Impact of Enclosure 4L and Temik 15G on peanut root knot control and yield response of two peanut cultivars in southeast Alabama.

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In 2011, Enclosure 4L and Temik 15G were tested for their effectiveness in controlling peanut root knot nematode as well as yield response on root knot susceptible Georgia-06G and resistant peanut cultivar Tifguard at the Wiregrass Research and Extension Center in Headland, AL in a field with a high background population of the peanut root knot nematode. A split plot design with peanut cultivars as whole plots and nematicide treatments as sub-plots was used and whole plots were randomized in complete blocks with 5 replications. Individual sup plots consisted of four 30-ft rows spaced 36-in apart. Leaf spot diseases were controlled with chlorothalonil as a full canopy spray applied seven times during the season. Leaf spot was rated using the Florida 1-10 leaf spot rating system. Stem rot hit counts were rated where 1 hit was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) and root knot damage ratings were made where 1 = no visible damage, 2 = 1-25% of and/or pods damaged, 3 = 26-50% damage, 4 = 51-75% damage, and 5 = >75% damage immediately after plot inversion. Soil samples which were collected prior to plot inversion were assayed using using sugar flotation method. Data were pooled across peanut cultivars and nematicide treatments. Significance of treatment effects and interactions was evaluated using PROC MIXED procedure in SAS and means were separated using Fisher’s protected least significant difference at P < 0.05. Georgia-06G had higher leaf spot, stem rot, root knot damage, and nematode counts than did Tifguard. When compared with the non-treated control, several Temik 15G and Enclosure 4L programs had higher leaf spot ratings. Increased stem rot incidence was noted with Enclosure 4L IF fb by Enclosure 4L 45 DAP, Enclosure 4L applied at ground cracking fb Enclosure 45 DAP, and Actinogro. Reduced root knot gall ratings were observed with Temik 15G IF fb Temik 15G 10 lb 45 DAP when compared to those for the non-treated control, Enclosure 4L fb Enclosure 4L 45 DAP fb Enclosure 60 DAP, and Actinogro. Root knot juvenile counts for all nematicide programs were similar and all were higher than the non-treated control. When compared with the non-treated control, the Temik 15G IF fb Temik 15 10 lb 45 DAP, Enclosure 4L fb Enclosure 4L GC fb Enclosure 4L 45 DAP had similar yield. Yields for all other treatments were similar. Yields for the root knot resistant Tifguard and root knot susceptible Georgia-06G did not differ significantly despite Georgia-06G having higher stem rot ratings and root damage ratings. When compared with the non-treated control, no yield gains were noted with either Temik 15G or
Enclosure 4L programs.