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**Optimizing Fungicide Inputs for Control of Foliar and Soilborne Fungal Pathogens
in Partially Resistant and Susceptible Peanut Cultivars"
Integration of New Resistant Genotypes, Conservation Tillage Systems and Reduced
Fungicide inputs for Peanut Leaf Spot Control**

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Small plot replicated studies were conducted in 2002-2003 to determine the effects of the combination of tillage practices, new moderately resistant cultivars and breeding lines, and reduced fungicide inputs on leaf spot epidemics. In addition, the effects of these factors on tomato spotted wilt virus, and yield were also examined.

Leaf spot epidemics in the small plot tests at Tifton were suppressed in strip-till plot compared to plots in which conventional tillage was used. Similarly, epidemics were suppressed in cultivars Georgia O1R, DP-1, Hull, C99R and MDR-98, and in breeding lines C-i 1-239 and C34-24 than in Georgia Green. In most cases for the respective fungicide regime evaluated, use of four applications in a strip-till situation provided leaf spot control that was comparable to that of the same fungicide regime applied on a 14-day schedule in a conventional tillage situation. Based on observation of the disease progress curves, leaf spot epidemics were delayed 1-2 weeks in the strip till plots compared to the epidemics in the conventional tillage plots. The fungicide regime consisting of a) standard 14-day application of Bravo Weather-Stik; b) a four spray regime applied every four weeks; c) a five spray regime, applied every 3 weeks; and d) non treated control. Although leaf spot epidemics developed later in 2002 than in 2001, similar trends were observed in that leaf spot epidemics were less severe, particularly in the reduced fungicide regimes, in the strip till plots than in the conventional tillage plot. Leaf spot ratings were reduced by fungicides in all genotypes. However, non sprayed plots of several new cultivars and genotypes were considerably better than Georgia Green; even though Georgia Green was dug several days earlier (table 1).

Spotted wilt epidemics were light but results corroborated previous tests in which spotted wilt incidence tended to be lower in strip-till plots than in conventional plots. Incidence of white mold was relatively low in all tests, and no consistent tillage effects on white mold were observed.

Yield effects of tillage have not been consistent. Yields in all genotypes did not appear to correlate with level of leaf spot encountered, and were generally lower in the strip till plots than in the conventional plots, in spite of lower leaf spot levels in the strip-till

These results indicate that new cultivars and potential new cultivars may allow reducing number of fungicide applications for leaf spot control. Determining the optimum number of sprays and with what fungicide will be the critical factor for an integrated disease system with reduced fungicide inputs. Based on the inconsistent effects of tillage on yield, however, decisions to use strip-till should not be based solely upon suppression of foliar diseases.