



Michigan Blueberry IPM Newsletter

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Van Buren County
Jersey in Covert and Blueray in Grand Junction are at pink bud, and Bluecrop in Grand Junction is at late pink.



Ottawa County
Blueray in Holland, and Rubel and Bluecrop in West Olive are at pink bud.

BLUEBERRY NEWS YOU CAN USE...

Disease management. Continue to monitor mummy berry apothecial development and begin looking for shoot strike infections. If shoot strikes are observed and open blossoms are present, consider protecting the blossoms from infection with a fungicide application.

Insect management. Put up cranberry fruitworm traps if you have not already done so. Monitor fields for flower feeding insects.

MSU Blueberry IPM Meetings. Our next IPM meeting is next week **Wednesday!** See details below.

GROWING DEGREE DAYS

From March 1

	2009		Last Year	
	Base 42	Base 50	Base 42	Base 50
Grand Junction, MI				
4/27	354	173	353	188
5/4	441	216	429	230
Projected for 5/11	525	257	525	282
West Olive, MI				
4/27	255	110	286	141
5/4	327	142	344	169
Projected for 5/11	413	184	428	211

Wednesday, May 13
(6-8PM), Cornerstone Ag, 01240 57th St., Grand Junction, MI. A light catered dinner will be served at 6PM. Contact Mark Longstroth at 269-330-2790 if you have any questions.

Thursday, June 11
(6-8PM), Carini Farms, 15039 Port Sheldon Rd., West Olive, MI.

See MSU Enviroweather website for more information

INSECT MANAGEMENT

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



Fig 1. Three-lined flower beetle (adult).

Insect activity has remained low at all four farms, but some very light feeding by the three-lined flower beetle, *Hoplia trifasciata* was observed at the West Olive and Holland farms and beetles were observed at the Grand Junction and Covert farms. See photos of adult and feeding damage (Fig 1 and Fig 2). You can read more about this pest in the [May 15, 2007 issue of the Michigan Blueberry IPM Update Newsletter](#). As flower buds are now expanding into pink bud, the threat of damage from [climbing cutworm](#) and [spanworm](#) feeding is decreasing, but growers and scouts should continue to look for these pests and also scout for [leafroller](#) feeding in fruit and leaf buds. A working threshold for control of these early season pests at this point in the season is 2% of the buds removed. Count 10 buds on 10 bushes spread through the field to pick up any hot-spots.



Fig 2. Feeding damage by three-lined flower beetle.

Insect Scouting Results

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	4/27	0	--	--	--	--
	5/4	0	set	--	--	--
Grand Junction	4/27	0	--	--	--	--
	5/4	1	set	--	--	--
Ottawa County						
Holland	4/27	0	--	--	--	--
	5/4	0	set	--	--	--
West Olive	4/27	0	--	--	--	--
	5/4	0	set	--	--	--

One!
We have one cherry fruitworm moth this week!



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

The first cherry fruitworm moth was caught in Grand Junction. We expect the flight for this pest to increase in southern counties (Berrien and Van Buren), and flight should begin in Ottawa county this week. Growers and scouts should already have cherry fruitworm traps set in fields, and **cranberry fruitworm traps should be set in the next week.** Traps should be checked twice weekly until the moths are caught and then traps should be checked once a week until first harvest.

The numbers of “contaminant” moths in cherry fruitworm traps has declined sharply, and we expect these numbers to continue to decrease over the next two weeks. See Fig. 3 for pictures of the contaminant moth and cherry fruitworm.



Fig 3. Cherry fruit worm (left) and the ‘contaminant moth’ found in cherry fruitworm traps (right).

DISEASE MANAGEMENT

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

Mummy berry

This week mummy berry mushrooms (apothecia) were observed at various stages of maturity. The plots had varying numbers of apothecia, with average counts this week as high as 10.4 per bush (Grand Junction) and as low as 0.3 per bush (Covert). Many of the observed apothecia had expanded to as much 1/3 of an inch and had already discharged the majority of their ascospores (Fig 4). It is now the time of year to begin scouting for mummy berry shoot strikes due to the availability of discharged ascospores and susceptible green leaf tissue. No shoot strikes have yet been observed in any of the scouted plots. Shoot strike symptoms consist of wilting of developing leaves and shoots with a browning of the midribs and lateral leaf veins, often described as an “oak leaf” pattern of necrosis. Under humid conditions, gray spore masses will develop on these infected shoots. These spores (conidia) then get carried to the flowers by bees, wind, and rain, which then leads to infection and mummification of the fruit later in the growing season. While shoot strikes were not seen, rainfall received in southwest Michigan last week and temperatures provided optimum conditions for ascospore release (around 57°F) and infection. Shoot strike symptoms typically appear about 12–14 days after the actual infection, depending on the temperature, so be on the lookout for shoot strikes in the next two weeks. Shoot strikes that are producing spores during bloom are epidemiologically most important since flowers have to be present for the fungus to complete its life cycle. If shoot strikes are observed and open blossoms are present, protect the blossoms from infection with a fungicide application (e.g., Indar or Pristine).



Fig 4. Apothecium with a cup size of 1/3 of an inch (9 mm) observed in Grand Junction, MI on 5-3-09.

Disease Scouting Results

Farm	Date	Avg number of mummies on the ground*	% Germinated mummies	Avg number of apothecia on the ground*	Max apothecia cup diameter
Van Buren County					
Covert	4/27	1.2	25.0	0.3	1/5 in (5 mm)
	5/4	1.4	21.4	0.3	1/4 in (7 mm)
Grand Junction	4/27	18.7	21.4	6.3	1/4 in (6 mm)
	5/4	19.9	33.7	10.4	1/3 in (9 mm)
Ottawa County					
Holland	4/27	2.7	33.0	0.9	1/5 in (5 mm)
	5/4	2.6	34.6	0.9	1/3 in (8 mm)
West Olive	4/27	4.1	26.8	2.3	1/4 in (7 mm)
	5/4	4.2	26.2	2.2	1/3 in (9 mm)

*Average number based on 10 bushes.



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