

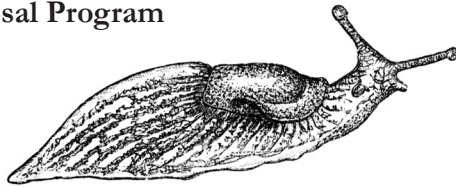


NEW HAMPSHIRE VEGETABLE, BERRY & TREE FRUIT NEWSLETTER

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LATE BLIGHT ALERT FOR POTATO AND TOMATO GROWERS

By Becky Grube and Cheryl Smith

Most of you have already heard about the Late Blight warning that has been on the news, in the electronic version of this newsletter, and many other places. Here is an abbreviated version for those that have missed it so far.

Symptoms of late blight were confirmed on 23 June in a commercial field of potatoes in Riverhead, NY. This is the fourth year late blight has occurred on Long Island over the past 21 years. The earliest it had ever previously been detected was 26 Aug. Rainy, cloudy conditions have been providing favorable conditions for infection and for the pathogen to be dispersed long distances. Clouds protect spores from the killing effect of UV radiation.

Since that first report, late blight has been found in potato fields in RI and PA. While it has not yet, as of July 8, been identified in New Hampshire or Maine, storm systems can move it here quickly. Spores from infected plants have the ability to travel 40 plus miles under the right conditions. Further, tomato seedlings infected with late blight have been sold in several large, nationwide retail stores throughout New Hampshire, Maine, New York, and probably many other states.

All growers, including home gardeners, should thoroughly inspect their potato and tomato plantings because this can be a very destructive disease when not managed, quickly killing foliage and rotting tomato fruit and potato tubers.

Classic symptoms are large (at least nickel sized) olive green to brown spots on leaves with slightly fuzzy white fungal growth on the underside when conditions have been humid (early morning or after rain). Sometimes the lesion border is yellow or has a water-soaked appearance. Leaf lesions begin as tiny, irregularly-shaped brown spots. Brown to blackish lesions also develop on stems. Firm, brown spots develop on tomato fruit. Characteristic symptoms are illustrated at: http://www.hort.cornell.edu/departments/Facilities/lihrec/vegpath/photos/lateblight_tomato.htm

Advice to home gardeners

It's crucial that everyone who grows potatoes or tomatoes, including home gardeners, monitors for late blight to avoid being a source of spores that move on to infect potatoes and tomatoes in neighboring gardens and fields.

- Thoroughly inspect potato and tomato plantings on a daily basis, because late blight moves fast and can devastate both home plantings and spread to commercial fields.
- If you see signs of infection, pull all infected plants from the ground, bag them up, and dispose of the bags in the trash.
- Put a few samples (include several stems plus leaves and/or fruit) into a plastic bag and bring it to your County Extension office, but don't wait for confirmation to pull out the infected plants.
- Don't attempt to treat infected plants with fungicides, even those labeled for late blight. Home gardeners don't have access to pesticides strong enough to control the disease once plants are infected.
- Don't toss infected plants in the compost pile.
- Don't touch healthy plants after handling infected plants until you've scrubbed your hands with soap and water thoroughly.

When late blight is found in a localized spot in a field or garden, promptly destroy all symptomatic plants plus a border of surrounding plants to eliminate this source of inoculum. Physically pull, bag and get rid of affected plants. Other alternatives are to spray with herbicide, or disk/rototill. When disking, the crop should first be sprayed with fungicide because of the potential to move spores on equipment especially while driving out of the field, and the equipment should be pressure washed afterwards.

Conventional Fungicides. Protectant sprays work well, with chlorothalonil (ie. Bravo) continuing to provide excellent control. However if you are late in getting either a chlorothalonil or mancozeb spray on early, then the combination of Curzate (cymoxanil, fungicide group 27) mixed with a protectant is helpful to provide some kickback activity. Curzate works well when plants are actively growing and temperatures are cool, conditions that exist now for both potatoes and tomatoes. Depending on how this early occurrence of late blight develops, potato and tomato growers have many fungicides options for later application in the season. These include Previcur Flex, Ranman, Tanos or Forum tank-mixed with a protectant. Other options are Gavel and Revus Top.

These late blight products have translaminar activity and thus provide better coverage than contact, protectant fungicides. A 5- to 7- day spray interval is recommended when weather conditions are wet and cool. It can be extended to 10 days under hot, dry conditions. Alternate among fungicides in different chemical groups (as indicated by FRAC Code) to manage resistance. The late blight pathogen has demonstrated ability to develop resistance; Ridomil fungicides are no longer recommended because of resistance.

Group 11 fungicides (Headline, Quadris, etc) and Group 33 (phosphorous acid) fungicides are not considered as effective for late blight as the other products.

Good fungicide coverage is critical. Pathogen spores can be moved on equipment and workers, therefore spray and work in affected fields last and clean equipment between fields.

Management in organic crops. Apply fungicides preventatively, using a 5-day schedule when conditions are favorable. Copper is effective for protecting a crop, but copper has been found to be ineffective when used as the sole practice for controlling late blight once it has started to develop. Other OMRI-listed fungicides labeled for late blight include Sporatec, Sonata, Serenade Max, and Companion. It is important to scout regularly and promptly destroy affected plants when found to reduce the amount of inoculum in a field. It is recommended that all plants with symptoms and neighboring plants be physically pulled up, preferably on a bright sunny day when possible, then tarp the plants; spores will be killed by sunlight and also heat under the tarp. Scout daily there-

after for a few days to see if more plants develop symptoms. Clean after working in infested fields to avoid moving spores on equipment and workers. As soon as harvest is complete disk down field.

Please Note: The specific directions on fungicide labels must be adhered to -- they supersede these recommendations, if there is a conflict. Any reference to commercial products, trade or brand names is for information only; no endorsement is intended.

Information within this article provided by Dr. Steve Johnson, University of Maine Cooperative Extension, Drs. Meg McGrath and Tom Zitter, Cornell University and Dr. Eric Sideman, Maine Organic Farmers & Gardeners Association.



BLUEBERRY MAGGOT

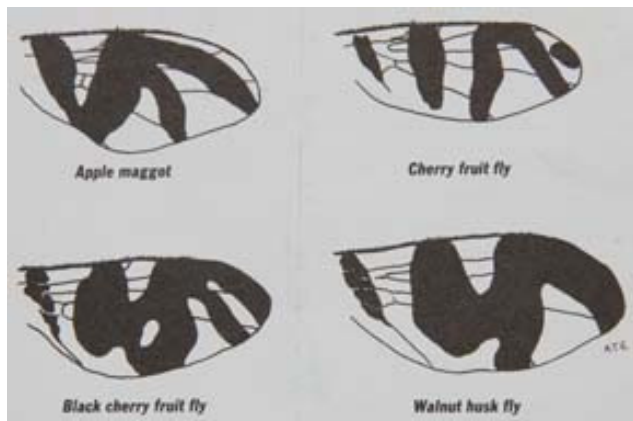
Blueberry maggot is nearly identical to apple maggot. It overwinters in the soil, and the first adults emerge about July 1st. They lay eggs in the fruit, and larval feeding causes the fruit to get mushy. The larva feeds for a two-week period. When full grown, the larva drops to the ground, if the berry has not already fallen. It pupates in the soil, where it will remain for the winter. After berries are picked, maggots can crawl out of infected fruits. Customers tend not to like maggots. An alternative to controlling maggots is to provide good maggot recipes. Good luck with that.

Highbush plantings that are kept well-picked have few or no problems from blueberry maggot, although sites with lots of nearby unmanaged wild blueberries may have more maggot problems. Lowbush plantings frequently have more serious problems because of the single harvest and because rough hillsides are difficult to treat with insecticides.

Using apple maggot traps will help you know if and when the adults are present and laying eggs. Blueberry maggot is almost identical in appearance to apple maggot, and the same traps catch both insects. You can use either yellow rectangle traps or red sticky spheres. The red traps are much more effective, and can last the whole season. The yellow rectangles are less effective, need replacement every 2 weeks, and blow (onto fruit) more easily than the red spheres. In blueberries, place traps about the last day of June. Alan Eaton suggests looking for a "hole" in a bush, where the trap can hang, but still be visible. It is great if there are fruit to the side or below, within 12 to 16 inches. Often growers use overhead wires or other support for the heavy sticky traps.

Check the traps every other day or so, starting 1-2 weeks before the berries start to turn blue. The traps capture all sorts of insects, so you do need to know what you are looking for. Blueberry maggot flies are small, usually between 1/16 and 1/8 inch. Apple maggots and cherry maggots are larger,

about 1/8 inch long. Walnut husk flies are even bigger (3/16 inch). All of these species have a white (or yellowish-white for walnut husk fly) dot on their back between the wings. The wings are marked with heavy bands. The illustration below (courtesy UNHCE IPM Specialist Alan Eaton) shows which species has which band pattern. The blueberry maggot wing pattern is like that of the apple maggot.



Identifying flies using wing band markings

The traps will tell you when the flies arrive, and how severe the potential problem is. We do not have established thresholds for blueberry maggot. In small thoroughly-picked plantings, it may be possible to trap out all of the maggot flies using the traps around the perimeter of the planting. To control blueberry maggot with insecticides, timing and good coverage is important. The sprays won't impact the larvae within the fruit - so it is crucial to apply insecticides before any eggs are laid. Depending on the insecticide you use, you'll need to re-spray every 10 days or so - check and follow the label carefully.

One trick to increase the efficacy of insecticides (and possible decrease the amount of insecticide you need) is to apply a feeding stimulant, like NuLure, to the insecticide in the tank. The feeding stimulant causes the flies to feed more on the insecticide.

Materials like Imidan (phosmet) or Sevin (carbaryl) are highly effective, but have a reasonably long (3-7day) pre-harvest interval. Pyronyl (pyrethrins) is a low-toxicity option with 0 days to harvest. Pyronyl cannot be used by certified organic growers because of its synthetic inert ingredient, PBO. OMRI-listed options available for organic growers include GF-120 Naturalyte fruit fly bait (spinosad) and Aza-direct (azadirachtin). Refer to the New England Small Fruit Pest Management Guide and to pesticide labels for additional information.

For growers that open for picking, it may be worthwhile to keep monitoring traps in place and divide the patch into two halves. If you need to apply an insecticide in one half, harvest only in the other half until the days to harvest has passed.

Where to find maggot traps:

Great Lakes IPM, Vestaburg, MI. (517)268-5693 or www.greatlakesipm.com

Gempler's Inc., Mt. Horeb, WI (800)332-6744 or www.gemplers.com

Agrisense, Fresno CA (209)276-4250

Thanks to Alan Eaton, UNHCE IPM Specialist, for information and review of this article. Where brand names of chemicals are used, it is for the reader's information. No endorsement is implied, nor is discrimination intended against products with similar ingredients. Please consult pesticide product labels for rates, application instructions and safety precautions.



PESTICIDE DISPOSAL PROGRAM

(Announcement from the Pesticide Control Division)

The New Hampshire Division of Pesticide Control has initiated a Pesticide Disposal Program scheduled to occur during the summer of 2010. This program will be available at no cost (other than the transport of materials) to non-homeowner users, or homeowners who inherited agricultural pesticides through real estate transactions, and are in custody of unwanted or unusable pesticides and are seeking disposal options. The Division will soon be soliciting information from potential program participants through a required pre-registration process. Those interested in participating in the Pesticide Disposal Program will find more information in a future e-mail message from the division that will detail the pre-registration process. Hard copies of informational brochures describing the Pesticide Disposal Program will be available from the division as well as at restricted use pesticide dealer locations, feed and grain supply stores and other locations throughout the state.

“Please note that it is important for participants to understand that the New Hampshire Pesticide Disposal Program is being undertaken as a way to safely dispose of unwanted and unusable pesticides. By doing this, New Hampshire will be reducing the potential threat to its citizens and environment. Any participation in New Hampshire’s Pesticide Disposal Program is greatly appreciated and will not result in any legal action related to past pesticide management practices.”

If you should have questions in regard to this program please contact the New Hampshire Division of Pesticide Control at (603) 271-3550 or by e-mail at pesticides@agr.state.nh.us. Or you can visit their website at: www.nh.gov/agric/divisions/pesticide_control/



UPCOMING MEETINGS AND EVENTS

Thurs Jul 16. University of Massachusetts Crops Research & Education Center Field Day, South Deerfield, MA. 4:00-8:00pm. Topics and demonstrations will include zone tillage in sweet corn, organic beetle management in cucurbits and eggplant, energy crops and specialty ethnic crops. For info, contact Ruth Hazzard at 413-545-3696. **V**.

Mon Jul 20. New Hampshire Vegetable & Berry Twilight Meeting. Springledge Farm, New London NH. 5:30-8pm. Diversified production at Springledge includes vegetable, small fruit, and greenhouse crops, season extension, and biological control strategies. For info, contact Amy Ouellette at amy.ouellette@unh.edu or 603-225-5505. **SF, V, PAT**.

Tues Jul 21. Organic Weed Control and Cultivation. Intervale Community Farm, 128 Intervale Rd., Burlington VT. 5-7pm. Cosponsored by NOFA-VT, VT Vegetable & Berry Growers Association and UVM Extension. Free to VV&BGA Members and VOF Certified Farmers, Others \$10 for NOFA members, \$15 for non-members. For info, please contact NOFA VT at 80-434-4122 or info@nofavt.org.

Thurs Jul 23. New Hampshire Vegetable Twilight Meeting. Roots & Fruits, Dalton NH. 5:30-7:30pm. Focus will be on season extension with tunnel peppers and tomatoes and organic specialty crops including garlic and sweetpotatoes. For info, contact Steve Turaj at steven.turaj@unh.edu or 603-788-4961. **V, O**.

Tues Aug 13. The OrganicA Project: Organic Apple Production. UVM Hort Farm, 65 Green Mountain Drive Burlington VT. 2-5pm. Cosponsored by NOFA-VT and the OrganicA project. \$10 for NOFA members, \$15 for non-members. For info, please contact NOFA VT at 80-434-4122 or info@nofavt.org.

Thurs Aug 20. New Hampshire Vegetable & Berry Twilight Meeting, Blueberry Bay Farm, Stratham NH. 5:15-7:30pm. Emphasis will be on pesticide-free growing of mixed vegetables, raspberries, and blueberries. For info, please contact Nada Haddad at nada.haddad@unh.edu or 603-679-5616. **V, SF, O, PAT**.

Wed Sep 2. New Hampshire Vegetable & Berry Twilight Meeting. UNH Woodman Horticultural Research Farm, Durham NH. 5:30-7:30 pm. Ag Experiment Station Research on Horticultural crops. For info, please contact Becky Grube at becky.grube@unh.edu or 603-862-3203. **V, SF, TF, PAT**.

Wed Sep 2. Soil and Soil Health. Wellspring Farm CSA, 182 LaFirira Pl, Marshfield VT. 5-7 pm. Sponsored by NOFA-VT. \$10 for NOFA members, \$15 for non-members. For info, please contact NOFA VT at 80-434-4122 or info@nofavt.org.

Tues-Thurs. Dec 15-17. New England Vegetable and Fruit Conference. Manchester, NH. Three days of informative sessions and farmer-to-farmer networking! More details to come. Mark your calendars now! Get the latest info at <http://www.newenglandvfc.org/>.

Meeting topics: F = flower, G = grains, O = certified organic, SF = small fruit, TF = tree fruit, V = vegetable, AC = all crops. PAT = pesticide applicator recertification credits available, CCA = certified crop advisor credits available

At A Glance

UNH Cooperative Extension Vegetable & Fruit Resources

Soil Testing Call 862- 3200 or visit:

<http://extension.unh.edu/Agric/AGPDTS/SoilTest.htm>

Plant Diagnostic Lab Call 862-3841 or visit:

<http://extension.unh.edu/Agric/AGPDTS/PlantH.htm>

Arthropod Identification Call 862-3200 or visit:

<http://extension.unh.edu/Agric/AGPDTS/ArthroID.htm>

Fruit Pest Phone Update (seasonal): 603-862-3763

Subscriptions – This newsletter is free online at <http://ceinfo.unh.edu/Agric/AGFVC.htm>. Email becky.grube@unh.edu if you would like to receive email notification when a new issue is available. You can subscribe using the form available at the website above if you would prefer to receive a paper copy via U.S. mail.

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