

MAXIMIZING CONTROL OF SOILBORNE DISEASES AND NEMATODES OF PEANUT WITH NEW CULTIVARS AND FUNGICIDES APPLICATION STRATEGIES

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A number of new fungicides were evaluated under high disease pressure that were promising for future registration and use by peanut farmers. The excellent activity of Elatus on soilborne diseases observed by growers since its recent introduction was also confirmed in small plot research. In an inoculated trial with heavy limb rot pressure, Elatus showed a high level of control on *Rhizoctonia* as well, a disease for which we have little data in recent years. A new SDHI from Valent called Excalia also showed excellent control of white mold and *Rhizoctonia* limb rot. This product is applied at very low use rates (2-3 oz per acre), and is on track for registration and use by peanut growers.

Another SDHI, fluopyram, is the active ingredient for both diseases and nematodes in Velum Total and Propulse. Propulse has been used as a pegging treatment for several years, but most early data was where it was applied via chemigation. Recently most growers using it have opted to spray it on and then water it in. Several replicated trials in 2017 were repeated in 2018 and showed that Propulse sprayed and watered in gives significant control of leaf spot and white mold, and it was a viable option for mid-season nematode control. In one test, Propulse was applied at either 30, 45, 60, or 75 DAP. The benefits on nematode galling, and white mold were clearly superior at application of 45-75 DAP versus the 30 DAP. An additional study showed there is some flexibility in time elapsed (from 1 to 66 hours) between when Propulse is applied and when it is washed in with irrigation. Comparisons were made between GA-06G with various levels of input for nematode and disease management versus growing a cultivar with much higher nematode and disease resistance like GA-14N. With the moderate levels of nematode pressure in the test this year, a high yielding but susceptible cultivar like GA-06G had superior yields and economic returns from multiple inputs such as Velum Total in furrow plus Propulse at pegging. With higher nematode numbers in the soil in previous trials, the nematode-resistant lines were more likely to be superior. This was particularly true if the crop value for GA-14N and TifNV-High O/L were raised to consider the \$50 bonus per ton paid by some buying points for high O/L peanuts.

A large block, on-farm test was conducted in Appling county in a dryland field with no history of peanuts and little disease pressure. TifNV-High O/L had higher yields than either GA-06G or GA-16HO, and the highest return. When considering the bonus for high O/L in that area, GA-06G gave the lowest net return of the three varieties. Across varieties, yields in that trial were very similar comparing a lower cost Bravo / tebuconazole program with a higher input Convoy/Bravo program, no doubt due to the low disease pressure associated with very long rotations. There were significant numbers of plants killed by *Lasiodiplodia*, and GA-16HO had about 1/3 the incidence of this disease compared to the other varieties. Following up on the considerable pod loss found at digging in 2017, the pegs from all cultivars were found to have only low levels of lesion nematode (in contrast to the high numbers seen last year). Also, multiple applications of Return (ie. Oxamyl) nematicide had no visible effect on pod loss and no yield effect when evaluated in large, replicated plots.