

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.

Velum Total was evaluated in multiple sites under heavy disease and nematode pressure in combination with Ag Logic or Propulse at pegging. 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 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 (up to at least 8 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 or TifNV-High O/L. The results were somewhat dependent upon the level of nematode pressure in a test site. Even with high nematode numbers present, the resistant cultivars generally produced very good yields with only basic fungicide inputs and no nematicides. To maintain yield on a susceptible cultivar like GA-06G, multiple inputs such as Velum Total in furrow plus Propulse or Ag Logic at pegging were needed. Under lower nematode and disease pressure, GA-06G was very competitive, but with higher nematode numbers in the soil, 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 like GA-14N and TifNV-High O/L.

In a large block, on-farm test in Decatur county, GA-06G treated with Velum Total at 18 oz in furrow or Velum Total + Propulse 13.7 oz at pegging had a similar low level of nematode galling, but the plots treated with Propulse had significantly less white mold and about 400 lb/A higher yields. In the same trial GA-14N and Tifguard had yields similar to GA-06G with only Velum Total. When deducting treatment costs, there was no difference in net crop value, although GA-14N was the highest if a \$50/ton bonus was included for high OL peanuts. This was also true in another on-farm trial in Appling county in a dryland field with no history of peanuts and little disease pressure. GA-06G had slightly higher yields than either TifNV-High O/L or GA-16HO, but with the bonus for high O/L in that area GA-06G gave the lowest net return. Across varieties, yields in that trial were identical comparing a lower cost Bravo / tebuconazole program with a higher input Elatus/Bravo program, no doubt due to the low disease pressure associated with very long rotations. However, there was still considerable pod loss at digging in all three cultivars even though they were dug at optimum maturity. High numbers of lesion nematodes were found associated with the pegs, but their effect on peg strength is uncertain.