Thrips Management in Peanut: Evaluation of New Insecticides and Peanut Varieties.

In 2009, five thrips management experiments were conducted in peanut, four in Suffolk, VA and one in North Carolina. Two evaluated experimental seed treatments (Cruiser 70WS, A17460, A17461, A17462) and compared them to standards (Thimet 20G and Temik 15G). One evaluated different rates of DPX-HGW86 20SC applied as a liquid in-furrow and compared them to the same standards. A fourth evaluated foliar broadcast insecticides (Orthene 97, Radiant SC, Karate Z, Ecotec, and Requiem 25EC). The fifth evaluated virginia-type peanut varieties/lines (‘VT 003069’, ‘VT 003194’, ‘VT 004152’, ‘VT 024077’, ‘VT 024051’, ‘VT 9506083-3’, and ‘Bailey’) for susceptibility to thrips.

In the seed treatment tests, there were significant differences in plant injury caused by thrips feeding on all four sample dates, with all treatments except those with fungicide alone performing better than the non-treated check. Plants in treatments with in-furrow applications of Thimet 20G or Temik 15G had the least injury, but seed treatments that included insecticides were very close, and often were not significantly different. Results were similar with numbers of thrips. On most sample dates, seed treatments that included insecticides and the in-furrow insecticide treatments had the fewest thrips. This was especially apparent on 9 Jun when the immature population peaked at 120 per 10 leaflet sample in the non-treated check. On that date all insecticide treatments (seed and in-furrow) were equally effective at reducing immature thrips. Late-season Tomato spotted wilt incidence (hits per 80 row ft) included a high of 12.8 in the numbered compound ‘A17461’, 10.8 in the non-treated check, and a low of 2.8 in the Thimet treatment. Pod yield data followed these trends with the lowest yields in the non-treated checks, ranging from 5,040 to 5,293 lb/acre. Yields with the other treatments were much higher and ranged from 5,589 to 6,165 lb/acre. The highest yields were achieved with the in-furrow treatments (Thimet 20G, Temik 15G) and the seed treatments with Cruiser 70WS and the numbered compound ‘A17460’. These ranged from 5,831 to 6,165 lb/acre.

In the foliar broadcast insecticide test, there were significant differences in plant injury on all four sample dates, with Requiem 25EC not differing from the non-treated check on any date. Karate Z and a tank mix of Ecotec + Karate Z were also not different from the check on the dates when thrips injury was the most severe. The treatments that provided the best control and had the least injury were tank mixes of Ecotec + Radiant SC and Ecotec + Orthene 97. Five of nine treatments had yields that were not different from the check including Requiem 25EC, Karate Z, Ecotec + Karate Z (2 rates), and the low rate of Ecotec + Radiant SC. The highest yields were obtained with tank mixes of Ecotec (high and low rates) + Orthene 97, Ecotec (high rate) + Radiant SC, and Orthene 97 alone.
In the Virginia-type variety/lines test, there were significant differences in plant injury on two of four sample dates, with VT 9506083-3 and Bailey having the most injury. Number of adult thrips differed significantly on one of four sample dates (2 Jun), also the “peak” date for adults, with a range of 8.8 (VT 003069 and VT 024077) to 20.5 (VT 024051) adult thrips per 10 terminal leaflets. Numbers of immature thrips were not significantly different on any sample date, with a range of 52.3 to 108.5 thrips per 10 terminal leaflets on the peak date of 9 Jun. Late-season evaluation of Tomato spotted wilt indicated significant differences between treatments, with Bailey having the fewest hits (7.5/80 row ft), and VT 004152 and VT 024077 having the