



# Michigan Blueberry IPM Newsletter

## CONTENTS

Page

- 1 Blueberry news you can use...  
Growing degree days
- 2 Insect management
- 3 Guthion comment period
- 4 Disease management

### Van Buren County

Jersey in Covert is finished with harvest but a few fields may still have a final clean up harvest; in Grand Junction, harvest of Bluegray and Bluecrop is complete.

### Ottawa County

Harvest of Bluegray in Holland is complete, and Rubel and Bluecrop are almost done with harvest; a few fields may get a final clean up with the harvester. Fruit buds at all sampled sites are setting nicely.



## BLUEBERRY NEWS YOU CAN USE...

**Save the date!** A town hall meeting will be held on September 24, 2009 from 9:00AM-12:00PM at the Trevor Nichols Research Complex in Fennville, MI to provide growers with information on the discovery of blueberry scorch and blueberry shock in Michigan.

**Disease management:** Scouting for diseases has stopped since all sites have been fully harvested.

**Insect management:** Insect pest levels are generally low. Think about bud mite control. Guthion comment period is still open – see Page 3.

To help us determine turnout for this meeting on 9/24, please email Paul Jenkins at [jenki132@msu.edu](mailto:jenki132@msu.edu) if you plan to attend (and indicate how many people).

## GROWING DEGREE DAYS

From March 1

	2009		Last Year	
	Base 42	Base 50	Base 42	Base 50
<b>Grand Junction, MI</b>				
8/24	3174	2094	3196	2158
8/31	3321	2186	3380	2288
Projected for 9/7	3448	2265	3560	2412
<b>West Olive, MI</b>				
8/24	2897	1854	2958	1946
8/31	3030	1934	3135	2069
Projected for 9/7	3174	2025	3300	2179

See [MSU Enviroweather website](http://MSU_Enviroweather_website) for more information.

## INSECT MANAGEMENT

Rufus Isaacs & Keith Mason, Department of Entomology, Michigan State University

Harvest is nearly complete and very little insect activity was observed on the four farms we scouted. These farms were scouted for the final time on August 24<sup>th</sup>. More parasitized aphids than live aphids were found at these farms. Japanese beetle numbers were low at the farms we scouted, but some beetles remain on bushes near grassy areas. Blueberry maggot flies were not captured at any of the four farms.

Buds are forming on plants as the harvest season winds down. This is a time to consider bud mite control in fields where a) this pest has been detected using a hand lens or microscope and b) the field is planted with a susceptible cultivar. See the earlier article on bud mite management in the [August 4 issue of the IPM Update](#).

### 2009 INSECT SCOUTING OVERVIEW

The following is a summary of the insect pest issues found this season during regular weekly scouting. How does this compare with your experience this season? Looking back over the past season at the pest management successes (or failures) you experienced is time well-spent, as it can help you prepare for the 2010 season and think about what adjustments you might make for next year.

Early season pests such as leafrollers, spanworm and cutworm were not common in the fields we scouted, but some feeding by these insects was seen before bloom. A few tussock moth larvae were seen early this season, but no larvae were observed near the harvest period at our four scouted farms. These all received a well-timed application of the insect growth regulator Intrepid for fruitworm control. This timing typically overlaps with the first generation of tussock moth and seems to minimize the risk of second generation tussock moth at harvest-time.

Cherry fruitworm and cranberry fruitworm flight was heavy at some of the scouted farms, and the number of moths caught was similar to what we have seen in the past few years at these sites. However, infestation of fruit by fruitworm larvae was very low at the sampled farms. In general most growers reported good to excellent fruitworm control at other farms, most of which used the cranberry fruitworm model at [enviroweather.msu.edu](http://enviroweather.msu.edu) to time applications of insecticides to protect the fruit.

Blueberry aphids were prevalent at some of the scouted farms, but these populations were brought under control with insecticides. The best control was seen in fields that received a neonicotinoid insecticide (e.g. Assail or Provado), but aphids were also controlled by pyrethroids (e.g. Asana, Mustang Max). Toward the end of the season the number of parasitized aphids was greater than the number of live aphids in most fields we scouted.

Very few blueberry maggot flies were captured this year at the scouted farms; flies were captured only in August after heavy rain and these were thought to be flies coming in from surrounding woods. There were reports of fly captures at other farms in July, which is a more typical timing for this pest.

In general Japanese beetle pressure was low this season, and very little Japanese beetle leaf damage or fruit damage was observed at any of the four farms we sampled. Japanese beetles were occasionally found in moderate numbers (an average of 1 or 2 beetles per bush) on bushes along field margins next to grassy areas.

During the fall, we will be analyzing the scouting data we collected this season to further refine the fruitworm model that is posted on [enviroweather.msu.edu](http://enviroweather.msu.edu). We will also be comparing the results of this season's tests of fruitworm control strategies. These results as well as other research will be presented at the Great Lakes Expo in December 2009 and at MSU Horticulture Days in February 2010.

**Insect Scouting Results (scouting ended 8/24)**

Farm	Date	CFW moths per trap	CBFW moths per trap	BBA % infested shoots	BBM adults per trap	JB per 20 bushes
Van Buren County						
Covert	8/17	--	--	0%	0	0
	8/24	--	--	5%	0	1
Grand Junction	8/17	--	--	0%	0	18
	8/24	--	--	0%	0	2
Ottawa County						
Holland	8/17	--	--	0%	0	16
	8/24	--	--	0%	0	6
West Olive	8/17	--	--	0%	0	0
	8/24	--	--	0%	0	0

CFW=cherry fruitworm; CBFW=cranberry fruitworm; BBA=blueberry aphid; BBM=blueberry maggot; JB=Japanese beetle



**Guthion® comment period deadline is September 21st**

Rufus Isaacs, Department of Entomology, Michigan State University

Blueberry growers and other interested parties have until Sept 21 to comment on a to the US Environmental Protection Agency (EPA) to slow down the speed of restrictions in the Guthion phaseout. This would give blueberry, apple, and cherry growers more time to develop and adopt effective and economical alternative programs. Anyone with interest in this proposed change is encouraged to make their opinions known by commenting to EPA **before Sept 21**.

The manufacturer of Guthion (MANA) has provided a formal request to the EPA to keep the maximum seasonal limit of Guthion 50 WP for blueberries at 2 pound per acre, and to extend aerial application through the end of

2012. This would change the current phaseout plan that has reduction to 1.5 pounds maximum for 2010-2012, and a ban on aerial Guthion after Sept 2009. This does not change the plan to cancel all use of Guthion in blueberry after September 30, 2012.

If you would like to make a comment on this proposal, details of the announcement and the instructions on how to comment can be found here: [www.epa.gov/fedrgstr/EPA-PEST/2009/July/Day-22/p17398.htm](http://www.epa.gov/fedrgstr/EPA-PEST/2009/July/Day-22/p17398.htm) Comments can be submitted by mail, email, or through the [www.regulations.gov](http://www.regulations.gov) website. All correspondence should include the docket ID number EPA-HQ-OPP-2009-0365.

## DISEASE MANAGEMENT

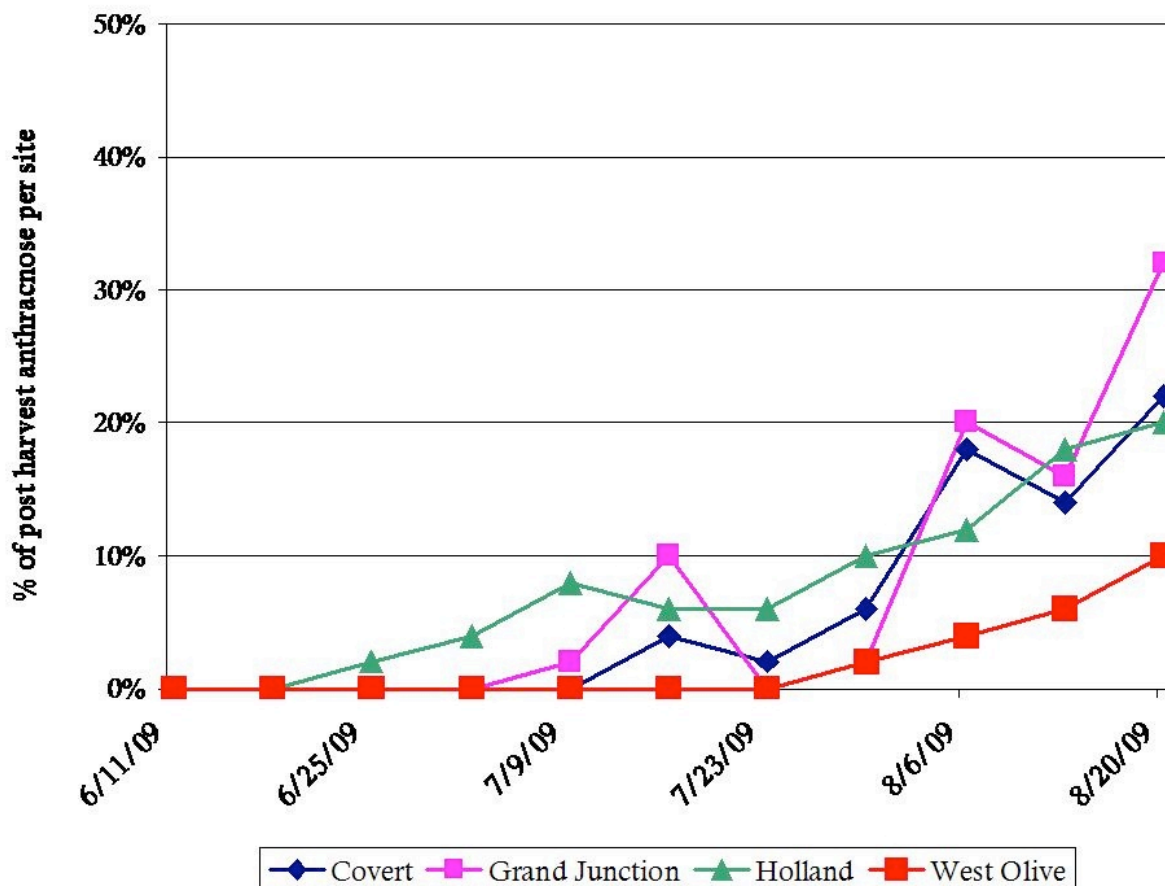
Annemiek Schilder & Tim Miles, Department of Plant Pathology, Michigan State University

All of the scouted plots have been fully harvested. In these past two weeks, we have seen an increase in the incidence of anthracnose among the scouted plots with the highest incidence being observed at our Holland site averaging 2.7 infected anthracnose fruit rot clusters per bush (Figure 1). Additionally, throughout the season, we have been collecting extensive anthracnose fruit rot data with regards to the onset of the infections.



**Fig 1.** Anthracnose infected berries reveal small blisters in which the spores are produced (Holland, 8/20/09).

**Anthracnose infections throughout this season.** Since anthracnose does not usually manifest itself until close to harvest, preventative control strategies are usually necessary. The latent nature of anthracnose infections also makes them difficult to study because it is hard to identify when the majority of infections begin. In order to better understand when these infections occur, green and ripe fruit has been collected in our scouted plots, the surface of the fruit sterilized and placed on selective fungal media. After a period of seven days, fungi that grow on the media were identified. Figure 2 represents the incidence of the anthracnose fungi (*Colletotrichum acutatum*) seen on collected fruit. From this graph we can estimate that the majority of infections most likely occurred one to two weeks prior because of the incubation period required by the pathogen.



**Fig 2.** Anthracnose incidence at the four scouted farms throughout 2009 (percentage based on scouting 50 random berries per site).

**Disease Scouting Results (scouting ended 8/20)**

<b>Farm</b>	<b>Date</b>	<b>Avg number of infected anthracnose clusters per bush**</b>	<b>Avg number of infected Alternaria clusters per bush**</b>
Van Buren County			
Covert	8/13	0.7	0.1
	8/20	1.8	0.0
Grand Junction	8/13	0.2	0.0
	8/20	1.1	0.0
Ottawa County			
Holland	8/13	1.4	0.0
	8/20	2.7	0.0
West Olive	8/13	0.2	0.0
	8/20	0.9	0.0

\*Average based on scouting on and below 10 bushes.

\*\*Average number based on 10 bushes.



Funding for this newsletter is provided by grants from the EPA and Project GREEN.

MSU is an affirmative-action, equal-opportunity employer. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status or veteran status. Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Thomas G. Coon, Director, MSU Extension, East Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

