

In this issue:

1. Downy Mildew in Cucumbers and Melons
2. Late Blight confirmed on potato in NJ
3. Southern OH Crop Report
4. Now available at the iBookstore

Downy Mildew in Cucumbers and Melons

Sally Miller, OSU Department of Plant Pathology,
May 25, 2012

There have been NO reports of the disease in OH, MI or Ontario *in field cucumbers or melons*. However, spores of the pathogen have been detected in eastern Michigan (Monroe and Frankenmuth counties), where Dr. Mary Hausbeck's lab routinely monitors for airborne CDM spores (http://msue.anr.msu.edu/news/influx_of_cucurbit_downy_mildew_sporangia_detected_in_eastern_michigan/).

While it is not possible to predict precisely when the disease will occur based on spore counts, previous experience in Michigan suggests that spore detection precedes downy mildew outbreaks. The incubation period for CDM in cucumbers and melons is about 5 days. Ohio cucumber and melon growers in the northern counties should begin fungicide programs to manage the disease as soon as possible.

CDM is a very serious problem, particularly on cucumbers and melons and particularly in northern Ohio. During the past 7 years the CDM has been reported in northern Ohio counties approximately the end of June. The pathogen causing this disease requires living plants to survive and therefore does not overwinter outside in Ohio. However, cucumbers growing in northern greenhouses are thought to provide a "green bridge" for the CDM pathogen. We do not know if CDM will be detected early this year; disease development depends not only on the presence of spores but also on environmental conditions. Cool, moist, overcast/cloudy conditions favor the disease.

The CDM pathogen is specific to cucurbits, therefore other downy mildews, such as those on impatiens, grapes, onions, etc. have no effect on cucurbits.



Downy mildew symptoms on cucumber (l) and melon (r).

SUGGESTED DOWNY MILDEW MANAGEMENT PROGRAMS FOR CUCUMBERS AND MELONS:

Fungicide application:

Protection before disease appears: Apply one of the following fungicides on a 7-10 day schedule, tank mixed with Bravo, Manzate or Dithane: Presidio, Ranman, Previcur Flex, Tanos, Curzate or Gavel (Gavel already contains mancozeb). Alternate products. The application interval can be lengthened under dry conditions. Use the shorter interval under cool, moist conditions.

Management after disease appears: Apply one of the following fungicides on a 5-7 day schedule, tank mixed with Bravo or Dithane: Presidio, Ranman, Previcur Flex, or Tanos. Alternate products. The application interval can be lengthened under dry conditions. Use the shorter interval under cool, moist conditions. See product labels for fungicide rates.

Most recent research has shown that fungicides can be ranked as follows for efficacy against downy mildew: Presidio = Ranman > Previcur Flex > Curzate > Gavel > Mancozeb = Bravo.

Note that the fungicides recommended above have different preharvest intervals (PHI). Keep this in mind when fungicides are applied after harvesting begins.

Product	PHI (days)
Bravo Weather Stik	0
Ranman	0
Previcur Flex	2
Tanos	3
Dithane or Manzate	5
Gavel	5
Presidio	2
Curzate	3

Late blight has been confirmed on potato in New Jersey.

Andy Wyenandt, Ph.D., Specialist in Vegetable Pathology. From Plant and Pest Advisory, Vol. 18 No. 9. Rutgers University, NJ Agricultural Experiment Station.

Late blight was confirmed on actively sporulating leaf lesions from an 8 acre potato field near Cookstown, NJ (Burlington County). The few infected plants were found at the end of a row where the boom sprayer was most likely turned off. The grower had preventative applications of manzate followed by chlorothalonil prior. Seed pieces were sourced from Maine. This is the first report of Late blight in NJ on potato or tomato this year. All potato (and tomato crops) are potentially at-risk. What growers should do: Control of late blight begins with regular scouting, recognizing symptoms and preventative fungicide applications. All potato and tomato growers should scout fields and begin a regular preventative fungicide program if one has not been started. Adding a late blight specific fungicide to the tank mix should also be considered. Weather this past week has been ideal for late blight development in many areas of NJ (i.e., cool, wet, high relative humidity with heavy morning fogs).



Late blight lesion on potato foliage. White "fuzz" is *Phytophthora infestans* sporulating from the lesion. Source: Cornell University Department of Plant Pathology

Editors Note: With mostly warm and dry weather in OH, we have had the opposite of favorable conditions for this disease. However, it doesn't hurt to keep an eye out for this disease and other problems through regular scouting of your fields.

Southern Ohio Crop Report by Brad Bergefurd, May 24, 2012.

Heavy storms hit areas in Highland, Adams, Brown and Highland counties on Monday night May 21 with some areas receiving over 7 inches of rain in an hour causing lots of flooding, damage to fences, house foundations and roadways. Other areas were missed altogether and are entering into drought like conditions with no rainfall reported for over 2 weeks, in these areas irrigating is in full swing. Replanting has been common with the wet and cold April and early May conditions.

Asparagus harvest is nearing completion, for many growers have been harvesting since mid March. Harvest will continue on some fields into next week but the predicted heat forecast may take it's toll.

Harvest of early planted peas is underway, with some nutritional deficiencies showing with all the heavy rains we have experienced the past month. Harvest of rhubarb continues.

Early planted sweet corn under plastic is in full tassel and beginning to pollinate and bare ground fields are showing a tassel down in the whorl. Replanting of poor stands and flooded out areas as well as subsequent plantings continue.

Pepper and eggplant transplanting continues, as well as laying plastic and forming beds.

Summer squashes, zucchinis and cucumbers under low and high tunnels are in bloom and harvests have begun. Direct seeding and transplanting continues.

A steady harvest of tomatoes under tunnels has begun, with growers making the annual Memorial Day weekend shade cloth applications to prevent sunscald on ripening fruit in the tunnels. Transplanting in unprotected fields continues.

"New potatoes" are being dug for fresh market retail sales. Planting of potatoes continues.

Harvest of spring onions, overwintered leeks and spring lettuce continues. Harvest of garlic scapes and green garlic continues.

Strawberry harvest continues with plasticulture growers entering into their 6th week of harvest one of the longest harvest seasons in many years with fantastic yields and quality despite area heavy rainfall this week and some areas nearing drought like conditions for no rain has fallen in over 2 weeks.

A great Strawberry Twilight meeting and workshop was held last Thursday May 17th where the strawberry research at the OSU South Centers was showcased by Brad Bergfeld including variety trials, row cover management trials and new Summer bearing strawberry production research. Participants left the fields when it got too dark to see, a good educational time was had by all in attendance.

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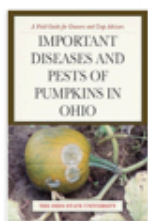
The iBook I told you about in the last newsletter, "Important Diseases and Pests of Pumpkins in Ohio" is now available at the iBookstore in iTunes (see below). If you don't have iTunes, it is a free download from Apple for Mac and PC systems. Even though this publication is free, you will have to set up an account with a user ID and password to download it. For iPads only.

Important Diseases and Pests of Pumpkins in Ohio

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by C. A. Wyenandt, R. M. Riedel, C. Welty, R. J. Precheur & J. Jasinski

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Free

Available on iPad.

Category: Life Sciences

Published May 10, 2012

Publisher: Robert Precheur

Seller: Robert Precheur

Print Length: 11 Pages

Language: English

Requirements: This book can only be viewed using iBooks 2 on an iPad. iOS 5 is required.

Customer Ratings

We have not received enough ratings to display an average for this book.

Description

This book is for pumpkin growers and crop advisors.

This book is a visual guide to common problems found in the field when growing pumpkins. It includes symptoms of bacterial and fungal diseases as well as leaf and fruit symptoms of virus diseases.

Common insect pests of pumpkins that spread disease or cause physical damage are also shown.

Vertebrate damage from birds and mice as well as miscellaneous problems from such things as hail damage are also included.

Screenshots

Angular leaf spot



Pseudomonas princeps, of pumpkin. Typical leaf symptoms above.



ALS with chlorotic lobes around lesions, angular lesions or spots are restricted by the small veins on the leaf.

