VegNet

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In This Issue

Downy Mildew Confirmed on Ohio Cucumbers

Sally Miller, Professor and State Extension Specialist, Department of Plant Pathology, OSU, June 23, 2010

Downy mildew was confirmed today on cucumbers in Wayne County, OH. In addition, spore counts are increasing in traps in Monroe County, MI (see http://ipmnews.msu.edu/vegetable/) and the disease was found on cucumbers in Ontario last week.� Therefore, we recommend that cucumber growers in northern Ohio begin fungicide applications right away.


� Downy mildew on cucumber

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

*labeled for cucumbers, melons, summer squash, watermelon (NOT pumpkin)

If you are concerned that your cucumbers or other vine crops are showing symptoms of downy mildew, please send a sample to Sally Miller or Fulya Baysal-Gurel, Department of Plant Pathology, The Ohio State University, OARDC, 1680 Madison Ave., Wooster, OH� 44691, ph. 330-263-3838, or to the C. Wayne Ellett Plant and Pest Diagnostic Clinic, OSU, Kottman Hall, 2021 Coffey Road, Columbus, OH 43210, ph. 614-292-5006 (c/o Nancy Taylor) for confirmation.� Those in the Fremont area may prefer to take their samples to the OSU-OARDC North Central Agricultural Experiment Station, which is now equipped with microscopes connected to the OSU Wooster and Columbus labs via the internet, for confirmation.

Late Blight � Tomatoes and Potatoes

June 23, 2010, Sally Miller, Department of Plant Pathology, Ohio State University

Late blight has been confirmed in tomatoes on an organic farm in Harrison County, OH.� Harrison County is in east/central Ohio, one county west of the Pennsylvania border.��� This follows confirmations of late blight in potatoes or tomatoes in Michigan, Pennsylvania, Kentucky and New York.�� Weather conditions (cool-warm with high moisture � rain or heavy dew) in Ohio have been very favorable for late blight.�

Late blight on tomato leaves (l) and fruit (r).

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(Left) Late blight on fruit and stems of a greenhouse tomato.

(Above) Sporulation of the late blight pathogen on the underside of a tomato leaf.

If you are not sure that the disease symptoms you see on tomatoes or potatoes are caused by late blight, you may send a sample to Sally Miller or Fulya Baysal-Gurel, Department of Plant Pathology, The Ohio State University, OARDC, 1680 Madison Ave., Wooster, OH� 44691, ph. 330-263-3838, or to the C. Wayne Ellett Plant and Pest Diagnostic Clinic, OSU, Kottman Hall, 2021 Coffey Road, Columbus, OH 43210, ph. 614-292-5006 (c/o Nancy Taylor) for diagnosis.� Please go to our website (http://oardc.osu.edu/sallymiller/Extension/index.htm) to download the sample submission form.� Those in the Fremont area may take their samples to the OSU-OARDC North Central Agricultural Experiment Station, which is now equipped with microscopes connected to the OSU Wooster and Columbus labs via the internet.� A similarly equipped lab is also available at the Muck Crops Agricultural Research Station in Celeryville.

What to Do:� Potato and tomato growers should protect plants with appropriate fungicides as long as favorable environmental conditions persist.� Heirloom and conventional tomato varieties alike are susceptible to late blight.�

Home gardeners: Destroy plants already infected � pull out the entire plant(s), immediately bag it (them) in a plastic bag, and dispose of the closed (tied or knotted) bag in the garbage.� Do not put the plants on a compost pile or in a composter, or leave them lying about.� Live plant tissues serve as a source of inoculum, and uprooted plants may support active spores of the pathogen for some time.�� Healthy-looking plants should be protected with a fungicide containing chlorothalanil or copper; several brands are available in garden centers and other retail outlets.� Chlorothalanil is more effective than copper in controlling late blight.

Conventional farmers � open field: Protect plants with chlorothalanil or mancozeb (�protectants�) before the disease appears.� Scout fields intensively for late blight and destroy any infected plants.�� Growers with fields in which late blight has been found should also consider applying Curzate, which has curative activity, plus a protectant fungicide.�� Other fungicides that can be used in a program that alternates products with different modes of action include Gavel, Previcur Flex, Ranman, Tanos and Revus Top.� Previcur Flex, Ranman and Tanos must be tank-mixed with a protectant fungicide.� If late blight has been a problem in a potato field, vines should be killed 2-3 weeks prior to harvest to minimize infection of tubers.�� Destroy unmarketable potatoes � cull piles serve as a source of inoculum for next season.

High tunnel and greenhouse tomato farmers (conventional):� High relative humidity and condensation (with water dripping onto plants) inside high tunnels and greenhouses can be very favorable for late blight.� Prune plants, raise side walls and /or use fans appropriately to improve airflow through the canopy and minimize condensation.� Remove and destroy diseased plants.� Ranman, Tanos, Previcur Flex, Revus Top and Gavel may be used in greenhouses and high tunnels, but chlorothalanil formulations and Ranman may not due to label restrictions.

Organic growers:� Follow management approaches described above for conventional or home garden potatoes or tomatoes, except that only copper-based fungicides may be used.� Several OMRI-approved copper-based fungicides and formulations are available.

For more information, including more color photos, see our late blight fact sheet on Ohioline: http://ohioline.osu.edu/hyg-fact/3000/3102.html
Editors Note: A short 4 minute video from 2009 in Bob�s Video Vegetable Notes on the VegNet home page, http://vegnet.osu.edu is a good review of late blight symptoms on heirloom tomatoes. It is the third video down from the top.

Crop Reports

Meigs County, 6/22/2010, Hal Kneen
Harvesting sweet corn grown under clear plastic ground and from bare ground. First picking of tomatoes from Applause and Primo Red varieties grown on black plastic raised beds. Having to irrigate fields as showers very scattered.
Corn earworm moths continue to be trapped on the western side of the county but not on the eastern side.

Date trap checked: __6/21/2010 Site: Racine OH _____
Trap for corn earworm (CEW); Number of moths: __9__
Trap for beet armyworm (BAW); Number of moths: __0__
Date trap checked: 6/21/2010_______Site: Portland, OH _____
Trap for corn earworm (CEW); Number of moths: _0, ___

Sweet corn harvest will begin this week in central OH on plastic sweet corn

From June 15, Wayne county, Ron Becker
We are having both insect and disease activity in the vegetable crops we are scouting in Wayne and surrounding counties. Sweet corn that is any where from the whorl to tassel stages is showing corn borer damage while scouts also found an earworm in silking corn on 6/15. Various cutworms are also being found causing leaf feeding on sweet corn. The ECB trap count was 0 at Copley , though scouts reported seeing the moths while walking the fields. Billbug damage has also been a problem in several fields of sweet corn where nutsedge has been a problem weed. Potato leafhopper, Potato beetles, cucumber beetles, slugs and bean leaf beetles and aphids are also readily being found on various crops. Thrips have been very light in the onions. Timber rot and early blight are being found in tomatoes, anthracnose and alternaria have been found in vine crops and halo blight has been found in snap beans. Botyrtis was found in several fields of onions.

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