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Midseason Powdery Mildew Control on Pumpkin - Why You Should Care -Jim Jasinski, Bob Precheur, Sally Miller

We are beginning the fourth week of powdery mildew (PM) being detected on pumpkins in central Ohio. The standard recommendation for PM management would be to begin fungicide sprays on a 7-10 day schedule once the first white PM colonies are spotted on the foliage, typically on the underside of older leaves. If you wait to treat PM until after the characteristic white colonies can be seen from the road as you drive by, it will be difficult to control for the remainder of the season. While there hasn't been a lot of moisture this summer, remember powder mildew is one of the few fungi that can thrive under dry conditions.

Most of Ohio experienced extremely hot and dry days during the second half of July and first week of August. These weather conditions caused female flowers and young fruit to abort, leaving most growers with a split fruit set, e.g. roughly a three week window in which no new fruit were set. This can be seen at the research station in South Charleston and many fields across the state, where the majority of fruit are fully sized and orange, with a recent flush of baseball to softball size fruit set now that conditions have generally cooled off. If the foliage is not protected against powdery mildew and the canopy is lost, it only takes one clear sunny day above 85 F to sunburn mature fruit. Since immature fruit will need several weeks to fully size and turn orange, loss of canopy will reduce their size and quality, and potentially place them at risk for sunburn later. Even if you plan to wholesale all of your fruit by Labor Day, treatment should begin immediately to protect foliage, fruit, and handles from infection.

The current OSU Vegetable Production Guide lists several powdery mildew materials that have been ranked from very effective to ineffective based on research conducted over the past three years. Materials such as Quintec, Pristine, Microthiol Disperss, Rally, and Procure have been consistently rated moderately effective or better for PM control. Remember not to spray the same fungicides consecutively and to rotate the FRAC numbers on successive sprays. It's also a good idea to add a broad spectrum fungicide such as Chlorothalonil or Manzate to at least every other application for general fruit rots and disease resistance management, but remember these materials do not provide acceptable PM control by themselves. The 2011 OSU Vegetable Production guide is only available in hard copy from your local Extension office, but the 2010 version is online for free at <http://ohioline.osu.edu/b672/index.html>.

Pumpkin Field Day - 2011

-Jim Jasinski, Bob Precheur, Sally Miller, Celeste Welty

The 2011 Pumpkin Field Day will be held at the Western Ag Research Station in South Charleston, on August 30th, from 6 - 8 PM. Several OSU specialists will be presenting at the field day this year including Dr. Sally Miller, Dept. of Plant Pathology, Dr. Bob Precheur, Dept. of Horticulture and Crop Science, Dr. Celeste Welty, Dept. of Entomology, and Jim Jasinski, OSU Extension IPM program. The topics covered will be field and lab work concerning angular leaf spot, downy mildew, and other disease control trials being conducted at Wooster and South Charleston, a 16 variety pumpkin germplasm evaluation trial, and a demonstration trial of eight fungicide programs designed primarily to control powdery mildew, and an insect management update. Growers will be transported from site to site via a shaded tour wagon, and will be encouraged to walk around the plots at each stop and ask questions of the specialists.

Cost will be \$5 per person, and pre-registration will begin at 5:30 PM, with the tour starting promptly at 6:00 PM. Both CCA and PAT credits will be available, and liquid refreshments will be served on the tour. The research station is located at 7721 South Charleston Pike, South Charleston, 3 miles south of I-70 on SR 41 or 3.5 miles northwest of South Charleston on SR 41 (Clark County, Ohio). The field day is sponsored by the OSU Extension Vegetable Team, OARDC, and other industry partners. For more details contact Jim Jasinski, jasinski.4@osu.edu, 937-484-1526 or 937-462-8016.

Insect News, 8/24/2011. C. Welty

Corn earworm is usually causing a lot of problems in Ohio sweet corn by late August, but most of our Ohio monitoring sites have shown just low to moderate pressure from this pest. Catch of male moths in pheromone traps during the past week have ranged from 1 to 12 with the highest catch in Meigs County (southeast Ohio). There could be a large increase at any time, especially if strong winds from the hurricane blow moths our way. With low catches and moderate temperatures, a 4-day spray schedule is currently adequate for silking sweet corn at most locations.

European corn borer is active and abundant, at least at our monitoring station in Fremont in northwest Ohio. Peak numbers of moths caught in blacklight traps were on 13-16 August. Peppers and sweet corn are the main crops at risk of infestation.

Beet armyworm in the adult stage have been active since early July but have increased in the past 2 weeks particularly in Celeryville and Meigs County. Pepper and tomato growers should be on the lookout for this pest.

The brown marmorated stink bug is being sighted in Columbus but in isolated cases on vegetable crops. It has been seen on pumpkin, sweet corn, and cabbage. Our trapping network in 18 counties has shown positive catch of this new species only in Franklin County and Meigs County. There has been some confusion in identification of this stink bug with squash bug and other stink bugs. Shown below is a pinned specimen of the new species along with similar species.



Where can you find the latest trap reports?

Trap reports from several Ohio locations are posted on a webpage: http://bugs.osu.edu/welty/veg_traps1/Veg_traps.html

Crop Report (from August 17, 2011) By Brad Bergefurd

Harvest of all vegetable and melon crops is in full swing with strong demand still being reported for most all crops. Summer squash and zucchini is in strong demand with light harvest being reported. Little disease and insect pressure being reported. Virus symptoms are showing on some vine crops. Planting of greens, radish, daikon, kale, lettuce continues. Most areas are getting dry for the rains this past weekend were mainly in the Eastern part of the state, therefore irrigation continues. One grower who planted pumpkins June 12 brought fully ripened good quality 18 pound jack o lanterns to our Annual Horticulture Field Night at Piketon held last Thursday August 11.

Observations from the pumpkin field.

Bob Precheur and Jim Jasinski

Sources: Compendium of cucurbit diseases and 2011 Ohio Vegetable Production Guide

In the pumpkin field, there are many things to see, especially in the area of foliar diseases, which can have yield consequences later on. Above, Jim Jasinski mentions the importance of powdery mildew control and keeping foliage healthy to shade fruit especially where fruit have already turned orange. We are also seeing a lot of bacterial diseases including angular leaf spot and bacterial leaf spot.

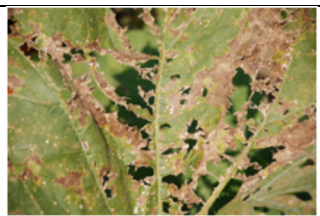
Angular leaf spot first appears as small water soaked lesions on leaves. These lesions usually expand until they are delimited by larger secondary veins in the leaves giving the lesions an angular appearance. On susceptible cultivars, lesions often have yellow margins but may not be present on resistant cultivars. Lesions can also appear on fruit as small 1-3 mm in diameter, water soaked spots often with a light tan center. Fruit rot can penetrate deeply.

Bacterial leaf spot symptoms may appear similar to angular leaf spot. Small (2-4mm) angular, yellow to beige spots are often associated with large and secondary veins. As lesions coalesce, they may appear similar to those caused by angular leaf spot. Fruit lesions initially are 1-3mm in diameter with a beige center and a dark brown halo. Later, the cuticle and epidermis crack and the lesions can enlarge to 10-15 mm.

Below are typical symptoms found on leaves and fruit. We have found bacterial streaming from all lesions and brown spots and in the process of identifying the causal organism.



Above: Bacterial lesions on leaves that coalesce to form brown spots




Above: Small bacterial lesions can be seen and also advanced stages where necrotic areas have dropped out.



Above: Bacterial lesions on fruit turning orange. Fruit will be unmarketable and








Above: Bacterial lesions on immature fruit.

more than likely rot before harvest	
	<p>Left: In the foreground, a susceptible variety showing foliage necrosis from bacteria as if top of leaves were hit by a blowtorch.</p> <p>Background: Green foliage on resistant varieties. However, heavy storms can spread infections</p>

Control: Primary control begins with the use of pathogen free seed. The production of seed in arid regions under furrow irrigation is the best way to minimize pathogen populations in the seed. There are no effective chemical controls for these 2 diseases. Crop rotations (2-3 years out of vine crops) can help limit damage.

White Speck, Plectosporium Blight formerly known as Microdochium Blight

Not present every year, this disease has turned up this year in some hot spots and can be found in several plantings. Excessive moisture and thunderstorms have favored development in some pumpkin plantings. The disease is characterized by the production of light tan to bleached, sunken, diamond or spindle shaped lesions, primarily on the main stems, petioles, main leaf veins and peduncles of leaf blades. Stem lesions can cause complete defoliation in severe cases. On the fruit, the fungus causes white, tan or silver russetting on the surface. We hope to have available in the near future a short video and iTunes U podcast on this disease.

	
Above: White Speck (Plectosporium blight) lesions on leaves.	
	Above: White Speck (Plectosporium blight) lesions on petiole with typical diamond shape.
	
Above: White Speck (Plectosporium blight) lesions on leaf main veins with typical diamond shape.	
	Above: White Speck (Plectosporium blight) lesions on vine with russetting.
	
	Left: White Speck (Plectosporium blight) lesions on fruit.

Control: Bravo Weather Stick, Cabrio Flint and Quadris are listed in the vegetable production guide for control and to be sprayed every 7 to 10 days. Also, rotate out of cucurbits for at least 2 years. Choose fields with well drained soils