

# Cranberry Station Newsletter

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UMass Cranberry Station

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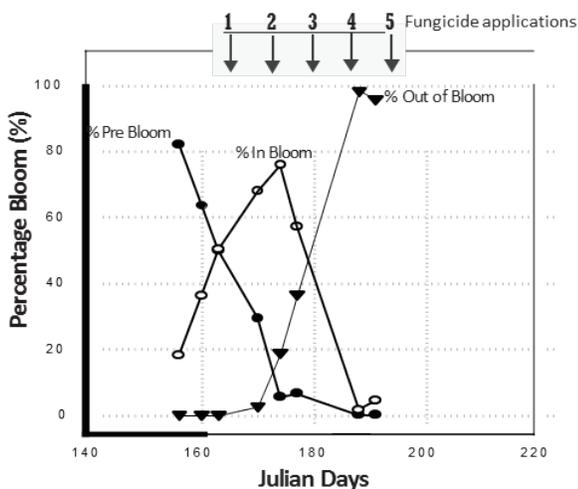
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## Fruit rot fungicide applications: get more bounce for the ounce with optimal timing

In MA, cranberry growers deploy from two to five fungicide applications to effectively manage cranberry fruit rot. In recent years, however, pesticide restrictions, production costs and limited fungicide options have highlighted the importance of reducing unnecessary fungicide use and developing fruit rot fungicide programs that steer away from calendar-based spray schedules and instead, use plant development stages or crop phenology for optimal timing of applications.

With more than 15 different pathogens causing field and storage rots, the number and diversity of fungal species associated with cranberry fruit rot is still one of the biggest challenges to understanding disease cycles and infection processes. Despite our knowledge gaps in pathogen biology, we know that the majority of pathogens leading to fruit rot symptoms infect cranberries during **bloom (open flowers)** and **early fruit set**. Importantly, fruit rot fungicide applications are *not* intended to directly eliminate sources of infection or kill fungi that are already present in the bog. Thus, spraying fungicides prior to bloom or after fruit set are unlikely to impact fruit rot disease pressure. Cultural practices that physically remove or bury sources of infection (e.g., trash flood, sanding, mowing, etc.) will better serve that purpose. Fungicide applications during the brief, yet critical, bloom and early set period protect susceptible plant tissues **prior** to fungal infection.

## When should you time your sprays?



Depending on spring temperatures, onset of bloom may occur earlier or later in the season, and bloom progression may vary year to year. Keeping track of bloom can help you decide when to take action and start fungicide applications. For best fruit rot control, **the first fungicide application should take place during or shortly after peak bloom**, when most flowers are open and fruit have just begun to set and applications must continue through early fruit set. Delaying your first fungicide application until all fruit have set will result in very little or no disease control.

Previous studies from NJ and MA have shown that fungicide applications starting at 50% out of bloom can successfully manage field rot. However, delaying this first application by 10

12 days can result in over 50% crop loss. Similar results were obtained in 2015 and 2016 field trials at the Cranberry Station. In both years, fruit rot control was similar between treatments when i) fungicide applications started at scattered bloom through fruit set, and treatments when ii) fungicide

applications started mid- and late bloom, at approximately 50-60% out of bloom. In 2016 a second trial was included to determine impact of fungicide applications during and after early fruit set. Trial results indicated that fungicide applications starting at bloom through early fruit set (e.g., petal fall or pinhead stages) stages reduced field rot incidence, but additional applications once berries started sizing up had little or no effect on field rot control.

These preliminary findings seem to support the perception that fruit rot pathogens have a limited window for infection and growers have a similarly limited timeframe to take action. Keeping track of bloom progression and fine-tuning the timing of your applications to protect susceptible tissues will help increase fungicide efficacy and perhaps even reduce the number of fruit rot fungicide applications necessary for disease control.

## **Weed Management and Herbicide Update**

**SLN for Chemigation of Intensity and Intensity One.** We have a Special Local Needs (24c) for the use of Intensity and Intensity One via chemigation. The Intensity products have the active ingredient clethodim, which is a grass specific herbicide. Select and Select Max (and other generics) also contain clethodim but do NOT have this special use allowance. Intensity products are the ONLY grass herbicides that can be chemigated; all others are restricted to ground application, spot treatment application, or aerial application. Use the max rate for either Intensity product; use multiple applications! For example, with Intensity One, at the max rate of 16 oz/A (which we recommend), you can make 4 applications per year. Applications must be at least 14 days apart. These products require the use of a nonionic surfactant so make sure to include 1 to 4 pt/A when chemigating. With other herbicides, we have demonstrated improved efficacy with multiple applications. If you have been struggling with control of certain grasses, especially perennials like poverty grass, try to make multiple applications in the same season. The label prohibits application between hook and fruit set. We also caution against spraying any clethodim products during roughneck because it can cause deformed flowers in susceptible varieties. SLN labels are available on our web site and from all points of purchase.

**Herbicide newly labeled for use in cranberry.** *Check with your handler for restrictions before using this material.* Cranberry has been recently added to the label for Aim EC (active ingredient: carfentrazone). Aim EC can only be applied by ground equipment (boom sprayers, hand-held sprayer, etc.). We do not have much experience with this herbicide and are currently doing field trials to look at crop safety. Aim EC is a contact herbicide that controls emerged broadleaf weeds. Good coverage is essential for good control. Within a few hours following application, the foliage of susceptible weeds will show signs of desiccation. We suspect that it will cause injury to actively growing cranberry vines, so exercise caution if trying this product; we recommend trying it on a small area first. We think it can be used safely on dormant vines (spring or after harvest), but need to confirm this with field trials. Aim EC will only work on emerged weeds. It may be useful as a spot treatment during the growing season. If you do try this herbicide, please let us know how it works for you (Hilary x21 or Katie x43, or email at [hsandler@umass.edu](mailto:hsandler@umass.edu) or [kghantou@umass.edu](mailto:kghantou@umass.edu)).

**Mesotrione generics.** We have had a few calls concerning the use of generic herbicides containing mesotrione (the active ingredient in Callisto). These products are being sold under trade names such as Sotrion and Explorer. These products are cheaper than Callisto with Sotrion being a lot less expensive. Explorer is the generic released by Syngenta and the price falls in between Callisto and Sotrion. Make sure cranberry is listed on the label before use!! We have not yet tried these generics ourselves, but we know growers are trying them. Let us know your experiences. Do not use MesoStar; it has glyphosate in it and is only labeled for corn.

**Moss Problems?** Please call us to let us know if you have moss on your bogs. We are working with a new product that looks very promising. To help secure this product for use in cranberry, we need to document the need for moss control. Please call Hilary (x21) or Katie (x43) and let us know how much you have! Or email at [hsandler@umass.edu](mailto:hsandler@umass.edu) or [kghantou@umass.edu](mailto:kghantou@umass.edu).

**Red sorrel** (*Rumex acetosella*) seems to be popping up in great abundance this year. It is also called common sheep sorrel or field sorrel. It is a perennial broadleaf weed. The leaves are 1-3 inches long and arrow-shaped. Young plants form a rosette of foliage near the ground. Flowers are red or yellow and bloom on spikes. It is well-suited for growth in our conditions preferring sandy acidic soils. It is a very abundant seed producer and can also form large colonies by growing numerous shoots on its rhizomes. The flower clusters are visible above the vines, but the leaves are within the cranberry canopy. Using glyphosate to wipe the flowers will not be effective, as glyphosate is mainly absorbed through the leaves. Spring applications of Casoron should manage this weed. Hand pulling when the soil is moist makes the task easier but be careful as the stems can easily break off from the roots. We have put out applications of Callisto to see if this herbicide will offer any control and we will let you know. If you use Callisto (chemigation or concentrated spot-treatment), let us know your results.



**Using Postemergence herbicides.** POST herbicides are designed to attack weeds that are already established and growing. Our POST herbicides include: Stinger, Callisto, Roundup, Weedar, QuinStar, Select products, Intensity products, and Poast. The timing of pre- and post-emergent herbicide application is critical. Applying them too late or too early wastes time and herbicide. Grass herbicides should be applied BEFORE the grass flowers. Callisto, Stinger, and QuinStar should be applied to actively growing plants and Roundup should be applied as late in the season as possible to get maximum herbicide down to the roots.

To get the most out of your POST herbicides, make sure the weeds are NOT stressed prior to application. They will be less likely to properly take up the herbicide if they are stressed out and not metabolizing correctly. Most POST herbicides require or suggest the use of an adjuvant; be sure to add one if directed. There are many products out there to choose from, so be sure to read the label and make sure cranberry is listed. If you have any questions, please call Hilary (x21) or Katie (x43).

#### **Be Informed - Check the IPM Message**

The IPM message is updated weekly and includes reports on pest sightings and other timely information. Click the quick link on the Station's home page to read the message or call 508-295-2212 x60.

Carolyn DeMoranville, Interim Station Director

## KEEPING QUALITY FORECAST

The final keeping quality forecast (KQF) for 2017 is POOR. Temperature and rainfall averages in April and May were both well above the required values to gain additional points in the final keeping quality forecast. The KQF can be used to help make fungicide program decisions to manage fruit rot. However, this forecast also highlights the importance of carrying out cultural practices that help reduce fruit rot disease pressure (e.g., late water, sanding, pruning, proper irrigation and fertilization practices, etc.), especially since fungicide applications alone will not prevent fruit rot infection from occurring under ideal weather conditions. Consider multiple fungicide applications on bogs with a history of fruit rot, using products proven to have good results against fruit rot. Review the timing of your applications carefully to boost fungicide efficacy, focusing on getting maximum coverage at the peak of bloom and early fruit set, before berries start expanding. This year you may also want to consider using full fungicides rates, as listed on product labels.

Follow me on Twitter @esaalau for season highlights and IPM message updates or call me (x 18) with any questions about your fungicide program for this year.

**Erika Saalau Rojas, Extension Plant Pathologist**

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