PEANUT (*Arachis hypogaea* 'Georgia 06G')   D. J. Anco, J. S. Thomas, and J. M. Haynes, Clemson
   Tomato spotted wilt; *Tomato spotted wilt virus*   University, Edisto REC, Blackville, SC 29817

Evaluation of insecticides for management of thrips and tomato spotted wilt on 'Georgia 06G' peanut, 2016.

'Georgia 06G' peanuts were planted at Edisto Research and Education Center in Blackville, SC on 26 April. Soil type was a Barnwell loamy sand. Rotation history was corn, cotton, and peanut in 2015, 2014, and 2013, respectively. Plots were four 40-foot rows on 38 in. centers with treatments replicated four times across each of two fields and applied according to a randomized complete block design. Blocks were separated by 10-ft alleys. Data from the two fields were analyzed and presented together. AgLogic was applied with a Microsem box calibrated to deliver 5 lb/A. Thimet was applied with a SmartBox calibrated to deliver 4.7 lb/A. Admire Pro and Velum Total were applied with a D2 orifice set to deliver 8.7 gal/A at 32 psi. Orthene was applied using two DG8002 nozzles/row (19 in. spacing) delivering 15 gal/A at 50 psi. Extension recommendations were used to manage tillage, weeds, other diseases, nutrition and irrigation. Thrips damage was rated 18 May and 20 May using a 0 to 10 scale where 0 = no injury and 10 = dead plants. Percent phytotoxicity was rated 27 May. Tomato spotted wilt (TSW) stunting was rated 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 27 Jun and 23 Aug. On 22 Aug TSW incidence was rated. Two yield rows per plot were inverted 13 Sep and combined 19 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 α = 0.05. Yield data were modeled according to a negative binomial distribution. Average monthly temperatures for the growing season were as follows: 66.0 (Apr), 73.0 (May), 82.9 (Jun), 86 (Jul), 81.0 (Aug), 74.3 (Sep), and 65.8°F (Oct).

The AgLogic treatment was generally associated with the least thrips damage, which was closely followed by imidacloprid-based treatments (Admire Pro and Velum Total). Phytotoxicity, observed as leaflet chlorosis, was highest in the Thimet treatment. The treatments with the statistically lowest TSW stunting were Thimet, AgLogic, or Admire Pro followed by Orthene. Thimet and AgLogic provided the greatest reductions in TSW incidence. The untreated control had the lowest yield, which was not significantly different from imidacloprid-based treatments (Admire Pro and Velum Total) that were not followed by Orthene. Overall with regards to yield and TSW stunting, the phorate- and aldicarb-based treatments (Thimet and AgLogic, respectively) appeared to have a slight performance advantage over imidacloprid-based treatments, though these differences were not always statistically significant. The absence of nematode pressure did not allow for the nematicidal properties of Velum Total and AgLogic to be evaluated within this trial.

| Treatment and rate/A | Timing[z] | Thrips damage (0 to 10 scale)[y] | | Phytotoxicity (%) | TSW % stunting[x] | | TSW % incidence[w] | Yield[v] (lb/A) |
		18 May	20 May	27 May	27 Jun	23 Aug		
Untreated check	---	3.9 a	5.8 a	4.6 b	8.8 a	16.1 a	20.6 a	4157 c
Thimet 4.7 lb	A	2.5 bc	3.1 b	14.4 a	3.1 b	8.0 b	10.6 d	4881 a
AgLogic 5 lb	A	1.5 d	1.8 d	4.4 b	4.7 b	9.5 b	12.7 cd	4956 a
Velum Total 14 fl oz	A	3.0 b	3.5 b	2.9 b	7.8 a	15.8 a	19.5 ab	4249 bc
Velum Total 18 fl oz	A	2.9 b	3.3 b	5.3 b	8.5 a	17.2 a	22.7 a	4250 bc
Admire Pro 10 fl oz	A	1.9 cd	2.0 cd	3.8 b	8.9 a	16.6 a	20.2 a	4394 bc
Admire Pro 10 fl oz Orthene 12 oz	A B	2.1 bcd	2.3 c	4.6 b	4.6 b	10.3 b	15.5 bc	4568 ab

[z] Timings correspond to A = in-furrow at planting, B = 21 DAP.

[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 stunted loci per 80 ft of row (1 locus = $\leq$ 1 ft of consecutive stunted plants).

[w] TSW incidence is expressed as the percent of the number of symptomatic loci per 80 ft of row (1 locus = $\leq$ 1 ft of consecutive TSW symptoms).

[v] Yield data were 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 at α = 0.05.