

PEANUT (*Arachis hypogaea* 'Bailey')  
Late leaf spot; *Nothopassalora personata*  
Early leaf spot; *Passalora arachidicola*  
Southern stem rot; *Sclerotium rolfsii*

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### **Peanut disease control with Provysol and Revytek in North Carolina, 2019.**

A trial was established in an irrigated field at the Peanut Belt Research Station in Lewiston-Woodville, NC. Peanut cv. Bailey was planted on 16 May. Peanut was last planted in 2016 and the 2018 crop was corn. The soil type in the field was primarily Norfolk sandy loam and the field had a history of late leaf spot and southern stem rot. Plots were four rows wide x 38 ft long and were arranged in a randomized complete block design with four replications. Row spacing was 36 in. and 4 to 5 seeds were planted per ft. Except for disease control, standard production practices as recommended by the NC State University Extension Service were followed, including fumigation with Vapam HL (42%) at 7 gal/A in mid-April. Foliar sprays were applied according to a calendar-based schedule starting on 2 Jul (spray 1). Subsequent sprays were applied at approximately 2-wk intervals on 16 Jul (spray 2), 31 Jul (spray 3), 14 Aug (spray 4), 27 Aug (spray 5) and 11 Sep (spray 6). In treatments where Miravis was used on Jul 15 (spray 2), fungicide was not applied again until the schedule resumed 29 days later on 14 Aug (spray 4). Foliar treatments were applied with a tractor-mounted sprayer equipped with TX-8 nozzles and a spray volume of 13 gal/A. No fungicide was applied to untreated controls. Treatments were applied to all rows of the plot and data were collected on the center two rows. Foliar disease was evaluated on 4 Sep and 18 Sep. Percent incidence (visually estimated percentage of leaflets with at least one early or late leaf spot lesion) of all leaf spots and percent defoliation were estimated in a randomized pre-selected 4-ft section in each of the two data rows and were averaged for analysis. Plant condition was rated on 1 Oct by estimating the percentage of row length apparently healthy, where 100% = no apparent disease or defoliation and 0% = all plants severely diseased, defoliated or dead. Plants with symptoms of southern stem rot were counted immediately upon digging on 7 Oct. Plots were harvested and weighed on 16 Oct. Data were subjected to analysis of variance and treatment means were compared with Fisher's LSD with  $\alpha = 0.05$ .

In addition to supplemental irrigation, 22.25 in. of rain was measured from 9 May to 15 Oct, nearly average for this period. Conditions generally were favorable for leaf spot development, but a period of 23 days without rain from Sep 14 to early Oct may have suppressed final disease incidence. Leaf spot incidence and defoliation were moderate in untreated control plots, with mean defoliation of about 58% on 18 Sep. Late leaf spot was the predominant foliar disease; very little early leaf spot was observed. All treatments provided excellent leaf spot control and reduced defoliation relative to the untreated control ( $P < 0.001$ ). Likewise, stem rot incidence was lower and plant condition ratings were higher in fungicide-treated plots compared to the untreated control plots. Average pod yield in treated plots were high for this field. Yields did not differ among fungicide treatments and were higher than in the untreated control ( $P < 0.01$ ).

Treatment, rate and timing (1 – 6) <sup>z,y</sup>	Percent Leaf spot <sup>x,w</sup>		Percent Defoliation		Stem rot Incidence	Plant	Yield (lb/A)	
						Cond. % <sup>v</sup>		
	9/4	9/18	9/4	9/18		0 – 100		
				10/7	10/1	10/16		
Untreated control	26.5 a	88.8 a	8.1 a	58.1 a	18.3 b	10.3 b	4179 b	
Bravo 24 fl oz (1, 6)								
Priaxor SC 8 fl oz (2, 4)								
Bravo 24 fl oz + Tebuzol 3.6F 7.5 fl oz (3, 5)	1.0 b	1.0 b	0.0 b	4.4 b	1.0 a	93.0 a	6013 a	
Bravo 24 fl oz (1, 6)								
Veltyma SC 7 fl oz (2, 4)								
Bravo 24 fl oz + Tebuzol 3.6F 7.5 fl oz (3, 5)	0.9 b	1.0 b	0.0 b	5.0 b	3.5 a	91.8 a	6209 a	
Bravo 24 fl oz (1, 6)								
Provysol 400 SC 5 fl oz + Priaxor 6 fl oz (2, 4)								
Bravo 24 fl oz + Tebuzol 3.6F 7.5 fl oz (3, 5)	0.6 b	1.0 b	0.0 b	5.0 b	2.0 a	92.3 a	5989 a	
Bravo 24 fl oz (1, 6)								
Revytek 12 fl oz (2, 4)								
Bravo 24 fl oz + Tebuzol 3.6F 7.5 fl oz (3, 5)	0.8 b	1.0 b	0.0 b	5.0 b	3.0 a	92.3 a	5875 a	
Bravo 24 fl oz (1, 5, 6)								
Priaxor SC 8 fl oz (2, 4)								
Provysol 400 SC 5 fl oz + Bravo 24 fl oz (3)	1.0 b	1.1 b	0.0 b	5.6 b	1.3 a	91.8 a	6214 a	
Bravo 24 fl oz (1, 5, 6)								
Priaxor SC 8 fl oz (2, 4)								
Provysol 400 SC 7 fl oz + Bravo 24 fl oz (3)	1.0 b	0.9 b	0.6 b	5.0 b	0.3 a	91.8 a	5717 a	
Bravo 24 fl oz (1, 5, 6)								
Priaxor SC 8 fl oz (2, 4)								
Provysol 400 SC 5 fl oz + Bravo 24 fl oz + Microthiol Disperss 5 lb (3)	1.0 b	0.9 b	0.0 b	5.0 b	4.0 a	93.0 a	5665 a	
Alto 100 SL 5.5 fl oz + Bravo 24 fl oz (1)								
Elatus WG 9.5 oz + Miravis 200 SC 3.4 fl oz (2, 4)								
Bravo 24 fl oz (5, 6)	0.9 b	1.0 b	0.0 b	5.0 b	1.0 a	92.3 a	6118 a	
Alto 100 SL 5.5 fl oz + Bravo 24 fl oz (1)								
Elatus WG 9.5 oz + Miravis 200 SC 3.4 fl oz (2)								
Provysol 400 SC 5 fl oz + Tebuzol 3.6 F 7.2 fl oz (4)								
Bravo 24 fl oz (5, 6)	1.0 b	1.0 b	0.0 b	5.0 b	1.0 a	91.8 a	5884 a	
Alto 100 SL 5.5 fl oz + Bravo 24 fl oz (1)								
Elatus WG 9.5 oz + Miravis 200 SC 3.4 fl oz (2)								
Provysol 400 SC 7 fl oz + Tebuzol 3.6 F 7.2 fl oz (4)								
Bravo 24 fl oz (5, 6)	0.9 b	1.0 b	0.0 b	5.0 b	2.0 a	93.5 a	6400 a	
Alto 100 SL 5.5 fl oz + Bravo 24 fl oz (1)								
Elatus WG 9.5 oz + Miravis 200 SC 3.4 fl oz (2)								
Provysol 400 SC 5 fl oz + Tebuzol 3.6 F 7.2 fl oz + Mircothiol Disperss 5 lb (4)								
Bravo 24 fl oz (5, 6)	1.0 b	0.9 b	0.0 b	6.3 b	4.5 a	90.5 a	6085 a	
	LSD $P \leq 0.05$	10.8	3.2	2.12	12.8	4.6	4.7	856

<sup>z</sup> All rates per acre

<sup>y</sup> The Bravo Weather Stik formulation was used for all Bravo applications.

<sup>x</sup> Estimated percentage of leaflets affected

<sup>w</sup> Means followed by the same letter within a column are not significantly different according to Fisher's LSD ( $P = 0.05$ ).

<sup>v</sup> Estimated percentage of row length apparently healthy, where 100 = no evident disease or defoliation and 0 = all plants severely diseased, defoliated or dead.