

PEANUT (*Arachis hypogaea* ‘Bailey and Sullivan’)  
Leaf spot, late; *Cercosporidium personatum*  
Stem rot; *Sclerotium rolfsii*

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### **Evaluation of peanut fungicides and two varieties for disease management, 2016.**

‘Bailey’ and ‘Sullivan’ 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 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, nutrition and irrigation. Fungicides were applied with two DG8002 nozzles/row (19-in. spacing) delivering 15 gal/A at 50 psi. Late leaf spot ratings (% canopy defoliation) were taken on 28 Sep and 3 Oct, 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 14 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. Both varieties benefited from the application of premium fungicides (beyond the industry standard Bravo). White mold disease pressure was low in this trial. While statistical differences were observed between the treatments, the low level of white mold pressure did not provide the most optimal conditions to compare treatment efficacy. Bailey treated with Priaxor at 30 DAP yielded the highest among the treatments. This was statistically similar to programs including Elatus, Provost Opti and Topsin (Sullivan only), Priaxor and Provost Opti (Bailey only). Overall, the programs including premium products were associated with yield increases ranging from approximately 50 to 550 lb/A compared to a basic Bravo + Tebuconazole program. The exception to this was how Bailey treated with Proline at 30 DAP yielded approximately the same as the basic Bravo + tebuconazole programs.

| Variety, treatment and amount/A | Timing <sup>z</sup> | Leaf spot %<br>defoliation <sup>y</sup> 28 Sep | Leaf spot %<br>defoliation <sup>y</sup> 3 Oct | Stem rot %<br>Incidence <sup>x</sup> | Yield (lb/A) |
|---------------------------------|---------------------|--|---|--------------------------------------|--------------|
| Bailey                          |                     |  |   |                                      |              |
| Untreated check                 | Not applicable      | 92.5 a   | 96.0 a  | 0.6 bc                               | 1798 d       |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BCDEF               | 12.8 bc  | 26.3 b  | 0.0 c                                | 3234 c       |
| Tebuzol 7.2 fl oz               | CDEF                |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 8.3 cd   | 18.8 bcd                                      | 0.3 c                                | 3497 abc     |
| Provost Opti 10.7 fl oz         | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 9.3 bcd  | 9.5 def                                       | 0.3 c                                | 3656 abc     |
| Elatus 9.5 oz                   | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 5.5 d  | 2.8 ef  | 0.3 c                                | 3501 abc     |
| Priaxor 6 fl oz                 | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 9 bcd  | 15.3 bcde                                     | 1.3 abc                              | 3333 bc      |
| Provost Opti 10.7 fl oz         | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Topsin 10 fl oz                 | D                   |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 16 fl oz                  | A                   | 10.0 bcd                                       | 11.3 def                                      | 0.3 c                                | 3239 c       |
| Proline 2.6 fl oz               | A                   |  |   |                                      |              |
| Bravo 24 fl oz                  | BCDEF               |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | CDEF                |  |   |                                      |              |
| Bailey                          |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BCDEF               | 13.5 b   | 24.5 bc                                       | 0.0 c                                | 3910 a       |
| Priaxor 4 fl oz                 | A                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | CDEF                |  |   |                                      |              |
| Sullivan                        |                     |  |   |                                      |              |
| Untreated                       | Not applicable      | 92.8 a   | 95.8 a  | 1.3 abc                              | 1759 d       |
| Sullivan                        |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BCDEF               | 8.3 cd   | 8.3 def                                       | 0.6 bc                               | 3264 bc      |
| Tebuzol 7.2 fl oz               | CDEF                |  |   |                                      |              |
| Sullivan                        |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 10.3 bcd                                       | 12.5 cdef                                     | 2.2 a                                | 3290 bc      |
| Provost Opti 10.7 fl oz         | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Sullivan                        |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 6.5 d  | 2.0 f   | 0.0 c                                | 3793 ab      |
| Elatus 9.5 oz                   | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Sullivan                        |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 5.3 d  | 2.3 ef  | 1.9 ab                               | 3626 abc     |
| Priaxor 6 fl oz                 | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Sullivan                        |                     |  |   |                                      |              |
| Bravo 24 fl oz                  | BDEF                | 5.3 d  | 1.0 f   | 0.3 c                                | 3669 abc     |
| Provost Opti 10.7 fl oz         | C                   |  |   |                                      |              |
| Tebuzol 7.2 fl oz               | BDEF                |  |   |                                      |              |
| Topsin 10 fl oz                 | D                   |  |   |                                      |              |

<sup>z</sup>Timing: A: 22 Jun, B: 5 Jul, C: 22 Jul, D: 3 Aug, E: 19 Aug and F: 7 Sep.

<sup>y</sup>Percentage of total canopy in the two yield rows of the plot defoliated.

<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). Means within a column 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.