

Evaluation of insecticides for management of thrips and tomato spotted wilt on 'Georgia 06G' peanut, 2017.

'Georgia 06G' peanuts were planted at Edisto Research and Education Center in Blackville, SC on 27 April, at a rate of 5.8 seed/ft. Soil type was a Barnwell loamy sand. Rotation history was corn, cotton, and peanut in 2016, 2015, and 2014, respectively. Plots were four 40-foot rows on 38 in. centers with treatments replicated four times and applied according to a randomized complete block design. Blocks were separated by 10-ft alleys. Standard practices to manage tillage, weeds, insects, fungal diseases and nutrition. Admire Pro and Velum Total were applied with a D2 orifice set to deliver 8.7 gal/A at 32 psi. Thimet was applied with a SmartBox calibrated to deliver 4.7 lb/A. AgLogic was applied with a Microsem box calibrated to deliver 5 lb/A. Treatments were applied in-furrow at planting. Plant emergence was rated by counting the number of plants per row-foot on 29 May (32 days after planting [DAP]). Thrips damage was rated 16 May (19 DAP), 24 May (27 DAP), and 30 May (33 DAP) using a 0 to 10 scale where 0 = no injury and 10 = dead plants. Tomato spotted wilt stunting was rated by visually estimating the % of row exhibiting stunting symptoms of the disease (based on loci counts per row where 1 locus was \leq 1 ft of consecutive tomato spotted wilt stunted plants) on 5 Jul (69 DAP) and 7 Sep (133 DAP). Two yield rows per plot were dug on 12 Sep and combined 18 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 are as follows: 68.2 (Apr), 71.4 (May), 76.8 (Jun), 79.5 (Jul), 79.0°C (Aug), 74.1 (Sep), and 66.0°F (Oct).

The trial was exposed to moderate thrips and tomato spotted wilt pressure. Emergence of Thimet and AgLogic treatments were not significantly different from the untreated check, whereas Admire Pro and Velum Total exhibited significantly less emergence than this previous group. The untreated control had the most thrips damage, whereas the AgLogic, Velum Total, and Admire Pro treatments had the least. There was some drought stress during the 7 Sep tomato spotted wilt rating which confounded ratings and resulted in lower levels of infection than observed during the 5 Jul rating; thus, the earlier rating would be regarded as somewhat more representative. During the first rating, the statistical grouping with the most TSW stunting included Admire Pro and Velum Total. Thimet was associated with the least stunting, though this was not statistically different than the untreated check. AgLogic exhibited significantly more stunting than Thimet but was not statistically different compared to the check. During the second rating, the imidacloprid (Admire Pro and Velum Total) treatments were not significantly different from the untreated check or AgLogic. Overall yields were low in this field, despite having a strong fungal disease management program and irrigation. It is not clear why yields were low, though they were also low in an adjacent separate test.

Treatment and rate/A	Emergence (plants/ft) ^z	Thrips damage (0-10 scale) ^y			TSW % stunting ^x		Yield (lb/A) ^w
		16 May	24 May	30 May	5 Jul	7 Sep	
Untreated check	3.3 a	6.3 a	8.0 a	7.3 a	16.5 bc	18.9 a	2060
Thimet 20G 4.7 lb	3.6 a	4.3 b	4.0 b	5.3 b	11.2 c	6.1 c	1966
Admire Pro 10 fl oz	2.4 b	3.8 bc	4.0 b	5.3 bc	29.6 a	18.0 ab	2294
Velum Total 18 fl oz	2.6 b	3.3 c	4.0 b	4.8 bc	25.0 a	15.7 ab	1960
AgLogic 15G 5 lb	3.3 a	3.0 c	3.0 b	4.5 c	18.1 b	11.9 bc	1866

^z Emergence was based on counting number of emerged peanut plants in two 4-ft sections per 80 ft of row 32 days after planting.

^y Thrips damage was based on a 0 to 10 scale where 0 = no visible thrips damage and 10 = plant death.

^x Tomato spotted wilt (TSW) stunting is expressed as the percent of the number of symptomatic loci per 80 ft of row (1 locus = \leq 1 ft of consecutive stunting symptoms of the disease).

^w Yield data was modeled according to a negative binomial distribution with inverse-link means of the original scale presented.

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