's earmark was increased to \$500,000. In addition, a special earmark of \$66,000 was made in support of the State Bog renovation project and for the support of research relating to bog renovation. Importantly, the entire UMass budget was substantially increased in this fiscal year compare to the last, so that our good fortune did not come at the expense of other University functions.

In addition to State funding and income from the sale of our crop, the Station gets support (federal funds) from UMass Extension and from the Massachusetts Agricultural Experiment Station as well as from Grant proposals submitted by the faculty to outside agencies. Currently we have several USDA grants, a grant from MassHighway, and numerous awards from grower organizations.

Total value of 2005 awards from grower organizations:

CCCGA \$29,300

Ocean Spray Cranberries, Inc. \$23,700

Cranberry Institute \$15,050

Cranberry Research Foundation \$14,625

This year Dr. Justine Vanden Heuvel was the recipient of a Special Hatch grant from campus. This grant, for the study of phenolic (health conferring) compounds in cranberry was awarded in a competitive process. Only three proposals were funded so we are especially proud of Justine for being one of those chosen. The Station was also awarded funding for a backup generator for the Laboratory building — this was also a competitive process within our College.

We are particularly appreciative of the strong support provided to us by the Massachusetts cranberry industry. In addition to providing financial support through grants, we also receive many gifts of goods and services from growers. We extend our special thanks to:

Beaton's Cranberry Growers Service

A.D. Makepeace Company

DeCran Ag Supplies

R.F. Morse

Stearns Irrigation

We also thank all those growers that invited us onto their farms to conduct projects — without your support we would not be able to do this research.

CAROLYN DEMORANVILLE

Dr. Carolyn DeMoranville
Station Director

NOTES ON ROUNDUP USE

Many products with the active ingredient, glyphosate, (e.g., RoundUp Ultra, RoundUp WeatherMAX) are available on the market. Please read the label of any product you are using to ensure compliance. This product may be applied on bogs during various times of the growing season. Roundup is typically applied at 10-20% solutions. WeatherMAX is slightly more concentrated than Ultra, so keep that in mind when preparing solutions.

It is not necessary to mix Roundup Ultra or WeatherMAX with any additional surfactants or additives (as with older glyphosate products). Use a dye so you can see where you have wiped or sprayed. Roundup WeatherMAX is rainfast 1-2 hours after application. Available glyphosate products vary as to whether they carry a 'Caution' label or 'Warning' label. Look at the label!! When using Roundup, protective eyewear is not mandated; the REI for WeatherMAX is 4 hr. Thorough coverage is essential to maximize control of perennial weeds. Do not touch vines or allow material to drip onto vines. **Apply any time weeds are present except 30 days before harvest.** Make herbicide mixtures fresh each day for maximum effectiveness. Do not store in galvanized containers.

GENERAL WIPING TIPS. Use a small sponge or applicator that permits excellent coverage with minimal dripping. Adequate coverage of each stalk must be obtained. Several leaves (at least 50%) on each stalk must be treated with the herbicide. Repeat applications to remaining plants the following year. Be patient. Most treatments will not give 100% control in the first year. Applications in subsequent years should be less time-consuming.

Application by hand with sponges or specially designed applicators may be necessary with low-growing weeds (e.g., bristly dewberry, poison ivy). Repeat applications within a season are legal and may be necessary, especially for well-established perennial weeds. Poor growing conditions such as drought stress, disease, or insect damage may reduce effectiveness. Avoid touching or dripping material onto cranberry plants during application.

OTHER LABELED USES. Roundup can be used as a post-harvest sprays (0.5%-1% solutions) applied as a spot-treatment or as a spray in dry ditches (1%-2% solutions). Supplemental labels (available from the Station or local ag dealers) are needed only if you are using Ultra. If you are using WeatherMAX, these spray uses are incorporated into the label and additional labels are not needed.

Use 1%-1.5% solutions (2.5-3.8 TBL or 38-57 ml/gal) for dry ditch applications and 0.4%-0.7% solutions (~3.0-5.5 tsp or 15-27 ml/gal) for postharvest sprays. Recent research indicates that Howes may be slightly more sensitive to postharvest spray injury than Early Black. If you have any questions about Roundup use, call the Cranberry Station (ext. 21) for information.

Hilary Sandler, IPM Specialist

FRUIT QUALITY UPDATE

So far in my travels, I have encountered very little fruit rot. The 'very good' keeping quality forecast issued in June has stood up very nicely so far. I see significantly more fruit worm injury in the berries. However, you must continue to maintain vine vigor by irrigating the vines regularly as long as the drought continues. The fruit quality in berries on vines under stress will only get worse. Let's hope we get a nice steady soaking rain soon.

FRANK L. CARUSO
PLANT PATHOLOGY

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STRATEGIES FOR MINIMIZING VINE DAMAGE DURING HARVEST FLOODS

Harvest flooding tends to be stressful for cranberry vines. Our research has shown that fall flooding is often (but not always) damaging to the vine. There are three factors that we've found to have a particularly significant effect on the vines during flooding: date of flood application, flood duration, and water temperature.

1. Date of application

Floods applied earlier in the harvest season have a greater negative impact on vines than floods applied later in the season. For example, a 5-day flood on Howes in the first week of October has decreased carbohydrate concentration by as much as 38%, while a 12-day flood applied in early November has had no negative impact at all on the vines. We've determined similar patterns in both Early Black and Stevens when comparing early fall floods to late fall floods. If you plan to do any harvest flooding in September or early October, pay special attention to the suggestions below.

2. Flood duration

Longer floods have more opportunity to damage the vines than do shorter floods. Particularly if you are flooding early in the season (September or early October), try to move water on and off of the bog as quickly as possible.

3. Water temperature

The respiration rate of the vines increases when the water temperature increases. This means that when the water temperature is high (ex. 68°F), the vines use about twice as much energy to survive than they do if the water is 50°F. To keep the water on your bogs cool, try increasing the volume of water on the bog, as a greater volume of water won't warm up as quickly compared to a smaller volume. Another method of maintaining a cooler temperature is to periodically recharge the flood, if possible, from the water source.

Justine Vanden Heuvel, Physiologist

STATE BOG TO BE RENOVATED

The 100 year old State Bog at the UMass Cranberry Station will be renovated in the fall of 2006. We will be breaking ground just after the '06 crop has been harvested. We are busy gathering information, getting engineering plans set, buying supplies for management and irrigation and forming a committee to oversee the renovation.

The preliminary design squares off the bog as much as possible and puts a main dike down the center. This will enable us to have six one acre pieces and two three acre pieces. The smaller sections will be used for research plots in Pathology, Nutrition, Entomology, Physiology, and IPM/ Weed Science — the varieties in these remain to be determined. The back three acre sections will have flooding trials, large scale field trials including the ability to do chemigation trials, and production areas. Much of the acreage will be Stevens, Early Blacks and Howes. High Red, Ben Lear, Bergmans and other newer varieties will also be represented in smaller acreage. There will be a replicated variety trial and a historical vines area.

Management of the bog will have a new look to it as well. A new tractor and mower arm for dikes will be purchased as well as a dump trailer. A key part of the management of this new bog will be boom spraying. Boom spraying will give us precise and low gallonage applications of some of our new pesticides that are much more effective when not chemigated and allow us to test compounds in that system. We also will be installing pop-up heads and a completely underground main line (I am not sorry to see that aluminum piping go!).

This is an exciting turn of events for the UMass Cranberry Station and we are looking forward to doing even better research to benefit the Massachusetts cranberry growers. The UMass Cranberry Station invites anyone with an interest in the renovation plans to come to an information and brainstorming session. Come and share your ideas about the renovation and about directions for renovation research.

Meet on September 6th at 3 P.M. in the Station library.

JEN FRIEDRICH, FARM MANAGER

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MARK YOUR CALENDAR

September 6th at 3 P.M. in the Station library
Renovation plans for State Bog