Site Specific Management of Plant Stress Using Infrared Thermometers and Accu-pulse. (C02-falkenberg140639-Poster)

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Abstract:

This study evaluates the applicability of remote sensing instrumentation for site-specific management of abiotic and biotic stress on corn and cotton crops grown under a center pivot. Different water regimes, tillage practices, and plant populations were studied to: 1) monitor canopy temperatures of crops with infrared thermometers (IRTs) to pinpoint areas of biotic and abiotic stresses, 2) use IRTs in conjunction with the Accu-Pulse system to treat areas of biotic stress, 3) compare aerial infrared photography to IRTs mounted on center pivots to correlate areas of biotic and abiotic stresses. Preliminary IRT data in the corn trial conventional tillage systems show higher temperatures compared to no tillage systems. Higher temperatures were noted in sorghum trials with 90,000 plants per acre (ppa), with no apparent difference between 50,000 and 70,000 ppa. Temperature differences among varieties of corn were noted in the variety and tillage trials. Similar data concerning biotic stress of cotton will also be presented.

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