

Cranberry

Crop Management Newsletter



University of Wisconsin-Extension

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Here a Spot, There a Spot

By Patty McManus, UW Extension Plant Pathologist

Special points of interest:

Early Rot
Red leaf Spot
Gibbera
Cladosporium
Flea beetle
White grub trap counts
Rose chafer
Actara Insecticide
Summer Field Day
Schedule

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Several fungi cause leaf spot diseases of cranberry. Although leaf spots seldom cause economic losses, it's a good idea to be familiar with the various causes so that you can monitor problems from year to year. Early rot leaf spot symptoms are a greater concern, because they produce spores that infect fruit, leading to rot. See extension bulletin A3711 at <http://learningstore.uwex.edu/Problems-C87.aspx> and the attached scouting guide for early rot for photos and additional information.

Early rot. The disease is named for the fruit rot it causes. The pathogen, *Phyllosticta vaccinii*, is especially aggressive in newer plantings where canopies are sparse and vines are pushed hard with nitrogen. Leaf spots are tan to brown, sometimes have red margins, and eventually develop tiny black fruiting bodies on the upper leaf surface. Even if beds are not yet bearing, this disease should be controlled by spraying fungicides at the time that bearing beds are in bloom. Chlorothalonil-based products (e.g., Bravo) are effective. We have trials out this year to determine the efficacy of other fungicides and possible benefits of spraying before bloom.

Red leaf spot. This is a very aptly named disease. The fungus *Exobasidium rostrupii* causes large, circular, bright red spots on the upper surface of the current year's leaves. Sometimes the spots pucker the leaves and are surrounded by a yellowish halo. Affected leaves often are more rounded and stunted compared to elongated healthy leaves. Sometimes entire shoot tips are red and distorted. The undersides of spots eventually become covered with pinkish-white powdery spores. The black spot fungus, *Mycosphaerella nigromaculans*, can invade spots and shoots, turning them from red to black.

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OBSERVATIONS FROM THE FIELD

Jayne Sojka, Lady Bug IPM, LLC

Believe it or not we are observing yellow vine syndrome/heat stress. It appears that some sanded beds started to show yellow vines while unsanded beds showed nothing. This symptom yellowed from the bottom up and towards the top it is browning off. We have tried fertilizers, more water, and extra TLC yet it has continued. Do you remember the one week – yes months ago – that we actually had HOT weather? Well that must have been the week that started this in motion because as we all know we have not had any such weather pattern since!

Cranberry Flea Beetle was spotted on July 19th in Jackson County. Typically with CFW sprays we stop the flea beetle activity in its tracks but in 2009 a good number of growers are using softer chemistry. So please be on the look out for this pest. It skeletonizes leaves and a brown look will appear to our vines. In a huge infestation one can see the damage from the dike. In normal years this will show up in August.

White Grub/ June Beetle traps had amazing counts in 2009! One marsh with six sets of traps collected a total of 1665 Beetles from May 11th to July 3 with the peak being the week of June 19th. Another marsh captured an outstanding 5205 beetles in 50 traps! This dedicated grower analyzed two different sources of lures with the results being very similar. Another site discovered only 1550 in 8 sets of traps with the peak being June 24th. Just think- 8,420 male beetles trapped – taken out of the mating game – decreased offspring for the 2010 season. Stay tune to the Mating disruption/Mass trapping hot line in 2010 and we'll share more success stories. By the way, did anyone see the bon fire to the WEST? It was a sight to see as the June Beetle roast took place!

Special thanks to those growers that took the time to set all these traps, place lures out and then **count** those beetle. Hats off to you!

Rose Chafer trapping has stopped but once again the amount of captured pests surprises me. Even with all the traps in place we still swept Rose Chafer adults and still saw cranberry blossom feeding taking place. We actually stopped counting the captured pests because the numbers were so high. Some days the numbers were over 150 – DAILY! Think about this – 150 times 30 traps = 4500 adults in one day! Next year we are going to add traps to the same areas to see if it makes a difference.

Jayne, Pamela Sojka and the Bug Patrol



Dualing Specialists, Dan and Jed
at Cranberry Summer Field Day.

Here a spot, There a Spot (Leaf Spotting Diseases) Continued

This fungus will also cause large black spots on fruit but is generally not economically important, even in beds with a lot of red leaf spot. Red leaf spot is most common on Ben Lear and Stevens, but any variety is susceptible, especially where nitrogen use is high and the weather has been relatively cool. Although the appearance of red leaf spot can be quite alarming, the damage to leaves, shoots, and fruit generally is not economically important.

Protoventuria (Gibbera) leaf spot. Dark red to purple spots and blotches with irregular margins show up on current year's leaves in late summer and early fall. By late spring of the following year, the spots enlarge and fade to yellow. By mid summer, entire leaves appear chlorotic and tiny black fruiting bodies are clustered irregularly across the upper leaf surface. Spores are released from the fruiting bodies and infect the current year's leaves. Protoventuria leaf spot has been associated with premature drop of 1-year-old leaves. However, this probably doesn't harm yield, because almost all of the resources for developing fruit come from the current year's leaves. The fungus also can cause a minor, superficial speckling of fruit that does not affect flavor or storage quality.

Protoventuria early leaf spot. This disease is most noticeable in early spring on leaves produced the previous year. Symptoms include reddish, circular spots on the upper surfaces of leaves. However, the spots are not as vibrant red, nor are leaves misshapen as with red leaf spot. By late spring, the spots appear dark red to black and sometimes have a bull's-eye appearance, with a red outer ring and a whitish inner ring caused by the fungus pushing up the leaf cuticle.

Cladosporium leaf spot. Cladosporium leaf spot is not noticed until leaves are at least 1 year old. If you see dead or dying leaves with brown spots with white centers, chances are it's Cladosporium leaf spot. This is common in Wisconsin where fungicides are not used. Although it often appears on old leaves that have dropped in the spring, it is probably not the primary cause of leaf drop.

I agree that the names of these diseases are cumbersome and can cause confusion. But the bottom line is this: with the exception of early rot caused by *Phyllosticta vaccinii*, fungicide sprays are generally not needed to manage leaf spot diseases in Wisconsin.

Patty McManus, UW Extension Plant Pathologist



Tire kickin' at Summer Field Day...

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Mini Clinics Set for WSCGA/UWEX Summer Meeting August 12:

Gardner Cranberry LLC
5616 Cranberry Lane
Pittsville, Wisconsin 54466

The WSCGA Education Committee will be conducting two mini sessions at the 2009 WSCGA/UWEX Summer Meeting, Field Day and Trade Show on August 12 at Badger State Fruit Processing in Pittsville, WI. The two sessions will be held in the large building in the lunch area. The topics include:

9:30 a.m. – Grower Experience with Intrepid Use for Fruitworm Control

Dan Mahr, UW extension entomologist for fruit crops will lead this session.

Presentations will include a discussion on the efficacy of Intrepid and grower experience using the newly registered compound for control of pests including cranberry fruitworm. Jayne Sojka and Tim Dittl will present preliminary data collected in their project to develop a degree day model for fruitworm management decisions.

10:15 a.m. – Energy Conservation and Renewable Energy Options for Cranberry Farms.

Fred Daniels of Franklin Energy will discuss ways growers can reduce energy use and costs as well as programs available for assessing sites for generation of renewable energy such as solar and wind. Franklin Energy specializes in the implementation of energy efficiency and renewable energy programs for utilities and states. They do work with the Focus on Energy program to assist farmers to evaluate their energy use and identify areas where savings can be realized. Daniels will also discuss grant programs and tax incentives available for growers to implement new technologies.

The WSCGA/UWEX Summer Meeting, Field Day and Trade Show is open to the public and there is no cost to participate in the Mini Sessions or the other aspects of the event. It is one of the largest gatherings of the cranberry industry in the nation. General exhibits open at 8:30. A \$12 lunch is served from 11:00 to 1:00. Contact the WSCGA to order meal tickets in advance (715-423-2070) and then pick them up that morning.

Bits 'n' Pieces

- Actara is a Syngenta product.
- It is formulated as a 25% WDG (water dispersible granule).
- The Restricted Entry Interval (REI) is 12 hours.
- The Preharvest Interval on cranberry is 30 days.
- The rate of use on cranberry is 2.0-4.0 oz formulated product per acre.
- No more than 12 oz formulated product can be used per season. This allows three applications at the high rate.
- Allow at least 7 days between applications.
- Thiamethoxam, like other neonicotinoids, is highly toxic to bees and should not be applied immediately before bloom or during bloom. Wait at least 5 days before placing bee hives near treated beds.
- Thiamethoxam is highly toxic to aquatic organisms and must be kept out of water. Bog water must be held for 5 days after a treatment before release.
- The label prohibits irrigation within 48 hours after an application.
- It may be applied by ground equipment and chemigation, but not by air.

New Insecticide Profiles: Actara

Dan Mahr, University of Wisconsin, Entomology

This is the third article in a series designed to provide some basic information about our newer insecticide products and how they might fit into your insect management program. This time we will highlight Actara, the third product in the class of neonicotinoid insecticides registered on cranberry.

Actara has the active ingredient thiamethoxam. The acute oral mammalian toxicity (LD_{50}) is greater than 5000 mg/kg, making it a Category IV (lowest toxicity category) toxin. The dermal toxicity is >2000; placing it in Category III (slightly toxic) via skin exposure.

Actara is a selective insecticide, with particularly good activity against insects with piercing-sucking mouthparts such as aphids and leafhoppers, but it also has activity against certain other insect groups. Currently it is registered against aphids, flea beetle, cranberry weevil, leafhoppers, and Japanese beetle. Of these, flea beetle is the only significant Wisconsin cranberry pest. Actara has provided very good control of flea beetle in University of Wisconsin trials. Actara is not an effective material for Lepidoptera and has not performed well against fruitworms and spanworms in our trials. Actara has not been highly effective in our tipworm trials.

To summarize, Actara will be of limited use in Wisconsin cranberry production, with the main target pest being adult flea beetles.

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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