Comparing in-furrow insecticides in single and twin row pattern at different plant populations. 2025 crop season. R.S. Tubbs, and M.R. Abney

Tomato spotted wilt virus (TSWV) has been a primary concern for peanut growers in Georgia for decades. The leading in-furrow insecticide for combating TSWV incidence and thrips damage is phorate. Oxamyl (reg. as Vydate C-LV by Corteva) is also registered for use in peanut as an insecticide and nematicide targeting thrips and nematodes including root knot, sting, ring, and lesion. Phorate is the only proven insecticide to reduce TSWV, but oxamyl brings multiple species efficacy.

This experiment tested factorial combinations of three variables and was conducted at the University of Georgia's Southwest Georgia Research and Education Center in Plains, GA. The tested variables included three insecticide treatments ((None, phorate, oxamyl), two row patterns (single, twin), and two plant populations (optimum [planted at 6.4 seed/ft], sub-optimum [planted at 3.2 seed/ft]). Data collection included yield, TSWV, and plant stand after emergence (ESC).

Comparison of insecticide treatments resulted in a difference in TSWV incidence. Phorate (5.6%) had less incidence than the non-treated (8.1%) and oxamyl (8.3%) treatments. This did not translate to a difference in yield, however. Yield was increased by 4.6% in twin row pattern over single row, and by 6.1% in high population compared to low population. Twin rows also had less TSWV incidence (6.5%) than single rows (8.1%), which was also correlated with plant stand. The high populations also resulted in less TSWV (5.7%) than low populations (8.9%).

An interaction occurred only for ESC, and twin row had greater stands than single row at the high seeding rate, and the high seeding rate had greater stands than the lower seeding rate regardless of row pattern.

Incidence of TSWV in this location was relatively light (7.3% averaged over the entire test). These results do not provide sufficient evidence that oxamyl effectively reduces TSWV. Phorate remains the only proven insecticide for peanut that also provides consistent reduction in TSWV. Oxamyl is not currently marketed as a product for reducing TSWV and should continue to be considered as a material for targeting thrips (independently of TSWV) and nematodes. Row pattern and plant population also provide opportunities to control TSWV and increase yield. TSWV was reduced by 1.7% for every additional 1.0 plants/ft in stand, and yield was improved by 40 lb/ac for every 1.0% reduction in TSWV. Twin row and optimized populations (above 3.5 plants/ft of row) improved plant stand, reduced TSWV, and increased yield over single row and low populations (2.5 plants/ft or less), respectively.