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A COMPARISON IN COTTON OF MEPIQUAT CHLORIDE ACTIVITY WITH AND WITHOUT CYCLANILIDE ADDITION

Robert L. Millings
University of Georgia
Tifton, GA
Craig Bednarz
University of Georgia
Tifton, GA
Herb Young
Bayer Cropscience
Tifton, GA
Glen Ritchie, Cory Mills and Jared Whitaker
University of Georgia
Tifton, GA

Abstract

Vegetative growth in cotton (Gossypium hirsutum) has been controlled in recent years with a variety of plant growth regulators (PGRs), particularly mepiquat chloride. However, a new product shows potential as a new PGR. This product is composed of mepiquat chloride, which is used in most cotton PGRs, and a new chemical, cyclanilide, a presumed auxin transport inhibitor. A combination of mepiquat chloride and cyclanilide shows potential as a new PGR. This combination was compared with the traditional mepiquat chloride regime for application rate, effects on plant height, and effects on fruiting under irrigated and dryland conditions. A combination of mepiquat chloride and cyclanilide can produce similar growth effects on cotton with less chemical than a mepiquat chloride regime alone. It is also suggested that the combination of these two chemicals may offer a quicker response that just mepiquat chloride alone. Other physiological affects on cotton that might influence production and harvest methods, quality, and yield are also being determined.