Assisting growers to manage late blight

Margaret Bernhardt[1,2] and Margaret T. McGrath[2]

[1]Hofstra University, Hempstead, NY. [2]Cornell University, Department of Plant Pathology and Plant-Microbe Biology, Long Island Horticultural Research & Extension Center, Riverhead, NY 11901.

The goal of this research/extension project is to assist the growers on the east end of Long Island to better manage late blight. One way this is done is by helping with initial detection, which is accomplished by traveling each week to four organic farms and looking for symptoms in tomato and potato fields. Samples are taken from these locations and brought back to our lab for diagnosis. If a sample is positive for late blight, the grower is immediately informed, then the area is watched carefully to assess how well late blight is managed. The growers are applying fungicides and some of the varieties they have are resistant. Occasionally the samples will show signs of other diseases, which are also monitored. Late blight is also being monitored by the use of spore traps. One is located at our facility in Riverhead (LIHREC), and two others are located at a nearby farm. These spore traps are changed weekly, and are sent to the Smart Lab for analysis. Another method being used to help growers more effectively manage late blight is the Late Blight Decision Support System (DSS). This is a computer program where the times, dates, and active ingredients of the fungicides applied are recorded. It uses this and other production information plus weather data gathered from nearby weather stations to predict when the next best time to apply fungicide would be. Two replicated experiments are being conducted at LIHREC to test the DSS for organic growers by using an approved copper fungicide on organically-produced tomato and to evaluate varieties bred or reported to be resistant. All of this information is to better help the growers control outbreaks of late blight in their crops.