

Report for 1998

Tomato Late Blight Forecasts: True Forecasting with Adaptation to Disease Management Practices

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Summary

As a result of the growing concern about exotic genotypes of the late blight fungus and recent availability of 48-hr weather forecasts linked to a revised BLITECAST, we proposed to evaluate tomato late blight management for fresh market tomatoes. A new algorithm for late blight was developed and adapted for use with E-Weather, a weather forecasting product from SkyBit, Inc. We evaluated this product at four locations in western New York in conjunction with another NYS IPM project on TOMCAST, a tomato early blight forecast system. The 1998 project was limited to the comparison of forecast periods of late blight infection and actual disease observations. A second objective was to establish transition criteria for the switch from early blight control in the beginning of the season to late blight control later in the season when this disease became dominant. No late blight was observed at any of the four locations. However, at two of the locations (Chemung and Ontario) the switch-over from early blight control was initiated when late blight was confirmed in the area. The SkyBit late blight forecast was not satisfactory for the estimating infection periods on tomato under our test conditions. The forecast system had made consistent warnings of infection from the beginning of May for all locations. This was partially due to the fact that the E-weather forecast appeared to over-estimate those weather conditions key to late blight forecasts (relative humidity and surface wetness duration), thus creating estimates for infection more frequently than actually occurred. It is also possible that the biology incorporated into the modification of BLITECAST did not hold up under field conditions. Finally, the model assumes that inoculum is always present; a situation that did not occur in at least two of the four test locations. Additional work on the models (weather and disease forecast) must be carried out before this system of disease management can be considered for commercial implementation.

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