

Cranberry Crop Management Journal

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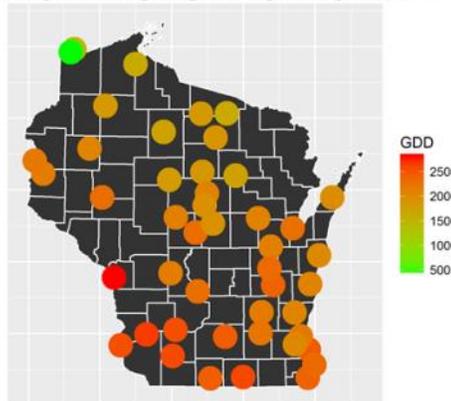
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CRANBERRY PLANT AND PEST DEGREE DAYS– JULY 25, 2017

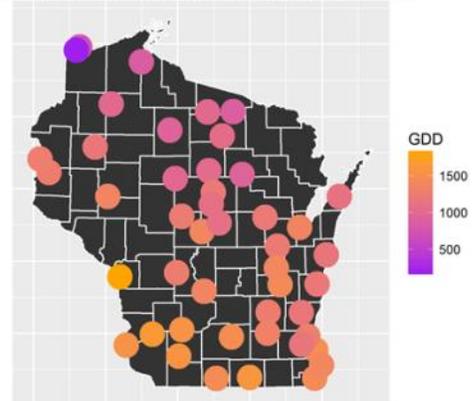
by Elissa Chasen and Shawn Steffan
USDA-ARS and UW Entomology

See the maps below for the degree-days of the cranberry plant and associated pests. Developmental thresholds for each species are: cranberry plant - 41 and 85°F; sparganthis fruitworm - 50 and 86°F; and cranberry fruitworm - 44 and 87°F. Interactive maps are posted online. The interactive feature allows you to click on the map locations, prompting a pop-up that names the location and gives exact degree-days. These are available through the Steffan lab website (<http://labs.russell.wisc.edu/steffan/cranberry-growing-degree-days/>). Once on the website, follow the link to the interactive maps.

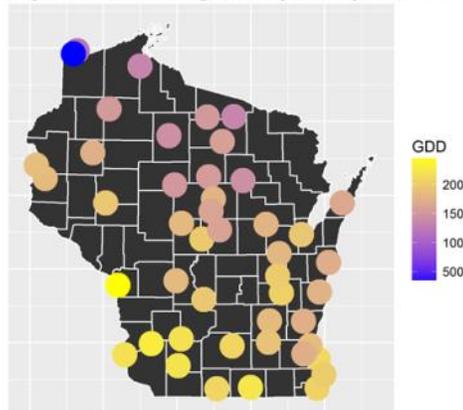
Cranberry Growing Degree Days: July 25, 2017



Sparganthis Degree Days: July 25, 2017



Cranberry Fruitworm Degree Days: July 25, 2017



Event	DDs from March 1 (approximate)
Flight initiation	595.7
First eggs laid	681.0
Peak flight	884.12
First egg hatched*	895.4
End of egg laying	1,634
Last egg hatched*	1,890

* Egg hatch window: 895 – 1,890 DDs

Tired of seeing in BLACK & WHITE?

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	July 25			Cranberry DDs			Sparg DDs			CFW DDs		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Northern WI (Minocqua)	1903.1	1995.7	1829	1082.9	1182.8	1030.3	1608.4	1704.9	1541.1			
Central WI (Wisconsin Rapids)	2376.8	2448.3	2313.6	1457.3	1540	1415.9	2052.6	2122.1	1994			



SUMMER MEETING, FIELD DAY & TRADE SHOW

Wednesday - August 9, 2017

WISCONSIN CRANBERRY DISCOVERY CENTER
204 Main Street – Warrens, WI

AGENDA:

8:30AM	Exhibits Open
8:30–11:00 AM	Registration
8:30AM–3:00PM	Marsh Tours
9:00–11:00AM	Mini Sessions
11:00AM–1:00PM	Lunch
1:30PM	WSCGA Business Meeting
3:00PM	Exhibits Close

1:30PM WSCGA Business Meeting Agenda:

- Welcome & Introductions – Tom Gardner
- Recognition
- Introduction of Special Guests
- Old Business
- New Business
- Other Business
- Introduction of Class IV of the Cranberry Leadership Development Program

LOCATION:

The Wisconsin Cranberry Discovery Center is located at 204 Main Street in Warrens. Indoor and Outdoor Trade Show exhibits will be located across the street from the Discovery Center. The mini-clinics, lunch, and WSCGA Summer meeting will be held under a tent adjacent to the Discovery Center.

PARKING: General parking is provided on-site. Handicap parking will also be available.

LUNCH TICKETS: Tickets are \$12.00 each for orders paid and received at the WSCGA office by Friday, July 14th. Lunch includes entrée, salad, and dessert. Lunch orders received after July 14th are \$15.00 each.

❖ **No lunch ticket orders will be taken by email or phone – completed form is required** ❖

LUNCH TICKET PICK-UP: Please pick up tickets on-site at the WSCGA Registration Table between 8:30 AM and 11:00 AM on Wednesday, August 9th.

MINI SESSION TOPICS

9:00AM	Plans for Research at the Wisconsin Cranberry Research Station, Tom Lochner, Executive Director
9:30 AM	Update from the Atucha Lab on Research Activities, Amaya Atucha, UW Madison and UW Extension
10:15 AM	Growing Season Update & Outlook – Wisconsin Cranberry Crop Consultants, (Ben Tilberg, Ocean Spray Cranberries, Moderator, Jayne Sojka, Lady Bug IPM, Pam Verhulst, Lady Bug IPM, Lindsay Wells-Hansen, Ocean Spray Cranberries)

2017 SUMMER FIELD DAY- LUNCH TICKET ORDER

Company Name: _____
 Contact Person: _____ Phone: _____
 Address: _____ City: _____ State: _____ Zip Code: _____
 Email: _____

QUANTITY	TOTAL DUE
Early Bird Lunch Tickets – payment received by July 14th	X \$12.00 =
Standard Lunch Tickets – payment received after July 14th	X \$15.00 =

TIME PERIOD	RANK PREFERENCE (1-2-3-4)
11:00 – 11:30AM	
11:30 – 12:00PM	
12:00 – 12:30PM	
12:30 – 1:00PM	

We look forward to seeing you at the 2017 WSCGA Summer Field Day & Trade Show!

MAKE CHECKS PAYABLE & MAIL TO: WSCGA, PO BOX 365, WISCONSIN RAPIDS, WI 54495

Date Received at WSCGA: _____ Check #: _____ Payment Received: _____

REDHEADED FLEA BEETLE HAS BEEN SHOWING ITS ANTENNAE AT SEVERAL MARSHES

by **Christelle Guédot**

UW – Madison Fruit Crop Entomology and Extension

The redheaded flea beetle (Coleoptera, Chrysomelidae: *Systema frontalis*) also known as the cranberry flea beetle has been showing up at several cranberry marshes in Central Wisconsin. The adult flea beetle feeds on up to 40 plants in Wisconsin¹ and can be an occasional pest of several crops, including cranberries, blueberries, cabbage, beans, beets, corn, and alfalfa².

Redheaded flea beetles are small (~1/8”) shiny black beetles with a reddish head (Fig. 1). They have powerful hind legs and jump when disturbed. Adult beetles are present from July through September or until the first hard frost. Redheaded flea beetles overwinter as eggs in the soil. Larvae feed on roots and root hairs from June to August.

Common cranberry marsh weed species that redheaded flea beetle feed on include: marsh St. Johnswort, Joe-Pye weed, smartweed, loosestrife, sheep sorrel, lamb’s quarters, hardhack, and many others³. Adults feeding on cranberry have been shown to prefer some varieties over others in Massachusetts (Howes over Early Black); however, many weed species seem to be preferred if present³.

Damage: The main damage is caused by adult beetles feeding primarily on the underside of leaves, between the veins and often leaving the upper skin of the leaves, resulting in brown or burnt looking foliage³ (Figure 2). This damage can slow the growth of the plant, impact bud development for the following year³, reduce vigor, and with excessive injury may even kill the plant¹. Young plants should be paid special attention to as they are more susceptible than well-established plants¹. Historically, redheaded flea beetle was rarely observed in cranberry marshes. In recent years, we have seen an increase in the number of redheaded flea beetles found on marshes and in the numbers of marshes affected by them. Flea beetles will feed first on more attractive alternative hosts, such as smartweed, and as these weeds become less available and beetle populations start building up, redheaded flea beetle will move on to cranberry foliage and berries¹. Larvae that emerge in the spring can feed on roots causing root damage; additionally, damage from redheaded flea beetle larvae can be seen from July to August and during this time can sometimes be mistaken for cranberry girdler damage¹.

Management: Although flea beetles rarely cause economic losses they are easily controlled with a number of registered foliar-applied insecticides, including broad spectrum insecticides such as organophosphates (e.g. Diazinon,



Figure 1. Adult redheaded flea beetle. BugGuide. Photo credit: JC Jones.



Figure 2. Damage caused by redheaded flea beetle. Photo from Purdue University. (<http://extension.entm.purdue.edu/pestcrop/2012/issue15/graphics/popups/bug3.jpg>)

Imidan, Lorsban), selective insecticides like IGRs (e.g., Rimon), neonicotinoids (e.g., Assail, Belay, Actara), and diamides (e.g., Altacor). Table 1 provides information on overall rating of insecticides from our trials on flea beetle. If warranted, sprays can be applied at 1/2” of new growth, in June, and after bloom.

The table to the left shows the effectiveness of foliar-applied insecticides for cranberry flea beetle adult control

We have investigated the use of watered-in soil incorporation of insecticides for the control of flea beetle larvae (Table 2). Neither pre-bloom soil applications of labeled rates of Altacor, Belay and Assail nor post-bloom soil applications of Altacor or Assail were adequately effective for the later-season flea beetle adult control. As previously observed, foliar applications of all three products effectively controlled flea beetle adults in trials. **Please remember** that Valent will not pursue re-registration of Belay on cranberry once the label expires in 2018. You are allowed to use Belay this year but please check with your handler before applying Belay or any other pesticides.

(continued on next page)

Product	Rate/acre	Flea Beetle
Grandevo 30G	3 lb	--
Venerate 94L	8 qt	--
Actara 25WDG	4 oz	+++
Assail 30SG	4 oz	+++
Belay 2.1SC	4 oz	+++
Lorsban 4E	1.5 pt	++
Diazinon 4EC	1 qt	+++
Imidan 70WP	1 lb	+++
Altacor 35WG	3 oz	+++
Orthene 97 or Sevin 4E	0.7 lb/ 2 pt	++
Confirm 2F	16 oz	--
Delegate 25WG	6 oz	++
Intrepid 2F	16 oz	--
Rimon 0.83EC	12 oz	+

(Performance rating scale - “--” inadequate control, “+” - 70 – 79% control, “++” - 80 – 89% control, “+++” – 90%+

Table 2. Effectiveness of soil vs. foliar applications for flea beetle adult control.

Treatment	% Control
Altacor 4.5 oz Pre Bloom – Soil	9
Altacor 4.5 oz Post Bloom – Soil	10
Altacor 4.5 oz – Foliar	94
Belay 12 oz Pre Bloom – Soil	7
Belay 12 oz Post Bloom – Soil	88
Belay 4 oz – Foliar	92
Assail 5.3 oz Pre Bloom – Soil	18
Assail 5.3 oz Post Bloom – Soil	68
Assail 5.3 oz – Foliar	89

It is important to minimize sprays during bloom but also directly before bloom to avoid contact with pollinators. Sprays after bloom should pay special attention to pre-harvest intervals, so as always, read and follow the label. Some insecticides face MRLs export limitations in cranberry so make sure to check with your handler before using them.
Happy growing season!

References:

Mahr, D. L. 2005. Redheaded Flea Beetle. Pest Profiles. University of Wisconsin, Madison Extension.
 Dudek, T. A. 2011. Red headed flea beetle: A new pest of nursery crops in Michigan. Michigan State University Extension.
 Averill, A. L. and Sylvia, M. M. 1998. Cranberry Insects of the Northeast. University of Massachusetts/Amherst.



GROWER UPDATES

DUBAY CRANBERRY

Well, it looks like the bees did their job and they are on their way home. Fruit set looks pretty good. We are putting the finishing touches of fertilizer on. With the continual warm weather, let's hope the berries size up well.

Unfortunately, flea beetles are starting to show up on several beds. Since it has stopped raining every several days, at least here, it just a matter of time before they start looking for something more than dried up weeds on the dikes to feed on. Some years, it seems like I'm chasing them all around the marsh and other years the problem is confined to one certain section. Those beetles sure can be a nuisance. It seems like we flew through the month of July! Soon enough we'll be going over our harvest equipment.

Dave Hansen
DuBay Cranberry

SARATOGA CRANBERRY COMPANY

The bees were removed from the property last week. We decided to hold off on the Diazinon spray because there is low -to-no pest pressure, and it would not have been economical to do so. This week we are planning on pulling the Joe-Pye Weed to keep the marsh looking clean. We have a tally of 2,159 growing degree days in Saratoga 7/24/2017.

Russell Sawyer

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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