UPDATE

Title of Project: Improving Soil Health Using Root-Knot Nematode Resistance in Peanut

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Soil health samples were collected in each of the reps in spring 2025 (7 samples) and summer 2025 (56 samples) and sent to the Cornell Soil Health Lab for soil health testing. Additionally, plant-parasitic and free-living nematodes were sampled and counted in May and July. A drone was flown over the field twice (June and September) to capture aerial images of the treatments. Yield data, gall ratings, and soil samples for soil health testing and nematodes were collected during harvest 2025.

Results from mid-season sampling highlight the importance of crop rotation. Peanuts following cotton had significantly lower peanut root-knot nematode (PRKN) populations at mid-season. In contrast, when peanuts followed peanuts, higher PRKN densities were observed; however, Tif-NV HG consistently showed the lowest nematode density among treatments. Velum resulted in higher nematode density than the untreated control, but similar trends have been observed in previous studies. The main hypothesis is that Velum protects peanuts early in the season, promoting greater root development. This increased root biomass may provide more food resources for nematodes, leading to higher PRKN population densities. Therefore, it will be important to correlate these results with yield. End-of-season nematode sampling, yield data, and soil health scores are still being processed and were delayed due to the government shutdown and my current maternity leave. However, this project will be completed, and the results will be shared at upcoming Georgia Peanut meetings.