

PEANUT (*Arachis hypogaea* ‘Georgia 06G’)
Late leaf spot; *Nothopassalora personata*
Stem rot; *Sclerotium rolfsii*

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Evaluation of Lucento for management of late leaf spot and stem rot on ‘Georgia 06G’ peanut, 2018.

‘Georgia 06G’ peanuts were planted 2” deep on 9 May at rate of 5.8 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 arranged according to a randomized complete block design. Blocks were separated by 10-ft field-cultivated 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 was inoculated by spreading corn and oats colonized with *S. rolfsii* at the rate of 1 g/row ft on 11 Jul (63 days after planting, 2 days after application 3). Late leaf spot ratings (% canopy defoliation) were taken on 2 Oct, and ratings of % of row exhibiting symptoms or signs of stem rot (based on loci counts per row where 1 locus \leq 1 ft consecutive stem rot damaged plants or signs per row) were taken on 3 Oct. Two yield rows per plot were dug and inverted on 3 Oct and harvested 8 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 29.5 in. In May, Jun, Aug and Oct the rainfall was 2.0, 1.0, 0.7 and 1.3 in. below average, and in July and Sep rain fall was 2.2 and 2.8 in. above average, respectively. Average maximum air temperatures were 1.1 and 9.7°F below average in May and Oct, and 4.3, 1.6, 2.9 and 2.9°F above average in Jun, July, Aug and Sep, respectively. Average minimum temperatures were 0.5 and 10.9°F below average in May and Oct, and 2.4, 3.4, 2.6 and 3.0°F above average in Jun, July, Aug and Sep, respectively.

Late leaf spot pressure in the trial was moderate (approximately 69% defoliation in the untreated check and 20% defoliation in the Bravo WS program). All fungicide programs resulted in significantly less late leaf spot defoliation than the untreated control. Three of the five plots for the Bravo WS + Proline + Provost Opti treatment were within one plot’s distance from an untreated plot, which plausibly contributed to the amount of defoliation observed in this treatment not being significantly different from the program with two Headline applications as reduced strobilurin (Headline) efficacy has been observed in South Carolina in recent years. Stem rot pressure was moderately low in the trial. Stem rot incidence in the untreated control was excluded from the analysis due to confounding diseases and poor plant health that interfered with stem rot rating. Incidence of stem rot was lowest on peanut receiving Bravo WS + 3 applications of Lucento + Folicur. All treatments resulted in a significant increase in yield compared to the untreated control. Yield was highest from peanuts treated with Bravo WS + Proline + Provost Opti + Folicur + Elatus. However, this treatment did not result in a significant increase in yield over those of the fungicide programs with Lucento applications. No phytotoxicity was observed in the study.

Treatment and amount/A	Application timing ^z	Leaf spot % defoliation ^y		Stem rot % incidence ^x	Yield (lb/A) ^w
		2-Oct	3-Oct	3-Oct	
Untreated		68.4 a	- ^v		3805 e
Bravo WS 24 fl oz	1-7	20.2 c	11.0 a		4576 cd
Bravo WS 24 fl oz	1,2,4,6,7	7.2 d	6.5 abcd		5279 ab
Lucento 5.53 fl oz	3,5				
Bravo WS 24 fl oz	1,2,6,7	10.4 cd	5.3 bcd		4849 abcd
Lucento 5.53 fl oz	3,4,5				
Bravo WS 24 fl oz	1,2,7	7.2 d	7.3 abc		5107 abc
Lucento 5.53 fl oz	3,5				
Topguard EQ 8 fl oz	4,6				
Bravo WS 24 fl oz	1,2,5,7	6.4 d	2.3 d		5015 abcd
Lucento 5.53 fl oz	3,4,6				
Tebuzol 7.2 fl oz	5				
Bravo WS 24 fl oz	1,2,4,6,7	12.2 cd	4.5 cd		5336 ab
Topguard EQ 8 fl oz	3,5				
Tebuzol 7.2 fl oz	4,6				
Bravo WS 24 fl oz	1,4,6	38 b	10.8 a		4794 bcd
Proline 5.7 fl oz	1				
Provost Opti 10.7 fl oz	2,3,5				
Priaxor 6 fl oz	1,2,4	14.2 cd	5.5 bcd		5316 ab
Provost Opti 10.7 fl oz	3,5,6				
Bravo WS 25 fl oz	7				
Headline 9 fl oz	1,4	45.2 b	9.5 ab		5230 ab
Convoy 13 fl oz	2,3,4,5				
Bravo WS 16 fl oz	2,5				
Topsin 5 fl oz	2,5				
Bravo WS 24 fl oz	3,6				
Bravo WS 24 fl oz	1,2,3,5,6,7	7.6 d	5.3 bcd		5388 a
Proline 5.7 fl oz	1				
Provost Opti 10.7 fl oz	4				
Tebuzol 7.2 fl oz	2,5,6,7				
Elatus 8 oz wt	3				
Bravo WS 24 fl oz	1-7	12 cd	8.0 abc		4536 d
Tebuzol 7.2 fl oz	3,4,5,6				
Bravo WS 24 fl oz	1,2,3,5,6,7	9.4 d	3.5 cd		5345 ab
Provost Opti 10.7 fl oz	4				
Tebuzol 7.2 fl oz	2,5,6,7				
Elatus 8 oz wt	3				

^zFungicide application dates: 1) 8 Jun, 2) 23 Jun, 3) 9 Jul, 4) 23 Jul, 5) 7 Aug, 6) 22 Aug, 7) 6 Sep.

^yPercent of total canopy defoliated.

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

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

^vStem rot incidence in untreated treatment was excluded due to confounding diseases and overall poor plant health that interfered with disease ratings.