Diurnal distributions of hydrothermal regimes in plastic covered soil beds during tomato production. (S01mansell103544-Oral)

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Abstract:

Black and white polyethylene film covers for raised soil beds are commonly used in Florida to moderate soil temperatures and water contents during cool and warm season production of vegetable crops, respectively. A field experiment was established to monitor diurnal changes in the hydrothermal regime for soil beds covered with white-on-black film during spring tomato production. Subsurface irrigation was provided through an imposed shallow groundwater table. A Sentek Diviner 2000 and multiple thermocouples were used to monitor soil water content manually and temperature automatically, respectively, in cross sections of mulched soil beds with and without tomato plants. Diurnal patterns of data from mulched beds with plants were critically compared to data for mulched beds without plants in order to evaluate aboveand below-ground effects of plants.

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