

Title: Late Blight Network

Project Leader(s): Abby Seaman, NYS IPM Program

Cooperator(s): Extension faculty and field staff, Ag consultants, Department of Agriculture staff in New York and adjacent states and Canadian provinces

Abstract: Late blight is a serious disease of tomato and potato which, if not controlled, has the potential to destroy entire fields in as little as two weeks when weather conditions are favorable. Since 1993, Extension faculty and field staff in New York have used a variety of communication technologies to keep each other informed about where in the state late blight has been found. The network has grown to include members from states and Canadian provinces adjacent to NY. In 2009 early introduction of late blight inoculum and favorable weather conditions resulted in a serious late blight epidemic throughout the Northeast. The late blight network was instrumental in mustering a fast response to the situation, minimizing crop losses.

Background and justification:

Late blight is a serious disease of potato and tomato that occurs sporadically in New York and surrounding states and provinces. When weather conditions are favorable, the disease can progress very quickly, killing a field in as little as two weeks if not controlled. The pathogen produces large quantities of inoculum, which can travel long distances, putting nearby farms at risk. It is essential for farmers to know when late blight is in the area so they can choose the appropriate fungicides and spray interval to protect their crop. In low risk years, knowing that late blight has not been found allows farmers to extend their spray intervals, saving money and reducing environmental impact. In response to the introduction of new strains of *Phytophthora infestans* in 1992, Cornell Extension faculty and field staff have communicated about where in the state late blight has been found to help potato and tomato farmers assess the threat of infection. Through the years, colleagues in adjacent states and provinces have been included, and new communications technologies adopted.

Objectives:

- 1) Facilitate communication about late blight finds among Extension faculty and field staff, consultants, and regulators in New York and adjacent states and Canadian provinces.
- 2) Provide information about late blight to farmers and others

Procedures:

- 1) Seaman manages a listserv using Lyris software hosted by Cornell University. Membership on the listserv is restricted to University faculty and Extension field staff, consultants, and Department of Agriculture staff to preserve, as much as possible, the confidentiality of the farms where late blight has occurred. A message is sent out at the beginning of each growing season asking members if they want to continue and soliciting names of new colleagues who should be added. Members communicate late blight finds by sending a message to the list

address, which distributes it to all members. Late blight finds are communicated by county or town to preserve the confidentiality of the farmers. Information about the crop infected, the severity of infection, and control measures being taken are also shared. Each week Seaman summarizes the finds from the previous week in a weekly update sent to the listserv. Links to articles, fact sheets, and photos were also summarized in the weekly update.

- 2) Regional and local extension programs use information from the listserv and weekly update to provide farmers in their area with recommendations for managing late blight. A second listserv provides information directly to farmers outside areas with vegetable extension programming, the Cornell master gardener coordinator, and gardeners. The information provided in the second listserv is less detailed and technical than that shared on the original listserv. In 2010 Seaman started a blog (<http://blogs.cornell.edu/lateblight>) for providing late blight information to the general public. This allows both information about incidence and links to management information to be compiled at one location. The blog allows users to subscribe and be alerted when new information is posted. In 2011 all members of the “general public” listserv will be added to the blog subscription and that will be the sole method of sharing information with the general public.

Results and discussion:

- 1) After the 2009 late blight epidemic there was a great deal of concern about overwintering inoculum, so information about management of potentially infected potato tubers was shared widely with farmers and gardeners. Despite these efforts, when isolates were identified, much of the late blight reported in gardens and smaller acreage farms in 2010 was the same isolate (US 22) as the one widespread in 2009, indicating that inoculum overwintered. Late blight again appeared early (first report on tomato transplants in PA May 20). Most reports in 2010 were from smaller plantings and home gardens. The weather was much less favorable than 2009 and most commercial growers did not suffer losses. Another isolate (US 8) was also identified in 2010 in large-scale commercial potato production. This also could have overwintered, or been brought in on seed.
- 2) Information from the listserv was shared widely by members, in newsletter articles, direct mailings, and press releases. The blog, which started on 7/3 averaged 148 hits per week during the remainder of the growing season and attracted 34 subscribers. The late blight brochure for home gardeners (www.nysipm.cornell.edu/publications/blight/) is the top ranked page that appears when “late blight” is typed into a google search, indicating that it is a frequently accessed resource.