

Late Blight in Holmes County
Sally Miller

Late Blight has been confirmed in garden tomatoes in Holmes County, near Loudenville. Apparently symptoms first appeared about the middle of August, and a sample was sent to the Plant and Pest Clinic in Columbus on September 5. To date we have not received other reports of the disease in Ohio, but the weather conditions over the past several weeks have been favorable for disease development.

Recommendations for treatment of late blight in both tomatoes and potatoes from New York are included in this edition of VegNet. We suggest that homeowners should destroy infected plants as soon as possible after late blight is found in the gardens. This late in the season this should not be a problem. If they are unwilling to do this, they should at least destroy visibly damaged leaves, stems, fruit, etc.

Phytophthora infestans does not survive on dead tissue. If commercial growers notice the disease, they should plow under the affected parts of the field and apply Bravo to the rest of the field at labeled rates. Please note that Bravo has a 48 hour re-entry restriction.

Also note that Tattoo-C is NOT labeled for use in Ohio.

We are interested in identifying the strains of *P. infestans* affecting tomato and potato in Ohio. County agents, growers and others who suspect the disease are requested to send a sample (for tomatoes, fruit with symptoms are best) to:

Dr. Sally Miller,
Dept. of Plant Pathology,
Ohio State University, OARDC,
1680 Madison Ave.,
Wooster, OH 44691.

Late Blight Epidemic in Western NY
By Mike Orfanedes

Ridomil-resistant late blight has struck our area and appears to be hitting tomatoes particularly hard. At this time, Chatauqua and Erie counties appear most affected, but the whole Lake Plains area is "under the gun". Some growers have already plowed up late plantings. Fruit infection is severe and a lot of what makes it through the washing and grading lines is still breaking down in boxes. According to Cornell plant pathologist Bill Fry, harvesting fruit from infected fields is a dangerous practice. This is because the interval between inoculation (arrival of spores) and

symptom appearance can range from 3 days up to 6-8 days. A description of foliar and fruit symptoms is attached.

We cannot emphasize enough the need to scout fields closely for this disease and keep your preventative spray schedules as tight as possible. This means high rates of chlorothalonil (e.g. Bravo @ 3 pints/ac) every 5-7 days with excellent coverage. Use drop nozzles wherever possible. Maintain this program through the end of harvest, so long as the disease does not become established. If late blight does develop, follow the other scenarios described below. Potato growers need to keep applying cover sprays so long as any green tissue is visible.

If late blight is confirmed, you will need to make some important management decisions quickly. Below are some possible scenarios and suggested management tactics:

TOMATOES:

Scenario 1:

Late blight is present in the immediate area (a neighboring field or farm), but not found in the field you are scouting.

Tighten up spray schedules to every 5 days using high rates of chlorothalonil (e.g. Bravo @ 3 pints/ac). Or apply Tattoo-C which has a Section 18 this year [not in OH]. If bacterial diseases are also present, copper plus maneb or mancozeb should be added as well.

Scenario 2:

Early-stage late blight is present in the field you are scouting, and only 5% or fewer of the plants are infected.

If the disease appears confined to one or more isolated "hot spots", plow under these areas immediately. This will help reduce the amount of inoculum in the field. Hot spots in staked tomatoes should also be destroyed. In the remainder of the field, harvest all fruit that appears mature and uninfected. After 7 days, attempt a second salvage harvest. This is not the season to try to stretch things out.

Scenario 3:

Late blight is present and more than 5% of the plants are infected.

Attempt an immediate and very brief "salvage harvest", instructing pickers to avoid any fruit showing symptoms of infection. Do not send pickers into non-infected fields if they have been picking in infected areas. As soon as possible, plow the crop under to minimize the amount of inoculum which would otherwise spread to neighboring fields. Plowing under residues is a very effective way to destroy inoculum because the fungus cannot survive or overwinter on dead plant tissue.

Scenario 4:

Post-harvest handling.

Fruit harvested from late blight-infected fields has been spoiling in boxes, even after having been washed and graded. Most of the fruit infection appears to be occurring near the calyx or stem end of the fruit.

One bad tomato in a box of otherwise healthy fruit can rot the whole box. Because the late blight fungus needs a living host, its spores are relatively short-lived. This makes it unlikely that infection could come from reused boxes. Harvest only disease-free fruit. Wash fruit thoroughly using 200 ppm chlorine and change water often as suspended soil particles tie up chlorine, rendering it ineffective. Prior to grading, dry

fruit using a combination of new rollers plus heated air. Place several fans and a supplemental heat source near rollers to dry up free water on fruit prior to packing. Grade out any fruit showing the slightest symptom of infection. Pay particular attention to the area near the calyx or stem end. Do not pack wet fruit!! Hold fruit for several days and examine boxes again prior to shipping. If you find infected fruit in the box, regrade it.

POTATOES:

Scenario 1:

Late blight is present in the area, but not in the field you are scouting.

Vine kill fields at the earliest possible date. Continue routine cover sprays so long as any green tissue remains in the field. If you have exceeded your application limit for chlorothalonil (e.g. Bravo) or maneb/mancozeb, try using copper. In any event, keep the foliage protected with a cover spray every 5-7 days. Another option would be to use one of the section 18 fungicides--Acrobat MZ, Curzate M-8, or Tattoo-C. Follow with a high rate of chlorothalonil (e.g. Bravo) seven days later. Make a second application of Acrobat MZ, Curzate M-8, or Tattoo-C 14 days after the first application.

As the harvest date nears, it becomes particularly important to take steps to prevent tuber infection. Research done by Cornell plant pathologist Bill Fry has for the last two years shown that Acrobat MZ provides the best protection against tuber blight.

Scenario 2:

Late blight is present in your field. Use one of the above-mentioned Section 18 fungicides {some not in OH}, followed by highest labeled rates of chlorothalonil (e.g. Bravo) 5 days later. Then 5 days after the Bravo treatment, make a second application of the Section 18 fungicide. If the field is close to harvest, we would recommend Acrobat MZ as the best protection against tuber blight. Vine kill as soon as possible. Do not harvest any potatoes until ALL foliage and stems in the field (and infected surrounding area) are completely dead. This should minimize the likelihood of tuber infection occurring during harvest.

Avoid storing tubers harvested from late blight-infected fields. If infected tubers must be stored, cool them as quickly as possible and keep them dry using lots of ventilation to avoid soft rot. Wash and grade carefully as discussed above in the tomato post-harvest scenario.

Symptoms Of Late Blight: What To Look For

Late blight can occur anywhere in the field. Lesions can be regular or irregular in shape, and typically appear watersoaked early on. Shortly thereafter, lesions will darken becoming almost black in color. Sporulation typically occurs on the undersides of infected leaves and will appear as patchy white mycelium. During wet periods, sporulation appears fuzzy and can occur on both upper and lower leaf surfaces. During dry periods, the sporulation looks more like powdery mildew and is most prominent on the undersides of infected leaves. As lesions become more numerous, blighted foliage may become limp and necrotic, appearing almost as if it had been torched. Stem spotting and necrosis can also occur.

Infected tomato fruit develop a shiny brown to blackish coloration, often starting out on the top of fruit near the calyx or stem end. Heavy fruit drop usually occurs within days of fruit infection. Infected potato tubers often have dry, shallow, sunken lesions. Scrape away the skin and you'll find the infected tuber tissue is reddish-brown and grainy in appearance. However, some of the newer genotypes of late blight can rot the entire tuber without any shrink.

Latest LB Strain Results From NY:

From: Diane Karasevich supplied by: Richard Riedel

Here are the latest late blight finds sent to the Cornell diagnostic lab (this week) and the strains/genotypes associated with them:

Wayne County Tomato US-8;

Chautaugua County Tomato US-17;

Erie County Tomato US-17;

Erie County Tomato US-17;

Steuben County Potato US-8

TOMCAST and BLITECAST Update

DSV Hotline 800-228-2905

Jim Jasinski

TOMCAST DSV, BLITECAST SV, Report.

Information concerning TOMCAST DSV as of Sept. 16. Late Blight Warnings are as of Sept. 16, and indicated by a '*' in that order for each station below:

Ohio Freshmarket:

Claridon-96, *

Hillsboro-123, *

Racine-95 DSV as of July 18

Ohio Processing:

Fremont-149,

Tipp City- 139,

Napoleon- 164 DSV as of Sept. 8.

Pandora- 154 DSV as of Sept. 8.

Indiana Processing:

Hobbs- 134,

Kokomo- 129,

LaCrosse- 149,

Union City- 125, 26,

Michigan Processing:

Constantine- 106, *

Petersburg- 124.

* Stations currently under a Late Blight warning. If fields have not been treated in previous 7-10 days, scout for the presence of the fungus and treat if necessary. Information concerning TOMCAST DSV and BLITECAST SV can be found on DTN & FarmDayta networks under both the Ag and Produce sections

Crop Reports
Ron Overmyer

Processing tomato harvest has been slow due to the lack of heat units. The warm weather forecast for this week is very much needed. About 25% of the crop has been harvested. The quality is excellent except for the green fruit. Yields are above average at this time.

What's New At The VegNet Web Site

My Pumpkins Are Bigger Than Yours - Week 9

A weekly peek at our pumpkin patch. Check out our vine growth, fruit set, fruit size and more. Get a look at problems we are facing or just enjoy how much our pumpkins have grown. Also, each week, we offer some timely growing tips. Check It Out at the VegNet website!

Horticulture Field Night At The Enterprise Center, Hillsboro, OH
Take The Mini Tour.

For tours and info, Call: Brad Bergefurd at: 1-800-628-7722 for details.

Highlights From Muck Crops Day

In Problem Of The Week, see:

The Persistence of Weeds.

Scab on Gourds

Powdery Mildew-Pumpkins and

Septoria Leaf Spot on Tomatoes.

More On TOMCAST and Early Blight Visit TOMCAST

Return to Vegetable Crops Homepage Ohio State University Extension

We appreciate very much the financial support for this series of vegetable reports which we have received from the board of growers responsible for the Ohio Vegetable and Small Fruit research and Development Program. This is an example of use of Funds from the "Assessment Program".

Where trade names are used, no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to

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