MEPICHLOR AND *BACILLUS CEREUS* COMBINATIONS: COTTON YIELD AND GROWTH COMPARISONS

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Abstract

Increasing yields and reducing rank growth are common goals of cotton producers in the Brazos Bottoms of Texas. In 1997 and 1998, field studies were conducted using combinations of mepiquat chloride (MC) and *Bacillus cereus* (*Bc)* on cotton (*Gossypium hirsutum* L.) variety DP&L 50 at the Texas Agricultural Experiment Station near College Station, Texas. The objective of this study was to compare the influence of MC and MC/*Bc* combinations on various cotton growth and yield parameters. The four treatments examined were: untreated check (UTC), MC (4% solution), MFX3294 (3% MC plus 2.0 g ai/L *Bc*), and MFX4294 (4% MC plus 2.0 g ai/L *Bc*). In both years, treatments were initiated at match-head square, and the final application was made at early bloom. In 1997, there were four applications of 4 oz/A. In 1998, two applications of 8 oz/A were applied. At mid-season, plant height was significantly reduced in all three treatments as compared to the UTC, with the MC treatment being shorter than both of the MFX treatments. At harvest, the same trend was evident except the height of the MC treatment was not different from the MFX treatments. Total node counts of the MC and MFX4294 treatments were significantly lower than the UTC at mid-season. At harvest node counts were not different among treatments. Yields were not significantly enhanced by applications of MC or MC/*Bc* combinations. An index was calculated to relate boll size to plant height. The height required to produce 1 gram of average boll weight was significantly higher in the UTC than in the treatments. This index showed that all PGR treatments produced greater mean boll weights per centimeter of plant height.

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