

Potato Disease Advisory #13
June 25, 2009
Cooperative Extension System
University of Delaware

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Disease Severity Value (DSV) Accumulation as of June 24, 2009 is as follows:

Location: Shadybrook Farms, Little Creek, DE in Kent County.

Greenrow: May 1

Date	LATE BLIGHT			EARLY BLIGHT
	Daily DSV	Total DSV	Spray Recs	Accumulated P- days*
6/4- 6/6	19	78	5- day interval	304
6/7- 6/8	4	82	7- day interval	313
6/9	2	84	7- day interval	323
6/10	0	84	7- day interval	332
6/10-6/12	10	94	7- day interval	350
6/13-6/14	0	94	7- day interval	360
6/15-6/16	2	96	7-day interval	396
6/17-18	10	106	7-day interval	406
6/19	4	110	7-day interval	410
6/20-6/21	1	111	5-day interval	434
6/22- 6/23	0	111	7- day interval	462

Late blight was reported in south-central PA, and Long Island, NY in addition to the discovery here in DE early this week. Late blight on tomato has been reported from NJ, MD, PA, VA and Long Island, NY.

It looks like we are going to get a break in the weather in that it will not be favorable for late blight for the next few days but will continue to be favorable for early blight. The next forecasted period of rain is for June 30 for several days. If several sprays of a late blight targeted fungicide have been made, the next spray could be a preventative spray of Bravo or mancozeb at the highest labeled rate. None of the targeted late blight fungicides such as Previcur Flex, Curzate, Ranman and others should ever be used more than twice in a row to prevent resistance development in the fungus. If they are used read the label for mixing partners with a protectant fungicide and possible need for adjuvants.

Remember if you sprayed Curzate it has a short residual activity period especially when the temperatures are above 80 so you will need to make another fungicide application 5 days later at the maximum.

If the fields are dry enough and you have the ability to ground-apply fungicides now would be a good time to get good coverage of any areas that an aerial application may not have covered well or at all (under power lines, next to buildings, fence rows, etc.

The following is a good review of the fungicides labeled for late blight control in potato and tomato by Meg McGrath (Cornell Univ.) and Steve Johnston (University of Maine)

Begin a fungicide program with products specifically for late blight in infected fields and other fields nearby. These 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. Include in each application a protectant fungicide like maneb, mancozeb or chlorothalonil, or triphenyltin hydroxide for potatoes.

This is important for resistance management and ensuring effective control, and is specified on the label and thus is a requirement. A spray program with just protectant fungicides applied regularly starting before late blight begins to develop can provide adequate control, but this is challenging to achieve when plants are actively growing and conditions are very favorable for disease development, as has been occurring this spring. Curzate (FRAC Group 27 fungicide) at 3.2-5 oz/A (3.2 oz for potatoes) or Tanos (also contains cymoxanil, active ingredient in Curzate) at 8 oz is a good choice for the first application because these fungicides have some kickback activity, thus they can suppress some established lesions. The maximum kickback is about 2 days when it is cool, declining with increasing temperatures to about zero above 80°F. Cymoxanil has little residual activity, therefore, 5 days later apply another fungicide. Revus Top (Group 40 + 3) is a new fungicide that has excellent activity for late blight. It gets into plants fast, in about 30 minutes, then slowly moves in the plant providing good residual. It is labeled for use at 5.5 – 7 fl oz. It does not need to be applied with a protectant fungicide. Note that the fungicide Revus is not labeled for use on tomatoes and potatoes. Previcur Flex (Group 28) has some systemic activity, which is an important attribute even though it is not as systemic as Ridomil. It was the only fungicide rated good for symptoms on stems and also for protecting new growth in a bulletin from the University of Maine; it is not known how effective many of the other products are on new growth that develops after the application. It was not rated as highly as other late blight fungicides for leaf symptoms (good vs. excellent). It is considered a good choice for an application made right before rain. It is labeled for use at 0.7-1.5 pt (1.2 pt max for potatoes). Other fungicides to consider including in the fungicide program are Gavel (Group 22) at 1.5-2 lb, Forum (Group 40) at 6 fl oz, and Ranman (Group 21) at 1.4–2.75 fl oz. Gavel is the only late blight fungicide formulated with a protectant. 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.

For specific fungicide recommendations, see the 2009 Delaware Commercial Vegetable Production Recommendations Book.