# ASSESSING THE IMPACT OF WIREWORMS ON STAND ESTABLISHMENT AND YIELD IN COTTON

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## Abstract

True wireworms (Elateridae) and false wireworms (Tenebrionidae) are common pests of cotton in the Texas High Plains region. The larvae damage cotton by feeding on the root, hypocotyl, and cotyledon of plants before emerging from the soil. The most severe wireworm damage occurs when the hypocotyl is severed, killing the plant and reducing the stand. The study was conducted in a field with known history of wireworm infestation with objectives: 1) To determine wireworm impact on plant stand and lint yield under various seeding rates; and 2) To evaluate impact of insecticide seed treatments on plant stand and lint yield under severe level of wireworm infestation in cotton. Seeding rates evaluated included 1.5 seeds/row-ft (19,600 seeds/acre), 2 seeds/row-ft (26,136 seeds/acre), 3 seeds/row-ft (39204 seeds/acre), & 4 seeds/row-ft (52,270 seeds/acre). Increasing seeding rate up to 52,270 seeds/acre did not help achieving the optimum recommended final stand of 2 plants/ft. The average final stand ranged from 0.6 plants/ft to 1.4 plants/ft at seeding rates 19,600 seeds/a and 52,270 seeds/a, respectively.

Seed treatment trial was planted at the seeding rate of 45,000 seeds/acre. Seed treatments evaluated included untreated check, Gaucho 600, Cruiser 5FS, Aeris, Avicta Elite Cotton, Avicta Duo Cotton, Gaucho 600 + Poncho VOTiVO, and Acephate. Treatments had no significant impact on the final plant stand ($P = 0.520$) which ranged from 20,328 to 24,987 plants/acre across all treatments. Similarly, treatments had no significant impact on lint yield ($P = 0.987$). Our results indicate that available insecticide seed treatments do not provide effective wireworm control under severe level of infestation in cotton.