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Hiring Sources

Jayne Sojka

As we slip into our spring season one question that I get asked often is, "Do you know of anyone that needs a job?" "We are hiring but have a hard time finding

someone that will commit to the entire summer."

One of the sources that many of you may not be aware

of is a College Campus. Students need

Internships to graduate and many of them look for postings on campus. If you find that you would like to have someone that has knowledge of soils for example, perhaps you could call the UW Stevens Point campus and ask for a professor in the soils department. All you have to do is express interest and ask if the job could be posted.

The sky is the limit....you don't have to even focus on a specific area of interest as all students need to experience what **IS** available in the **REAL WORLD** before they find their niche in life. Some of my best experiences with interns had originally focused their attention on general biology but after a year of IPM redirected their final years of college. An INTERN has to commit to work or they will NOT get college credit for that internship. For example: One of my interns' paid \$960.00 for 3 college credits to work with our team for the summer. We did evaluations of that work that was performed and also requested a final paper about what they actually learned thru this experience. It can be rewarding to both parties and perhaps you may find a "FULL" time employee when everything is said and done.

Make a call.....

References to products in this publication are for your convenience and are not an endorsement of one product over similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.

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UW Campuses & Information:

- UW Madison: 608-263-2400 •
- UW Stevens Point: 715-295-8999
- UW River Falls: 715-425-3911 •
- UW Stout: 715-232-1122
- UW Eau Claire: 715-836-2637 •
- UW Platteville: 608-342-1491
- UW Oshkosh: 920-424-1234 .
- UW LaCrosse: 608-785-8000

Technical colleges will have job postings as well

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Integrated Cranberry Crop Management for Wisconsin



University of Wisconsin-Extension

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Address Correction

If you have any address corrections, additions, or deletions, please let us know. If you prefer to receive the CCMJ newsletter by e-mail, please call 715-421-8440 or e-mail adarr@co.wood.wi.us Thank you!

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Cranberry Crop Management

University of Wisconsin-Extension

Sparganothis Fruitworm Degree-Day Benchmarks Provide Key Treatment **Timings for Cranberry IPM** Shawn Steffan & Annie Deutsch USDA-ARS



Degree-day benchmarks— indicate discrete biological events in the development of insect pets. For the Sparganothis Fruitworm, we have isolated the key development events and linked them to degree-day (DD) accumulations. These degree-day accumulations can improve treatment timings for cranberry IPM programs in spring and summer.

Growers simply need to keep track of their own daily maximum and minimum temperatures on the marsh. With these maximum and minimum temperatures, the handy "Degree-day Look-up Table for Sparganothis Fruitworm" can be used to determine the daily accrual of degree-days.

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Department of Entomology, University of Wisconsin

The minimum temperature on a given day (horizontal bar in the look-up table) will intersect with a maximum temperature (vertical bar in the look-up table) for that day. Where these intersect, there is a DD value. This value is the DD accrual for that day. Growers can keep a running total of these DDs for their marshes, and when the running totals reach certain bench-



marks (see DD Benchmarks table below), the grower will know the current developmental status of the Sparganothis population on their marsh.

All degree-day accumulations begin on March 1st,

and from this point forward, the **male** flight can be expected to start around 596 DD. The females can be expected to lay the **first eggs** of the generation by 681 DD. The male flight should be half over by 884 DD. The first caterpillars can be expected to hatch out by 895 DDs. and this will continue through 1,890 DDs. With these key benchmarks, growers can plan to time their pest control tactics to hit adults, eggs, or caterpillars.

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Sparganothis Fruitworm Degree-Day Benchmarks Provide Key Treatment Timings for Cranberry IPM continued from p. Shawn Steffan & Annie Deutsch **USDA-ARS** Department of Entomology, University of Wisconsin

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Larval emergence: 895 - 1,890

Questions can be directed to Shawn Steffan, USDA-ARS Research Entomologist, Dept. of Entomology, UW-Madison: steffan@entomology.wisc.edu

Cranberry Cold Hardiness

UWEX Fruit Crops Specialist

As spring progresses and cranberry vines start to The first step to consider when frost/freeze protectcome out of dormancy we begin to get increasingly ing is to determine at what bud stage your vines are, and based on the critical temperature recommendaworried about frost/freeze damage. Because we cannot yet see any visible growth or changes in buds develoption for each bud stage decide at what temperature ment, it is very hard to predict how much cold the you are willing to go before protecting. The general recommendation is to start the irrigation system vine can tolerate. A recommended practice during this when the temperature is above 4 °F the critical temtime is to monitor changes in vine's pigmentation, and the development and coloration of the terminal bud. perature. Turning on the irrigation before reaching These signs can give us an indication of changes in cold the critical temperature is of most importance, behardiness as well as clues that the vines are becoming cause the application of water on the plant tissue causes a temporary decrease in tissue temperature more active and thus becoming more sensitive to cold. However, tolerance to cold changes as the vines bedue to evaporative cooling (the water is evaporating by absorbing heat from the air and plant tissue). The come more active with higher temperature during the dryer the air, the greater the temperature fall when day, and vines decclimate at a faster rate as the daily you start to irrigate. How dry the air is dictates when temperature rises. you turn the system on. This can be calculated from the dew point, which is measured with a wet bulb thermometer or a sling psychrometer.

During the week of April 20, as we experienced a couple of nights with temperatures dropping to 17 °F in some growing areas, several growers decided to flood as a protection method. After removal of the flood, Figure 1. Development stages of cranberry bud suring spring growth and minimal survival temperature for each stage. Source: cranberry buds will probably be more sensitive to cold than if they had not been flooded, because the water Workmaster, Beth Ann A., and Jiwan P. Palta. "Frost Hardiness of Cranberry Plant." temperature is warmer

than the air temperature and buds loss their cold tolerance faster under the warmer water. A flood shorter than 1-week should have a minimal impact on frost tolerance (bud protection should be based on appearance). For floods that last longer than 1 week, the critical temperature—the temperature at which buds can be killed- will probably be higher than what is recommended for protection at a given bud stage (see Figure 1).



Amaya Atucha

Wiping weeds in cranberries: What's allowable in Wisconsin?

By Jed Colquhoun and Jack Perry

UW-Madison

The persistence of those pesky maples and other tall weeds in Wisconsin cranberries has spurred a number of questions about wiping weeds. Unfortunately, the herbicide labels can be quite confusing and differ among trade names when it comes to specialized application techniques like wiping.

Here are a couple general aspects that need to be considered prior to loading the wiper:

1.) Not all glyphosate product labels include cranberries or wiper applications, so read carefully!

2.) Glyphosate labels for the many products available differ greatly in whether a surfactant is allowed or not in wiper applications. Many (but not all) say: "Do not add surfactant to the herbicide solution when using a wiper applicator". This varies by product, often based on the surfactant system that is already with the herbicide in the container. Again, please read the label

carefully!

The research that we've described at field days and at Cranberry School is designed to collect data that supports expanding herbicide and surfactant wiper weed control options in the future. The early results of this work are encouraging and we will further expand our efforts in the 2015 growing season. In the meantime, please be sure to follow the current labels. We thank you for your support of our work and look forward to seeing you around the marsh soon!

Jed Colquhoun and Jack Perry, UW-Madison



Select Max herbicide for control of Sweet Vernal grass by Suzanne Arendt RedForest Crop Consulting, LLC

Sweet vernal grass (SVG) is a perennial grass found increasingly in cranberry marshes. This grass emerges very early in the spring and in most years control measures need to take place in late April and early May. By the time the sweet vernal grass is above the cranberry vines, it is nearing seed formation and control will be very limited. Scouting early for this pest is necessary to obtain management of this weed. In the central growing region, SVG had already emerged prior to flooding of cranberry beds the week of April 20th. A couple days after flood waters have receded, growers could target this weed. The weather forecast for the week of April 27th, looks to be good for growing and for spraying.

Select Max label information for cranberry

PHI: 30 days

RATE:

Annual grasses 9 to 16 fl oz

Perennial grasses 12 to 16 fl oz

Adjuvant Recommendation NIS at 0.25% v/v

Special Use Instructions and Restrictions for

Cranberry:

- Do not apply more than 16 fl oz/A in a single application. Do not apply more than 64 fl oz/A (0.5 lb ai/A) per season. Do not apply between the "hook" stage and full fruit set. For repeat applications make on a minimum of a 14 day interval.
- Do not apply if rain is expected within 1 hour of application, as control may be unsatisfactory.
- Do not apply when conditions are favorable for drift (high temperatures, drought and low relative humidity), especially when sensitive plants are located nearby.
 Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are downwind, ex
 - treme caution must be used under all conditions.
 - Do not spray if winds are gusty.
 Follows WPS 40 CFR 170

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BIZARRO FACTS:

- Sweet vernal grass was historically used as a flavoring agent because of it vanilla like aroma. In Russia, it was used in the manufacturing of special brandy.
 - It is dangerous for consumption!
- Cows feed hay made from sweet vernal grass caused weakness, breathing problems and hemorrhage followed by death.
- There is a high coumarin content in svg, which can interfere with clotting.
- Don't try to whistle with a blade of this grass!



Anthoxanthum odoratum

Indar + Abound

Indar + Abound

1

Proline

Proline

Proline

+ Abound

Indar

Fungicide Update

Patty McManus

UWEX Fruit Crops Specialist & Plant Pathologist

for cranberry growers who use fungicides to control cottonball and fruit rot diseases. With crop prices down, one challenge will be to control disease with as few sprays as possible. Another issue is chlorothalonil (Bravo) residue restrictions on fruit destined for Europe. Here I review newer fungicides and how to use them to best effect. For specific use instructions such as rates, timing, and precautions, see 2015 Cranberry Pest Management in Wisconsin (UW-Extension bulletin

A3276) or the 2015 Cranberry Pesticide Chart from

Cranberry Institute. Be sure to have the current bulletin and chart on hand and get rid of the old versions to avoid confusion, or worse, doing things that run afoul of the law.

Proline (prohioconazole) - From Bayer CropScience was first available to growers in 2014. In our research trials it consistently has been an outstanding fungicide for fruit rot control when used at the full rate (we didn't test reduced rates). In one study a few years ago we wanted to collect rotten berries to see which fungi were present. In the Proline plots we sometimes could not find more than one or two soft berries in an entire 5'x 5' plot! This is better than Bravo, Abound + Indar, and any other treatment we've tested. We have less data on Proline for cottonball control, but in two trials in 2014 Proline was as effective as the cottonball standards, Indar and Orbit/Tilt. I understand that Proline also has export issues, but if your handler gives the green light to use it, I highly recommend it.

Quilt Xcel (azoxystrobin + propinconazole) - From Syngenta is a pre-mixed combination of the active ingredients of Abound and Orbit/Tilt. On their own Orbit/Tilt is very good and Abound is pretty good at controlling cottonball. Thus, although we have not tested this combination, I would expect it to be effective for cottonball control, at least if used at the higher end of the label rate. You could of course, mix the two fungicides on your own, but the pre-mix product is available for your convenience. I would not recommend Quilt Xcel for fruit rot control, however. The Abound component would provide some benefit, but the Orbit component would not. You'd be better off using Abound at a higher rate on its own or another effective fruit rot fungicide.

The 2015 growing season will present a few new twists Tavano and OSO- are brand names for products from Certis USA that have **polyoxin D zinc salt** as their active ingredient. Polyoxin D is a fermentation product of Streptomyces, a soil bacterium, and is considered a relatively safe bio-fungicide exempt from a pre-harvest interval (in practice, a 0-day PHI). Polyoxin D has an entirely novel mode of action that inhibits chitin, the major component of fungal cell walls. We need to test these products more before offering an opinion on how they might fit into a spray program. The low toxicity and novel mode of action would be welcome additions. Stay tuned.

Fruit rot control without Bravo (or other chlorothalonil

products). The European Union has imposed new limits on chlorothalonil residues that will make use of this fungicide impractical in 2015. Chlorothalonil is one of those fungicides that draws scrutiny for other reasons (e.g., human and environmental health), so growers who are in it for the long run should probably be thinking of how they might live without chlorotha-Ionil regardless of export issues. Fortunately, there are effective alternatives that can be substituted directly for chlorothalonil. These include: mancozeb, or Abound + Indar, or Evito + Indar, or Proline. In Wisconsin fruit rot can usually be kept in check with 2-3 sprays starting at early (10%) to mid (50%) bloom. If fruit rot levels were low the previous year, but you are afraid to forego sprays altogether, the best timing for a 1-spray program would be late bloom/early fruit set. There are countless different ways you can mix or alternate fungicides in an effective 2-spray or 3-spray program, and the following table provides some "nochlorothalonil" programs. Options 1-4 Involve two sprays; options 5-8 involve three sprays.

Here are some points to keep in mind when developing a spray program:

- Limit use of fungicides in the same chemical class (FRAC code) to 3 or fewer sprays per season (except M coded fungicides which are not prone to resistance). FRAC codes are listed on the CI Cranberry Pesticide Chart and on product labels. Briefly, Indar and Proline are code 3, Abound and Evito are code 11, and chlorothalonil and mancozeb are code M.
- Indar is weak on *Colletotrichum* (bitter rot) so it should not be used alone (except for cottonball). Indar + Abound, or Indar + Evito, are good combinations that cover a broad spectrum of fungi
- Proline has been excellent when used alone in our trials, but check with handlers for restrictions. Also, note that it has a long pre-harvest interval (45 days).
- Do not use mancozeb during early fruit set or later, as it inhibits red color development.

days later 10-14 Late bloom-early fruit set bloom Early-mid k Option

Examples of "no chlorothalonil" spray programs

	Proline (beware 45-day PHI)	Indar + Abound	Indar + Abound	Indar + Abound
Indar + Abound	Indar + Abound	Proline	Proline	Indar + Abound
Mancozeb	Indar + Abound	Proline	Mancozeb	Mancozeb
4	5	9	7	8