EFFECTS OF PLANT DENSITY ON THRIPS INJURY TO COTTON

J. Krob
S. Stewart
University of Tennessee
Jackson, TN

Abstract

In Tennessee, recent observations in small-plot field trials suggest that thrips injury to cotton (*Gossypium hirsutum* L.) is higher in plots with lower plant populations. Research documenting this phenomenon is limited. Therefore, the objective of this study was to evaluate the effects of plant population and seed treatment on thrips injury to cotton by conducting identical experiments at the West Tennessee Research and Education Center in Jackson, TN and the Research and Education Center at Milan in Milan, TN during the 2020 growing season. Experiments were arranged in a split-plot design within a randomized complete block. The main plots consisted of seed planted at 2, 4, 8, or 16 seed per 30.5 cm of row on 96.5 or 101.6 cm row centers, and subplots were seed either with or without an insecticide seed treated (IST=5.8 mL/kg of Gaucho® 600). Data collection included stand counts, thrips sampling (whole-plant alcohol wash), and visual thrips injury ratings. Visual thrips injury ratings were made on a whole-plot basis and for groups of "isolated" and "clumped" plants within plots. Seed treatment did not significantly affect stand establishment. Plants that were "isolated" had significantly higher thrips injury ratings than "clumped" plants. Results indicate that thrips injury ratings were higher as plant population decreased; however, thrips numbers did not provide a clear explanation for why this occurred. Thus, this phenomenon will be further investigated during the 2021 growing season.