

EFFECTS OF PLANTING DATE AND MEPIQUAT CHLORIDE ON COTTON GROWTH, LINT YIELD, AND FIBER QUALITY IN THE SOUTH TEXAS COASTAL PLAINS

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Abstract

This experiment was conducted in order to evaluate the effects of three planting dates on growth, yield, and fiber quality of cotton grown with or without mepiquat chloride (MC) treatment. The three planting dates were March 1 (early), March 22 (normal), and April 12 (late). (The optimum planting time for the Lower Coastal Bend Region of Texas is considered to be approximately March 10 to March 20.) The experiment was planted with Deltapine 5409. MC was applied to each planting date based on plant measurements (height and number of main stem nodes) at the 1/3 grown square growth stage. MC was applied at a rate to bring the concentration of mepiquat chloride in the plant to 12 ppm based on the MEPRT program. Plant mappings were performed at harvest to determine differences in vegetative and reproductive development. Yield increased with delayed planting in both MC-treated and non-treated plots ($p=0.0478$ and $p=0.1099$ respectively). With MC treatment, yield difference was only significant between early and late planting dates. Without MC treatment, yield was not significantly different between normal and late planting, but was significantly lower in the early planting. There were no significant yield differences between mepiquat chloride treatment and no treatment within each of the planting dates. Yield increases can be attributed to significant increases in percent retention on fruiting branches 1-10 and, consequently, the total number of bolls on these branches. The late planting date showed a significant decrease in fiber micronaire. Fiber length and fiber strength both increased significantly as planting date was delayed. Many of the negative results in the early planting date may have been a result of cool early season temperatures and marginal moisture at the time of planting.

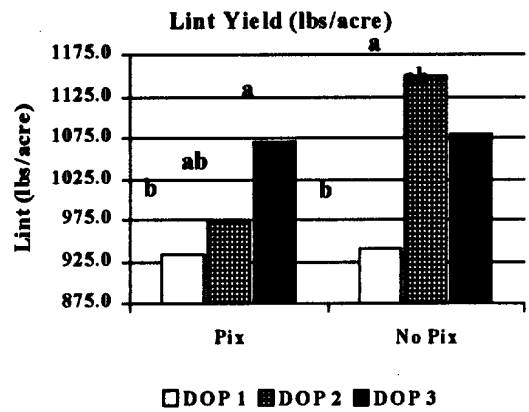


Figure 1. Lint yield by planting date and mepiquat chloride treatment.