

Peanut Cultivar Response to *S. rolfsii* Inoculation in the Absence of Fungicides in a Medium Risk Situation Based on the 2019 Peanut Rx

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Control of white mold in peanut is impacted by several factors including cultivar, crop rotation, irrigation, field history, and timely application of fungicides. This study was conducted to determine if there was genotype by *S. rolfsii* inoculation interaction effect on pod yield and white mold disease ratings in the absence of fungicides to control the disease. Inoculum was prepared using sterilized oats and a mixture of three isolates of *S. rolfsii*. The tests were conducted in Marianna, FL in 2016 and 2017. Inoculum was applied in a broadcast fashion when the canopy had completely covered the row middles. Both cultivar and inoculum regime affected pod yield, but there was no interaction. On average, pod yield was 2158 lbs./A greater in non-inoculated plots versus inoculated plots. Cultivars Georgia-12Y and Flo-Run '331' had higher pod yield than TUFRunner '297', TUFRunner '511', and Georgia-06G. The cultivars Georgia-14N and TifNV High O/L had similar pod yield to Georgia-12Y and FloRun '331'. White mold disease ratings conducted immediately after the plots were inverted were affected by cultivar, inoculation and their interaction. Disease ratings were higher in inoculated plots in all cultivars however, the magnitude of the difference was less in Georgia-12Y, FloRun '331', and Georgia-14N as compared to TUFRunner '297', TUFRunner '511', TifNV High O/L, and Georgia-06G. The highest rating in non-inoculated plots was 2.8 in TUFRunner '297' and 1.2 in Georgia-12Y, but these were not statistically different at the 5% probability level. However, the lowest rating in the inoculated treatment was 2.8 in Georgia-12Y and the highest was 8.3 in Georgia-06G and these were statistically different ($P < 0.0001$). It is unclear why these apparently large differences in disease expression among cultivars did not translate into cultivar-by-inoculation interaction for pod yield. However, the cultivars in the top pod yield group have white mold scores of 15 points or less in Peanut Rx, whereas TUFRunner '297' and Georgia-06G have 20 points and TUFRunner '511' has 15 points. This suggests that the white mold points for TUFRunner '511' should probably be greater than 15. It also confirms the intention of the Peanut Rx to show that cultivars with lower point totals have lower risk of losses than those with higher point totals.