

Effects of Seed Treatments and In Furrow Sprays on Peanut Plant Stands, Diseases and Pod Yield

T. B. BRENNEMAN*, Department of Plant Pathology, University of Georgia, Tifton, GA 31794.

Peanut seed treatments were compared in field trials in 2016 and 2017 for their effects on seedling diseases, plant stands, and pod yield. The treatments evaluated were Rancona V PD and Dynasty PD, both applied as a wettable powder formulation to otherwise nontreated Tifguard seed at 4 oz per 100 lb of seed. The seeding rate was 6 seed/ft. Lower germination seed lots (77% and 79% germination) were selected and the field sites were previously planted to peanut to increase disease pressure in the trial. Oat grain inoculum of *Rhizoctonia solani* AG-4 was applied at planting. There was no effect of the *Rhizoctonia* in 2016, and in plots with nontreated seed the tap root count at harvest 0.4 plants/ft, versus 1.5 plants/ft with either seed treatment. The untreated, Rancona and Dynasty treatments had 8.1, 0.6 and 0.1% *Aspergillus* crown rot (LSD= 5.1), respectively, and 1455, 3264 and 3314 lb/A pod yield (LSD=608). In 2017 the *Rhizoctonia* inoculations reduced stand counts by 33% and yield by 35% in both treated and nontreated plots, but the relative effect of the seed treatments was similar. Severe crown rot developed by early June with 46, 10 and 16% of the emerged plants killed in the nontreated, Rancona and Dynasty plots, respectively. The final tap root counts and pod yield from those treatments were 0.1, 2.1 and 1.5 plants/ft (LSD=0.3), and 386, 4006, and 3632 lb/A (LSD=846), respectively.

A companion study evaluated seed either treated or nontreated with Rancona V PD (4 oz/100 lb) in a split plot with or without in furrow sprays. The in furrow treatments were Abound (3.0 or 6.0 fl oz/A) or Evito (1.0 or 2.0 fl oz/A). The treated seed had much less crown rot, higher tap root counts at harvest, and higher pod yield than the nontreated seed both years. Crown rot was lower in 2016 (7.4% and 0.5% on nontreated and treated seed, respectively) and the in furrow sprays had no effect on disease incidence. The disease was more severe in 2017 (39.4% and 10.6% on nontreated and treated seed, respectively). All in furrow sprays reduced crown rot on the nontreated seed, but did not significantly increase tap root counts at harvest. Pod yield was much higher on treated vs nontreated seed in both years of the study (4205 vs 2599 lb/A and 3601 vs 301 lb/a in 2016 and 2017, respectively). Evito in furrow at 2 fl oz/A increased yield on the treated seed in 2017 only, and other in furrow treatments did not have a significant effect.