



Short Cutts

Potential uses of the facility include pesticide and nutrient leaching studies and water use studies on turf.

AREST Facility

The AREST (Automated Rain Exclusion System for Turfgrass Studies) is located at the Cornell University Turfgrass Field Research Laboratory in Ithaca. The facility allows for relatively controlled studies to be conducted outdoors in a somewhat natural environment. There are three components to the AREST facility: 27 free draining lysimeters, an automated rain-out shelter and a sophisticated system for the collection of data. Potential uses of the facility include pesticide and nutrient leaching studies and water use studies on turf.

Each lysimeter is 12 feet by 12 feet in area and 15 inches deep. Each lysimeter has a separate drainage system and a separate irrigation system. The amount of irrigation applied and the amount of drainage lost can be recorded and subsamples of the drainage water can be collected automatically. The soil moisture potential and soil temperatures can also be measured for each plot.

The rain-out shelter is basically a large roof mounted on rails which can then be moved over or off of the plots. Closing the shelter over the lysimeters can either be done manually or automatically. The automatic closure of the shelter is triggered by an electronic rainfall sensor.

In addition to collecting irrigation and drainage data from each lysimeter, the data acquisition system also records a variety of weather information from an adjacent weather station. Air temperature, surface temperature, rainfall, evaporation, humidity, wind speed and net solar radiation are some of the data which can be collected. The data acquisition system has the ability to scan each of the different data sensors each second.

Currently, research is focussed on the fate of some of the more common pesticides applied to golf courses. The grass growing in the lysimeters is currently Penncross creeping bentgrass which is being maintained at fairway height.

Scanning the Journals

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outbreaks were not foreseen by ELISA as hoped. The researchers conclude that a shorter sampling interval (perhaps several times daily) and/or a more sensitive assay may be necessary to produce useful forecasts of outbreaks of Pythium blight.

(From: W.W. Shane. 1991. Prospects for Early Detection of Pythium Blight Epidemics on Turfgrass by Antibody-Aided Monitoring. Plant Disease 75(9):991-925.)



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