

**Evaluation of registered and unregistered fungicides for peanut disease management, 2017.**

'Emery' peanuts were planted 2 in. deep on 1 May 2017 at a 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 5 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 and nutrition. The field was not irrigated and has been continually cropped with soybeans or peanuts for at least 10 years. Fungicides were applied with two DG8002 nozzles/row (19-in. spacing) delivering 15 gal/A at 50 psi. Granular Aquasorb was applied in-furrow at planting with a Microsem box calibrated to deliver 2 lb/A. 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 21 Sep. Two yield rows per plot were dug on 21 Sep and combined 27 Sep 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. Average monthly temperatures for the growing season were as follows: 71.4 (May), 76.8 (Jun), 79.5 (Jul), 79.0 (Aug), and 74.1°F (Sep).

Leaf spot pressure was fairly high and stem rot pressure was moderate in the trial. The treatments with Miravis had the least leaf spot defoliation (< 6%). The only treatment with a statistically similar reduction in defoliation was the Propulse + Aquasorb + Bravo + Provost Opti program. Inclusion of Aquasorb in a program did not significantly affect defoliation levels. The Bravo-only standard treatment had the highest percent defoliation, which was statistically similar to the Bravo + Elatus program. Overall, Propulse in-furrow contributed to reductions in defoliation due to late leaf spot, as did Provost Opti, though Miravis was clearly the most effective treatment against late leaf spot in the trial. The more effective fungicide programs for reducing stem rot incidence included either Provost Opti or Elatus. Propulse in-furrow or Miravis were not associated with improved stem rot control. The numerically greatest yielding treatment was Propulse + Bravo + Elatus, followed by Propulse + Bravo + Provost Opti. Yield results were influenced by the combination of leaf spot defoliation and stem rot control efficacies of individual programs. For example, the lowest ranking programs were either not effective against stem rot alone or were not effective against stem rot and only moderately effective against late leaf spot; moderate yielding programs either were not effective against late leaf spot but effective against stem rot (Bravo + Elatus), were highly effective against late leaf spot but not against stem rot (Bravo + Miravis) or were moderately effective against both diseases (Bravo + Provost Opti).

Treatment and rate/A	Application timing <sup>z</sup>	Leaf spot % defoliation 19 Sep <sup>y,v</sup>	Stem rot % incidence 21 Sep <sup>x,v</sup>	Yield (lb/A) <sup>w,v</sup>
Bravo WS 24 fl oz	BCDEF	64.4 a	12.9 a	3763 d
Propulse 13.7 fl oz	A	28.0 b	15.3 a	4028 cd
Bravo WS 24 fl oz	BCDEF			
Propulse 13.7 fl oz	A	32.6 b	15.0 a	4082 bc
Aquasorb 3005 K2 2 lb	A			
Bravo WS 24 fl oz	BCDEF			
Propulse 13.7 fl oz	A	16.8 c	1.3 c	4443 ab
Bravo WS 24 fl oz	BEF			
Provost 10.7 fl oz	CD			
Propulse 13.7 fl oz	A	23.4 bc	3.7 bc	4451 a
Bravo WS 24 fl oz	BEF			
Elatus 9.5 oz	CD			
Propulse 13.7 fl oz	A	5.0 d	15.0 a	4296 abc
Bravo WS 24 fl oz	BEF			
Miravis 3.5 fl oz	CD			
Propulse 13.7 fl oz	A	13.6 cd	3.2 bc	4406 ab
Aquasorb 3005 K2 2 lb	A			
Bravo WS 24 fl oz	BEF			
Provost 10.7 fl oz	CD			
Bravo WS 24 fl oz	BEF	54.6 a	2.4 c	4208 abc
Elatus 9.5 oz	CD			
Bravo WS 24 fl oz	BEF	5.6 d	11.3 ab	4206 abc
Miravis 3.5 fl oz	CD			
Bravo WS 24 fl oz	BEF	33.2 b	4.2 bc	4245 abc
Provost 10.7 fl oz	CD			

<sup>z</sup>Timing: A: 1 May (in-furrow at planting), B: 15 Jun, C: 28 Jun, D: 18 Jul, E: 7 Aug, and F: 16 Aug.

<sup>y</sup>Percentage of total canopy in the two yield rows of the plot with defoliation due to late leaf spot infection.

<sup>x</sup>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).

<sup>w</sup>Yield data was modeled according to a negative binomial distribution with inverse-link means on the original scale presented.

<sup>v</sup>Means followed by the same letter are not significantly different according to Fisher's Protected LSD ( $\alpha = 0.05$ ).