# CRANBERRY STATION NEWSLETTER

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# UMass Cranberry Station Research & Extension



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Poverty Grass on State Bog.

News from the IPM/Weed Lab

By Hilary Sandler and Katie Ghantous

## **USING FALL HERBICIDES IN 2023**

**Evital** is good against sedges and rushes and works well when applied in the fall. Evital is applied with a ground applicator or by hand. The fall rate can be as high as 160 lb/A on an established bog and up to 80 lb/A on new plantings; only one application can be made per year. People tend to use higher rates in the fall than the spring. Use higher rates for switchgrass and woolgrass (actually a sedge and not a true grass). Lower rates can be used to control barnyardgrass, rice cutgrass, needlegrass, and smokegrass. Evital can injure vines on bogs that drain poorly, so be careful. Varieties such as Stevens and McFarlin are sensitive to Evital injury, so use lower rates. **Please let us know if you use(d) Evital on any of the super hybrids**, how it worked for you and if it caused any injury. Apply before a predicted rain to encourage soil incorporation.

**Roundup** <u>sprays</u> can be used as <u>spot applications</u> on the bog (and in the ditches) in the fall. Rates as low as 1-2% solutions can injure or kill cranberry vines, even into November. So BE CAREFUL! Use this herbicide in situations where the weed(s) have gotten so bad, there are few vines to worry about. Good candidates might include patches of dewberry and poison ivy infestations. Weeds should still be green when using Roundup (and all glyphosate products) and note that it mainly enters plants by absorption through leaves. If there are no leaves left on the weeds you are targeting, you will likely not see any control.

Some growers are re-experimenting with fall applications of **Casoron** for perennial weed control (especially poverty grass). If you are doing fall applications against poverty grass, please let us know! Asters, loosestrife, nut sedge, woolgrass, narrow leaf goldenrod (follow by late water in spring), and spike rush are among the weeds that may respond to fall applications. Remember you can only apply <u>100 lb/A in a 12-month period</u>. Casoron is labeled for use in the fall prior to sanding but you should not sand on top of a Casoron application. Single doses of high rates are needed to control many established perennial weeds.

The effectiveness of Fall applications of **Devrinol 2-XT** has not been documented by our lab, but maybe some of YOU have tried it; let us know!

Zeus is currently not labeled for applications in the fall. Applications should be done in the spring prior to budbreak.

**Controlling Poverty Grass (PG) in the fall.** Remember that PG is a perennial, meaning existing clumps of grass will resume growing next year if not removed. In order to manage poverty grass on your beds, you must control BOTH the existing adult weeds and prevent new weeds from establishing by seed. The best option at this time of year is to hand-pull or otherwise physically remove PG. Our research has shown that plants will not regrow from leftover roots as long as the crown of the grass clump is removed. Seeds have already been produced and disseminated, so you cannot do anything about the threat of new grass plants establishing from those seeds until next year. You should plan on controlling seeds produced this year with applications of a preemergence herbicides like Devrinol in the spring, especially if you have a lot of seed producing grasses on or around your bog. Fall Evital (80 lb/A) does suppress existing plants but has not been observed to control plants in the spring. You will get some reduction in growth or vigor by spraying Roundup (0.5-1% solution) into the center of the plant if the PG is still green. Be very careful; the Roundup sprays will injure cranberry vines!

Allow at least 3 weeks between the time of herbicide application and the winter flood. Flooding within 3 weeks of application moves the herbicide into the water and away from the target. Flooding too soon will reduce efficacy, increase environmental risk, and waste money. Although temperatures will be lower and the risk of volatilization is lower (especially important for Casoron), it is important to plan your application just prior a rain event to favor soil incorporation. This is critical if you still have conventional sprinkler heads, which have been removed for harvest. If your bog has pop-ups, you have the option to water the herbicide in if no rain is forecast. Please contact us with any questions: Hilary Sandler (508-970-7641 or hsandler@umass.edu) and Katie Ghantous (508-970-7634 or kghantou@umass.edu).

#### News from the Pathology Lab By Leela Uppala

# TRAINING THE NEXT GENERATION OF RESEARCHERS

The contribution of the undergraduate summer scholars in advancing our research goals is immeasurable. Through the CAFE (Center for Agriculture, Food, and the Environment) Summer Scholars Program offered by UMass Extension (supported by Federal and Private funds), the Cranberry Station has had the privilege of hosting paid summer undergraduate interns who have made



Ethan Gioscia at the CAFE Summer Scholars Symposium.

substantial contributions to our ongoing research and extension projects. Over the course of four years, my program has been fortunate to receive support from four dedicated summer interns. In return, they have received valuable hands-on lab and field experience during our growing seasons. This year, I had the pleasure of welcoming Mr. Ethan

Gioscia, a native of Halifax, MA, who is currently pursuing an undergraduate degree in Sustainable Horticulture at the Stockbridge School of Agriculture, UMass Amherst, to my lab. Ethan has made a significant impact on our ongoing efforts to characterize cranberry fruit rot fungi across various phenological stages. Just last week, he presented his research at the CAFE Summer Scholars Symposium, which was hosted at the Campus Center, UMass Amherst.



Leela Uppala and Salisu Sulley demonstrating initial prototype of late water decision making model.

#### BOGSIDE WORSHOP: UPDATING PROGRESS ON LATE WATER DECISION-MAKING MODEL RESEARCH

A bogside workshop was held on September 7, 2023. During the second part of the workshop, which took place in the A.D. Makepeace meeting room, we discussed the progress of our Late Water Decision-Making Model Research. It is a 3-year study, with a goal to identify critical criteria that contribute to the successful outcome of late water (LW) floods and to develop a grower-friendly, web-based, data-driven, decision-making model (DMM) that could predict benefit: risk ratio of LW. Our discussion encompassed the known benefits of late water floods, factors to consider when implementing late water floods, instances where late water is not advisable, and the

notable progress we've made in the past three years studying late water effects on hybrid cultivars. Additionally, we demonstrated our initial prototype of a user-friendly, web-based late water decision-making model. This tool has the potential to greatly assist cranberry growers in assessing whether their bog is a suitable candidate for late water application in any given year. Our plan is to complete the analysis of the three-year dataset and have the model ready for utilization by Spring 2024.



Ryan Wicks flying a drone over State Bog.

News from the Physiology/Fruit Quality Lab By Giverson Mupambi

### PREFLIGHT CHECKLIST FACT SHEET

We have published a preflight checklist to assist growers interested in utilizing drones as part of their operations. The preflight checklist is designed to help drone pilots ensure each flight's safe operation. The information provided offers a general overview and may need to be modified depending on prevailing circumstances. The checklist covers permissions and legality, flight plan review, weather conditions, systems checks, launch preparations, and post-flight actions. The preflight

checklist is available for download on our website under Cranberry Station Fact Sheets. Here is the link: <u>Drone</u> <u>Preflight Checklist</u>.

# BOGSIDE WORKSHOP: NEW CULTIVAR EVALUATION

We held a field day on September 7, 2023, to update growers on the progress of the new cultivar evaluation project. The workshop aimed to show growers how the new cultivars are progressing and to allow them to see firsthand how these new cultivars perform under Massachusetts growing conditions. We are evaluating thirteen new hybrid cultivars from New Jersey and Wisconsin breeding programs under rigorous scientific conditions. The cultivars are HyRed®, Ruby Star®, Sundance ®, Badgers, Crimson King, Granite Red, Midnight, Pillgring King, Haines®, Mullica Queen® (control), Scarlet Knight®, Vassana<sup>TM</sup> and Welker<sup>TM</sup>. We chose Mullica Queen® as the control because it currently has the highest yield in Massachusetts. At



Giverson Mupambi discussing new cultivars on State Bog.

the time of the workshop, only TAcy data and fruit size data were available (Table 1). We are going to collect data on yield, fruit quality, and fruit rot during harvest in the first week of October. This information will be shared during our annual update meeting next January. As of September 6th, five of the cultivars, namely HyRed®, Ruby Star®, Midnight, Scarlet Knight®, and Welker<sup>TM</sup> had already reached TAcy values of at least 30. We are continuing the collection of fruit color data weekly so that we can classify the cultivars into early, mid, and late-season cultivars in terms of harvest windows.

Cultivar Name:	ТАсу	Fruit	Fruit
		Diameter (mm)	Length (mm)
HyRed®	46	18.58	17.86
Ruby Star®	34	18.53	18.25
Sundance®	15	18.88	21.49
Badgers	11	19.64	24.37
Crimson King	24	18.33	20.41
Granite Red	14	18.84	19.78
Midnight	32	18.78	20.65
Pilgrim King	17	21.42	21.40
Haines®'- RU 1	23	16.87	16.81
Mullica Queen®	12	18.22	20.27
Scarlet	38	15.05	17.76
Vassana <sup>TM</sup>	20	17.84	21.72
Welker™	30	18.35	20.62

 Table 1: Preliminary data from cultivar evaluation data as of September 6, 2023.

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Station News By Hilary Sandler, Director

### NACREW CONFERENCE

The North American Cranberry Research and Extension Workers (NACREW) conference was held August 21-24, 2023, in Galloway, NJ.

Approximately 60 people attended and included cranberry folks from NJ, MA, WI, PNW, Canada and Chile. Six UMCS staff, Sandeep Bhatti, Peter Jeranyama, Brian Makeredza, Giverson Mupambi, Hilary Sandler, and Salisu Sulley, attended and made presentations.



From left to right: Sandeep Bhatti, Giverson Mupambi, Salisu Sulley, Brian Makeredza, Peter Jeranyama, and Hilary Sandler

Monday night included a welcome reception. Nineteen (19) oral presentations were given on Tuesday with topics including plant growth regulators, use of molecular tools to identify resistance, release of *Trichogramma* wasps for control of fruitworm and fireworm, mating disruption, beneficial microbes in cranberry, and a qualitative assessment of growers in Washington. There was a lengthy discussion on False Blossom, focusing on current status and future research directions for this serious disease of cranberry. A poster session was held Tuesday evening where 20 posters were viewed.

Wednesday featured tours of Lee Brothers Cranberry, Integrity Propagation, J.J. White Cranberries, and ending at Pine Island Cranberry Company, who hosted a lovely bogside dinner including wine and cheese.

Thursday was the summer field day meeting for the American Cranberry Growers Association held in Chatsworth, NJ. Researchers from the Rutgers Marucci facility presented highlights from their 2023 work including viewing germplasm collections, introducing a vacuum harvester, demonstration of a Hyperspectral Agricultural Research Vehicle, and an overview of bug research.

Presentations and posters will be uploaded to Scholarworks in the near future. Here is the link: <u>https://scholarworks.umass.edu/nacrew/</u>.

#### SAVE THE DATE!

The 2024 UMass Cranberry Management Update meeting has been scheduled for **Tuesday, January 30, 2024**, from 8:00 AM to 4:00 PM (approximately). This will be a hybrid meeting both in-person here in the Makepeace meeting room and on Zoom. More information to follow in future newsletters and on our website <a href="https://ag.umass.edu/cranberry">https://ag.umass.edu/cranberry</a>.

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**OFFICIAL BUSINESS** 



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