Effect of Peanut Cultivars Selection and Soil-insecticide Treatments on Disease, Insect Pests, and Yield in Alabama.

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In 2009, ten commercial runner peanut cultivars were evaluated for their reaction to insect pests and to late early and late leaf spot, rust, stem rot (SR), and Tomato spotted wilt virus (TSWV) at the Wiregrass Research and Extension Center (WREC) in Headland, AL and the Gulf Coast Research and Extension Center (GCREC) in Fairhope, AL. Recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. Soil insecticide sub-plot treatments included Temik 15G at 6.5 lb/A, Thimet 20G at 4 lb/A, and a non-insecticide treated control. A high input fungicide program for the control of leaf spot diseases and SR was followed. A RCB with six replications was used. Plots consisted of four 30-ft rows spaced 36 to 38-in apart. Incidence of TSWV was assessed at three different dates during the growing season. Leaf spot was rated using the Florida 1-10 leaf spot scoring system and rust was rated using the ICRISAT 1-9 rust rating scale. Hit counts for SR were taken immediately after plot inversion (hit equaled < 1 foot of consecutive diseased plants per row). Yields are reported at + 10% moisture. Late leaf spot was the dominant foliar disease at both locations however rust pressure was high at the GCREC due to late season rains. At the WREC, the soil insecticides Temik 15G and Thimet 20G significantly reduced TSWV incidence on five and seven of the cultivars, respectively. Neither soil insecticide reduced TSWV incidence on Florida 07 or Georgia 06G. While Thimet 20G reduced SR incidence compared with Temik 15G, leaf spot ratings and yield for the soil insecticide treated and the non-treated peanuts was similar. Low disease ratings were not always associated with the highest yields. With the exception of Georgia Green, TSWV incidence had no impact on yield. Georgia 07W and McCloud, which were two of the higher yielding cultivars, had the highest leaf spot ratings. At the GCREC, the soil insecticides Temik 15G and Thimet 20G reduced the incidence of TSWV and increased yield when compared with the nontreated control. Significant reductions in rust severity obtained with Thimet 20G were not reflected in higher pod yields. Low leaf spot, rust and SR ratings for York and Georgia 02C translated into higher yields. Yields for AP-4, Florida 07, Georgia 06G, Georgia Greener, and Tifguard were similar to those reported for the current industry standard Georgia Green.