

Evaluation of a single-application of peanut fungicides for leaf spot management, 2016.

'Bailey' peanuts were planted 1.5" deep on 19 May 2016 at the rate of 5.5 seed/ft. Soil type was a Barnwell loamy sand. Plots were four 40-foot rows on 38 in. centers with treatments replicated 4 times and applied according to a randomized complete block design. Blocks were separated by 10-ft alleys. Standard practices were used to manage tillage, weeds, insects, nutrition and irrigation. Fungicides were applied with two DG8002 nozzles/row (19-in. spacing) delivering 15 gal/A at 50 psi. This trial received one fungicide application per treatment over the growing season, which was initiated at the observation of approximately 10% leaflet incidence of late leaf spot on 26 Aug. Late leaf spot ratings (% canopy defoliation) were taken on 26 Aug, 14 Sep and 28 Sep, and ratings of % of row exhibiting symptoms or signs of stem rot (based on loci counts per row where 1 locus was \leq 1 ft of consecutive stem rot damaged plants or signs per row) were taken 3 Oct. Two yield rows per plot were dug on 3 Oct and combined 19 Oct with yield reported at 10% moisture. SAS 9.4 PROC GLIMMIX was used to determine effects of treatments, with mean separations compared according to Fisher's Protected LSD at $\alpha = 0.05$. Yield data were modeled according to a negative binomial distribution. Rainfall during the period totaled 25.6 in. In May, Jun, July and Aug the rainfall was 0.17, 4.04, 1.84 and 1.72 in. below average, and in Sep and Oct rainfall was 4.88 and 2.11 in. above average, respectively. Average maximum air temperatures were near average in May ($\pm 1^\circ\text{F}$) and 4.2, 3.5, 2.2, 1.8 and 2.9 $^\circ\text{F}$ above average in Jun, Jul, Aug, Sep and Oct, respectively. Average minimum air temperatures were and 2.8, 4.6, 2.9, 3.9, 4.3, and 3.6 $^\circ\text{F}$ above average in May, Aug, Jun, Jul, Sep and Oct, respectively.

Late leaf spot pressure was moderate in the trial, and the presence of one fungicide application allowed for high levels of defoliation to develop. The most effective treatment observed in this study 26 days after application was Priaxor 8 fl oz/A. White mold disease pressure was low in this trial. Treatment yields did not separate out statistically.

| Treatment and amount/A | Leaf spot % defoliation ^z | | | Stem rot % incidence ^{y,z} | Yield (lb/A) ^x |
|-------------------------|--------------------------------------|---------|--------|-------------------------------------|---------------------------|
| | 26 Aug | 14 Sep | 28 Sep | | |
| Alto 5.5 fl oz | 0.0 | 72.5 a | 95.3 a | 3.4 a | 1230 a |
| Elatus 8 oz | 5.0 | 67.5 ab | 95.0 a | 5.3 a | 895 a |
| Priaxor 6 fl oz | 6.3 | 53.8 ab | 95.0 a | 6.6 a | 946 a |
| Priaxor 8 fl oz | 3.8 | 25.0 c | 88.3 b | 7.5 a | 1428 a |
| Provost Opti 10.7 fl oz | 0.0 | 47.5 b | 93.5 a | 4.1 a | 1213 a |
| Bravo WS 24 fl oz | 5.0 | 51.3 b | 93.0 a | 3.1 a | 1411 a |
| Tebuzol 7.2 fl oz | | | | | |
| Topsin 10 fl oz | | | | | |

^z Percentage of total canopy in the two yield rows of the plot defoliated.

^y Stem rot incidence expressed as number of disease loci per 80 ft of row (1 locus = \leq 1 ft consecutive stem rot symptoms and signs).

^x Means followed by the same letter are not significantly different according to Fisher's Protected LSD ($\alpha = 0.05$). Yield data was modeled according to a negative binomial distribution with inverse-link means on the original scale presented.