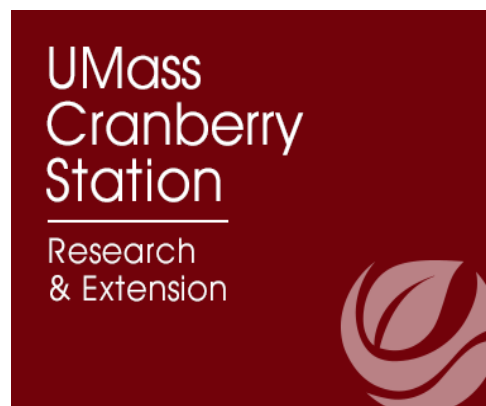


CRANBERRY STATION NEWSLETTER

January 9, 2023 Vol. 24:1



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2022 Crop Summit Notes

By Hilary Sandler, Katie Ghantous and Marty Sylvia

NOTES FROM THE 2022 CROP SUMMIT

The 2022 Crop Summit was held in-person at the Wareham Public Library on December 7, attended by 40 people including growers, handler representatives, and extension staff. The following is a summary of the information and topics discussed during the 2-hour meeting.

Peter Jeranyama presented a weather summary for the 2022 season. From the winter (Dec '21 – Feb '22), we had 43 inches of snow (27" is the Long-term Average; LTA). Precipitation for the winter, spring and summer was below average. The summer was down 2" from the LTA. We received less than 0.3" in July. The fall precipitation (Sept-Nov) was 0.5" above average. Annual precipitation was down 3.5" from the LTA and 8.2" less than 2021. A heat wave is defined as 3 consecutive days with temperatures above 90 F and we had five of those in 2022. Regarding spring frost (April 1-June 30, 68 days), the frost service called 11 dangerous frosts, 6 probable and 6 possible frosts.

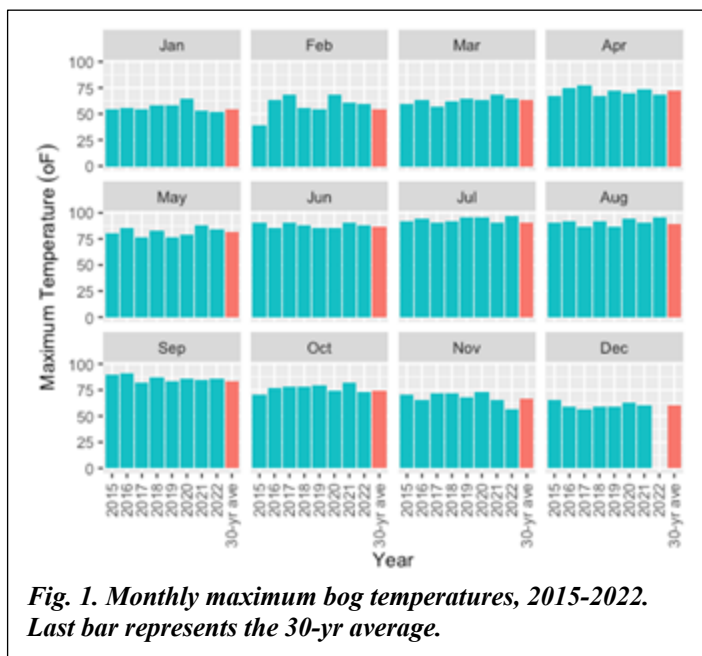


Fig. 1. Monthly maximum bog temperatures, 2015-2022. Last bar represents the 30-yr average.

Conditions in the fall were excellent for color development as nighttime temperatures were cool and the plants were less stressed due to the rainfall in late August and September.

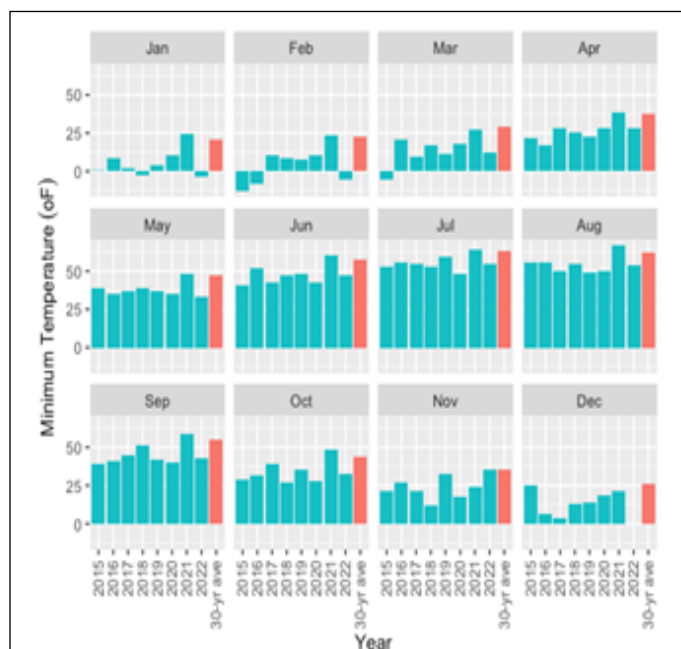


Fig. 2. Monthly minimum bog temperatures, 2015-2022. Last bar represents the 30-yr average.

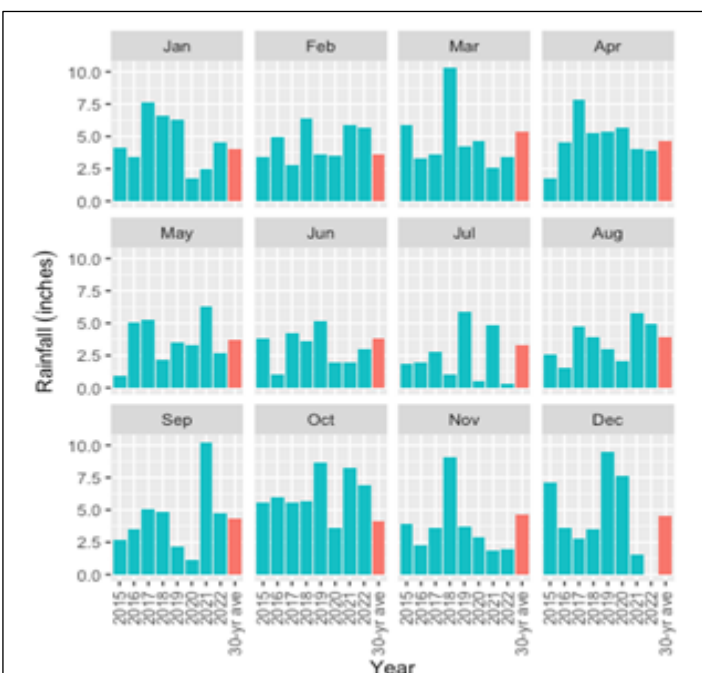


Fig. 3. Monthly rainfall amounts (inches), 2015-2022. Last bar represents the 30-yr average.

James Ross from Decas Cranberry Products reported that he felt the spring had lots of potential, June-September was very dry with conditions improving in September. Color seemed to come on very quickly this year for early varieties with more rot in early ripening varieties (see Fruit quality below for more details). James noted 16 notifications of fall frost (Oct 2-Nov 9), with some nights of concern.

He further noted: Heading out of the springtime period, growers were very optimistic due to good early season growing conditions and bogs that were showing great yield potential. Most varieties were producing vigorous upright growth which transitioned into bogs being filled with hooks and flowers as the pollination period began. The weather for pollination could not have been more ideal for the region. Most of the growing region received warm and sunny days with little wind, giving the pollinators ideal conditions to perform their work.

In many parts of the growing region, around the pollination period was when the regional drought started to take hold. Some areas did not receive any rainfall from June 1st to September 1st with other areas receiving short and sporadic rainfall events. These storms, when certain areas did get them, were very localized which seems to be more common with our weather patterns as of the past few years. The effects of the drought started to appear on the bogs with burn patches and scald spots in high spots/dry edges of the fields and areas where irrigation may have been ineffective. While most farms with spring-fed ponds and wells fared fine during this drought, growers with limited water supplies were extremely concerned about whether they would have enough water to harvest as we entered into August. The drought appears to have played a significant role in the fruit's sizing this year and yields delivered? at the receiving station. We saw more small fruit especially on native varieties such as Howes and Early Blacks which seem to have been more impacted than other varieties. For most growers, the rainfall and replenishment of their ponds/reservoirs came just in time for harvest. As we rolled into September, rainfall amounts, and frequency of rain event increased which was a welcomed sign on most farms.

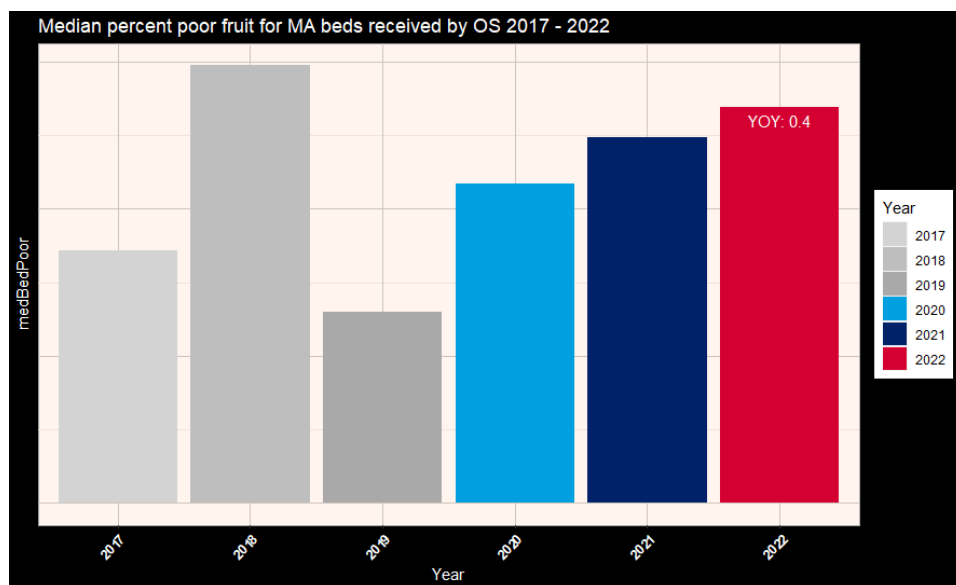
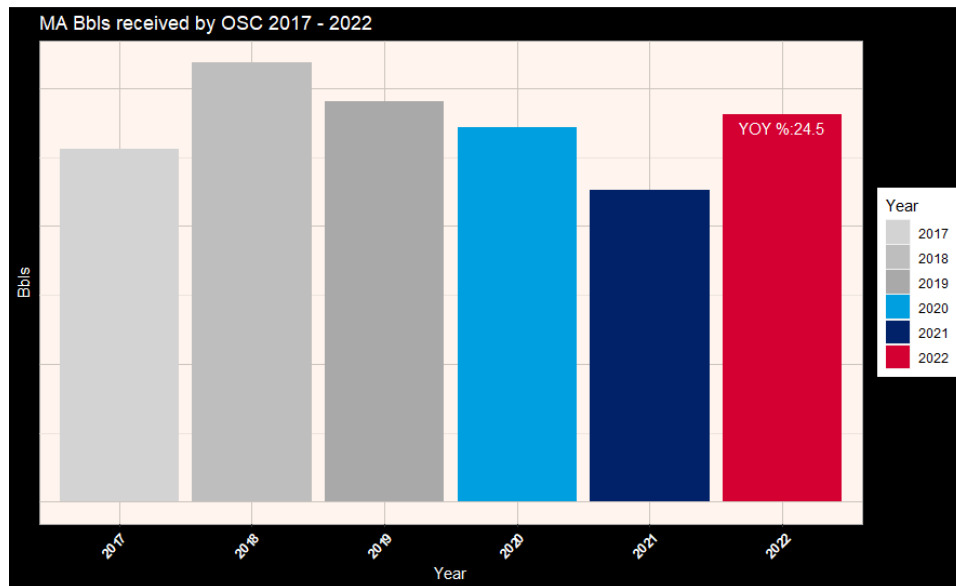
Ed Casey from Ocean Spray mentioned that Crimson Queen and Demoranville seem to hit a "tipping point" where they looked good but then degraded quickly. This degradation showed up in low firmness numbers. He felt much of

this was from sterile breakdown (frost?) and not rot. Some discussion was had whether this issue with soft fruit was the result of fruit passing physiological maturity and beginning to break down.

Discussion ensued as to what actually defines “rot” (POV of handler). How is mechanical defect sorted from fungi-induced rot? Many growers reported that what they “saw in the truck” did not materialize with the evaluations that came back from the receiving station.

Adam Korejwa from Ocean Spray shared that Massachusetts had a strong rebound from last year’s low production, with about 25% more fruit delivered YOY (Year-on-Year). ST and CQ had particularly good yields, though these were only modestly higher than the 5-year average for those varieties.

Percent poor was slightly higher YOY and versus 5-year average. Firmness was significantly lower YOY but was about average for the past 5 years for the region.



Anne Averill launched the pest discussion by reporting an abundance of scale. Importantly, our species of scale is now identified as *Vaccinium* scale, differentiated from Putnam scale that we have been calling it. This is new information about this virulent pest. Some infestations were “stunning”. It appears the drought favored the summer generation, with many seeing damage in late summer. Discussion of newly reported black bug infestations causing low crops on low/no input bogs worry us as they “look like nothing” in your sweep net may but will require more education and closer inspections in spring sweeping. Both black bug and casebearer require careful spring sweeping to detect infestations. Look also for leaf symptoms. Some growers expressed that they needed to increase sweeping in the spring to look for piercing/sucking insects.

Some growers reported high numbers of weevil (100+) this year, some having significant impact on yield. Spraying early (especially with Fanfare) definitely helped. Fanfare worked well for green spanworm and weevil management in May. One grower tried a fungus for weevil control with minimal success.

Fruit Quality. Other general comments included that fruit size seemed down (due to drought?) especially with Early Black and Howes and even some Stevens here and there. A few growers mentioned that the EB and Howes did not size up and yield was lost to small fruit. Some reported that some Stevens showed break down of quality too. One grower mentioned having to “baby” the fruit along in late summer just to get some size. Several growers expressed displeasure with the Digieye.

Some growers were confident in good fruit quality at harvest, only to be surprised by results from handlers showing a high percent poor (more than last year which they considered a bad year). More discussion was heard about “sterile” breakdown and many growers sharing their observations that some varieties took a long time to be ready to harvest and then declined quickly. One grower said that they waited and waited for color to be sufficient to harvest, and then only had a few days to get the crop off the bed before it started to decline rapidly in quality. Other growers echoed they had similar experiences.

One grower reported shortening early fungicide intervals and lengthening late fungicide intervals with good success.

Using their cleaning pool, Makepeace reported cleaning out rot in 50 loads for their company and 18 other loads, about 20,000 bbl, mostly at the early part of the season.

James Ross commented: Color came quickly this year, especially in early varieties such as Ben Lear and Scarlett Knight. The intense regional drought and frequent high temperature days may have played a role in early season ripening causing fruit on the top of the canopy or in thin canopies to be exposed to intense sunlight and cooler evening temperatures which activated the anthocyanin pigment. By the end of September, Scarlett Knights, Ben Lears, Early Blacks, and Haines varieties were already ripe enough to meet or exceed the minimum color thresholds needed to deliver at our receiving station. By October 10th, we were receiving Stevens variety fruit that met or exceeded our minimum color thresholds for delivery and by October 20th, we were receiving Howes variety fruit that met or exceeded this standard as well. Firmness was tracked throughout the harvest season, and we saw a sharp decline in firmness for Ben Lears and other early ripening varieties once over-ripe; however, Howe variety fruit showed great firmness numbers even into the middle of November.

Cody Jones from Hortau reported that rainfall during the season was very patchy; some locations received a lot while others had little. He identified Rochester as one of the areas most heavily impacted by drought. He felt (due to the drought) growers were irrigating more than needed and this led to decreased fruit quality. Drier beds had better yields. Sand beds with better drainage had better quality than peat beds. His observations were that bloom looked very good this year.

Water Management. Growers had varying philosophies about irrigating. Some irrigated every day for 1-2 hours and reported the canopy was pretty dry. This particular site had good drainage. Another reported irrigating for 1-1.5 hours and got puddling. Another did 2-3 hours every 2-3 days and kept water up in their ditches. Another did 3-3.5 hours once or twice per week. One needs to consider the drainage, microclimate, history, soil characteristics, and topography of each site when making irrigation decisions. Growers also irrigated to cool berries (but not to saturation).

Some growers noted that there is a need to expand reservoirs because they are becoming more reliant on frequent irrigation than they were in the past. Other growers questioned what timing works best for irrigation and whether irrigating at night might be better allow water to reach soil, even though it could favor pathogens.

Canopy Management. Growers discussed the importance of canopy management, routine pruning, and air flow for keeping fruit quality up. When managing overgrowth around heads, one grower suggested running the system a bit longer to get the fertilizer more dispersed and diluted. One grower had high yield expectations but canopy overgrowth depressed yield. Some larger growers reported aggressive canopy management, one even had the goal of sanding or pruning 50% of acreage every year.

Fertilizer. A grower asked about doing fertilizer in the fall. Peter Jeranyama relayed that data from University of Wisconsin-Madison showed no real benefit to doing applications in the fall. Plants are actively growing in the spring and will uptake fertilizer then. A few growers reported using more liquid fertilizers: granular uptake tougher with no rain. Others noted striped bogs with granular fertilizer use this year.

What is the favorite overall variety? Growers responded that they liked: Stevens, Mullica Queen, Ben Lear and maybe Haines (haven't had enough time or MA acres to prove themselves just yet). Others commented that many growers are planting late varieties, and this is causing harvesting logistical issues (the delivery window is too small). One grower was inclined to start planting mid-season varieties even if it meant less fruit.

Sanding. One grower reported good luck with barge sanding and its association with increased yields. They felt that it leaves sand evenly (no raking spots out like need after ice sanding). The process kicks up a lot of trash, so a trash flow is needed after barge sanding.

Weed Management. Zeus applications were associated with vines turning off-color but then seemed to recover. It was distressing at first but then ok. Another grower felt Zeus held the vines back (height of vine extension was stunted) and was unhappy. Another used Zeus for moss control and said it was a balance of potential/realized damage versus yield loss from not controlling the moss. It is likely that multiple factors are interacting to cause stress symptoms seen with Zeus applications.

One grower reported good control of yellow loosestrife with early May applications of Casoron (40-50 lb/A on most varieties, 30 lb/A on Ben Lears). Several growers are still struggling to control poverty grass even with multiple applications of Intensity. The trend towards less preemergence herbicide use could be contributing to the emergence and perseverance of problematic weeds like poverty grass.

Drones/UAVs. A hearty discussion on the use of drones was had. Many felt drones would be a "game-changer" for the industry (especially for applications). Interactions with regulatory agencies is on-going. A meeting is planned for Dec 12 to discuss options for 2023, including applications of fertilizers. Several growers mentioned that states in the mid-west are already doing applications by drone, and we should communicate with them to help our industry get started faster. FAA and EPA are still grappling with how to proceed with "aerial" applications by drones.

Climate change issues. One grower commented that water storage capacity will likely need to be increased on many farms to deal with future droughts. A Cape grower reported many bogs on the Cape were hurting for water all season; situation was worse the further east one went. Discussion was had about why certain weeds are now more problematic and could be linked to climate change issues. For example, poverty grass is a warm-season grass and warmer temperatures will favor its growth and reproduction. Poison ivy has been cited as one weed that will prosper under warmer conditions.

Support for more research. Brian Wick of CCCGA encouraged growers to support the Cranberry Station through direct donations, by contributing to the Cranberry Research Foundation and/or by being members of CCCGA.

News Regarding Pesticide Credits

By Marty Sylvia

PESTICIDE CERTIFICATION, CREDITS AND MEETINGS!

Did you remember to renew your pesticide certification? The deadline was **December 31, 2022!** It is needed for Diazinon, Bravo (any chlorothalonil), Intrepid or Invertid, Actara, Zeus and Fanfare! If you missed the deadline, you can still renew but you will be charged a hefty fine (\$125!) If you need help, **I CAN HELP!** Give me a call- **Marty 508-265-6921.**

Every grower is now audited by MDAR (Massachusetts Department of Agricultural Resources) every 3 years. Again, make sure you have 12 credits stacked up for your next recertification. Audit period in 2022 ran from July 2019 through December 2022.

Here are the dates for the 2023 UMass Cranberry Station meetings we have planned. Look for more information and registration forms in future newsletters. You will need to register to attend any of these meetings. For more information email or call Robyn (rmhardy@umass.edu 413-800-7470) or Marty (martys@umass.edu 508-265-6921).

January: UMass Cranberry Management Update \$30 per session/\$50 for both
Wednesday, January 25, 2023, 7:30-11:00 AM, 2 credits
Thursday, January 26, 2023, 7:30-11:00 AM, 2 credits
 Must register, on Zoom/registration form is on page 9

April: UMass Cranberry Pesticide Safety, \$50
Tuesday, April 25, 2023, 7:30-NOON, 4 credits
 Hybrid-both Zoom and in-person options (in-person will be in the new meeting room at the Cranberry Station). Look for registration in upcoming newsletters.

Bogside Workshops are usually offered through the spring and summer, 1 or 2 credits each, are free, and will be held both in person and on Zoom. Look for more information in upcoming newsletters.

Station News

By Hilary Sandler, Director

CONSTRUCTION UPDATE

Although the holidays and supply chain issues have impacted our project, we are hopeful that the remaining construction items will be completed in the next few weeks. We have a Temporary Certificate of Occupancy (TCO) for the Lab Building; staff are in the process of “re-populating” their labs and offices. People are traveling during the winter months so please call us on our cell phones or email us if you have a question or concern. We anticipate that the full Certificate of Occupancy should be issued sometime in January.



EQUIPMENT NEEDED!

We are in the market for a used mini-excavator and a dump truck. If you have something that might work for us, please contact Hilary 413-800-6531 or Rick 413-230-1865.

HELP WANTED

We have an opening for a seasonal worker to help on the farm doing bog work and facility upkeep to start in the early spring. If interested, please contact Hilary 413-800-6531.

Newsletter Signup Form

By Robyn Hardy

It is that is that time a year again to sign up to continue receiving the Cranberry Station newsletter. Please see sign up form on the bottom of this page.

Please return the form below.....

TO STAY ON THE MAILING LIST, YOU MUST RENEW EVERY YEAR!

NAME: _____

COMPANY: _____

ADDRESS: _____

TOWN: _____ STATE: _____ ZIP: _____

PHONE: _____

EMAIL: _____

CHECK ONE:

- | | |
|--------------------------|----------------|
| <input type="checkbox"/> | Owner |
| <input type="checkbox"/> | Employee |
| <input type="checkbox"/> | Researcher |
| <input type="checkbox"/> | Consultant |
| <input type="checkbox"/> | Industry |
| <input type="checkbox"/> | Private Sector |

CHOOSE ONE:

EMAIL _____

- **Sent via email:** Annual subscription is **FREE** for everyone

POSTAL DELIVERY _____

- **For Massachusetts growers, cranberry researchers and IPM consultants:** Annual subscription is **FREE** for postal delivery
- **For out-of-state growers, industry personnel and private sector:** Annual subscription is **\$15** for postal delivery. Please include a check payable to **UMass** and return to: **UMass Cranberry Station, 1 State Bog Road, East Wareham, MA 02538.**

Planned Agenda for January 2023 Meeting

By Marty Sylvia

UMASS CRANBERRY MANAGEMENT UPDATE, ONLINE ZOOM MEETING

Our January 2023 UMass Cranberry Management Update meeting has been scheduled for two morning Zoom sessions, Wednesday, January 25, 2023, and Thursday, January 26, 2023. You will need to register online for each, and you will need to answer poll questions during the 8:00-10:00 AM sessions to be awarded pesticide credits. Payment will be processed separately-cost will be \$30/each day or discount of \$50 for both days. To attend, see page 9 for payment form.

DAY ONE: WEDNESDAY, January 25, 2023, 7:30-11:00 AM (2 credits \$30)

7:30 Online check in starts

7:40 Zoom Review - Marty Sylvia

7:50 Station Update – Hilary Sandler

8:00 INSECTS – Anne Averill and Marty Sylvia

Vaccinium Scale – 2022 Outbreak, Fanfare for Weevil

Low Input Future – What to expect – Leafhopper, Black Bug and more!

8:50 Resistance Management Review – Marty Sylvia and Katie Ghantous

9:15 DISEASES – Data Driven Cranberry Fruit Rot Management - Leela Uppala

5 Minute Stretch Break

10:05 New Cultivar Evaluation Update – Giverson Mupambi

10:20 Update on Vaccinium CAP project and Cranberry Breeding Priorities Survey– Amaya Atucha, UWI and Massimi Iorizzo, NCSU

10:50 Climate Change Update – Hilary Sandler

DAY TWO: THURSDAY, January 26, 2023, 7:30-11:00 AM (2 credits \$30)

7:30 Online check in starts

7:40 Practice Polls – Marty Sylvia

7:50 Virtual Tour of New Station – Hilary Sandler

8:00 Pesticide and MDAR Updates – Marty Sylvia

8:15 WEEDS – Hilary Sandler and Katie Ghantous

Poison Ivy, Review the labels – Hilary Sandler

Weed Research and Herbicide Update– Katie Ghantous

9:00 DRONES as a new application technology

Giverson – Intro and Use as a Scouting Tool

Dave Millar – Accuracy, Steve Ward – Grower Perspective

5 Minute Stretch Break

10:05 Irrigation and Nitrogen Fertilizer - Peter Jeranyama

10:20 Growth Stages and Spring Frost Forecasting - Sandeep Bhatti

10:30 USDA Projects:

Nutrient Losses from Late Water and Harvest Floods – Adrian Wiegman

Soil Nitrogen Mineralization Rates in Cranberry Bogs - Molly Welsh

Meeting Payment Form

TO ATTEND THE 2023 UMASS CRANBERRY MANAGEMENT UPDATE MEETING:

Please complete the information below. Once your form and payment are received, a confirmation email will be sent to each person with a link to register online. **All** meeting attendees **MUST** pay to attend whether receiving credits or not. If you have any questions, contact **Robyn Hardy** at **413-800-7470** or rmhardy@umass.edu.

NAME: _____

COMPANY: _____

PHONE: _____ EMAIL(required): _____

ADDITIONAL ATTENDEES:

NAME: _____

PHONE: _____ EMAIL(required): _____

NAME: _____

PHONE: _____ EMAIL(required): _____

NAME: _____

PHONE: _____ EMAIL(required): _____

NAME: _____

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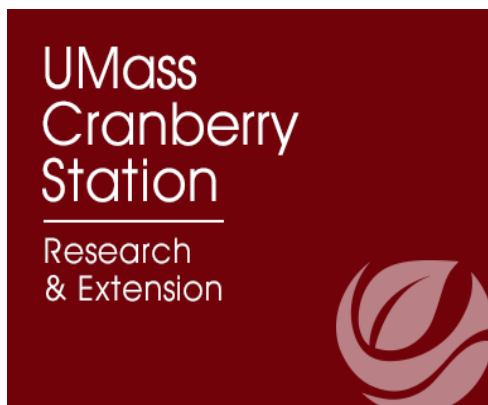
PLEASE CHECK:

_____ **DAY ONE:** Wednesday, January 25, 2023 (\$30) _____ number attending

_____ **DAY TWO:** Thursday, January 26, 2023 (\$30) _____ number attending

_____ **BOTH DAYS:** (\$50) _____ number attending

Please make checks payable to **UMass** and return payment by 1/20/23 to UMass Cranberry Station, 1 State Bog Road, East Wareham, MA 02538.



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