

# VEGETABLE RESEARCH PROJECTS

UMass Research Farm Field Day, August 13, 2003

## South Deerfield Research Farm - Weather Station and TOMCAST

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Capturing accurate weather data is an important component of agricultural research and Extension. Numerous environmental variables such as air temperature, soil temperature, relative humidity, leaf wetness, and precipitation interact with and influence the growth and movement of plants, insect pests, and viral, bacterial, and fungal pathogens that affect crops. One of the more important functions of the on-site weather station is to create predictive models that forecast disease development for specific crops. The TOMCAST model for which we produce weekly updates uses cumulative leaf wetness and average wet-period temperature data, resulting in disease severity values (DSVs) to indicate the relative risk for early blight of tomato. Current updates can be found in the UMass Extension newsletter, *Vegetable Notes*. For example, during this exceptionally wet season fully 44% of all hours had wet foliage between May 24<sup>th</sup> and August 5<sup>th</sup> in South Deerfield.

