Report on 2021 Peanut Downforce and Soil EC Trials

Andrew Russell & Dr. Wesley Porter

Due to certain limitations only one on farm trial was implemented during 2021 to compare the effects of adjusting downforce across different soil EC zones during peanut planting. This trial occurred at a field in western Calhoun County, GA, with planting occurring on May 24th. A twin 12-row Monosem was set to three downforces (0lbs, 200lbs, and 400lbs) for the entire pass down the field, and repeated three times each. 40-foot plots were marked in each soil EC zone (fig. 1 low, medium, and high shown by the red, yellow, and green zones respectively) along each repetition. Four emergence counts were collected at 8, 11, 16, and 21 DAP. While some data suggest that the inclusion of downforce may assist in stand establishment (fig. 2). Weed and vertebrate pest management practices in this field proved inadequate in addition to severe weather events resulting in severe stand loss by the final emergence count (fig. 3). However, ash shown in Figure 3, Zone one had the overall lowest emergence independent of downforce. demonstrates the condition of the field at the time of the final data collection.

In summary, while there were only differences between zone 1 and the other two zones, it still shows that emergence is tied to soil EC and that downforce may not always be the only answer and that other planter parameters should be explored to aid in determining how to maximize peanut emergence in fields with variable soil conditions.

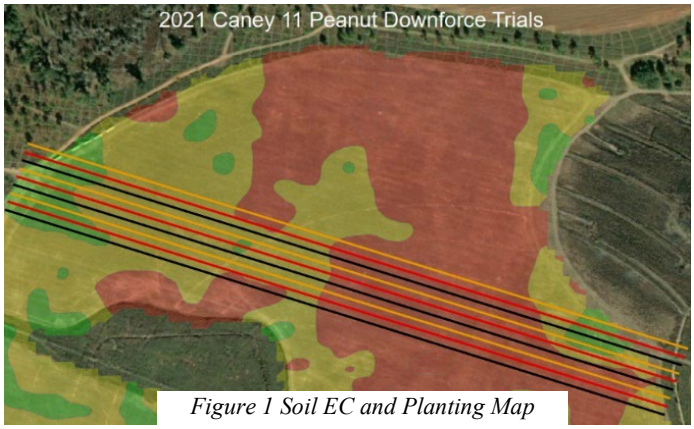

Figure 1 Soil EC and Planting Map

		8	11	16	21
Z1	D1	16%	39%	46%	40%
	D2	20%	46%	50%	42%
	D3	15%	45%	52%	42%
Z2	D1	33%	55%	56%	58%
	D2	29%	55%	56%	56%
	D3	30%	54%	57%	58%
Z3	D1	19%	50%	60%	59%
	D2	20%	53%	62%	61%
	D3	18%	51%	60%	57%

Figure 2 Emergence Table

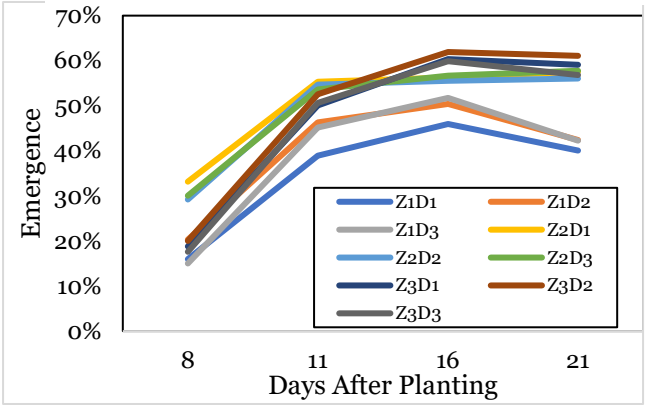

Figure 3 Emergence Rate

Figure 4 Excessive weed pressure in the field.