

**EFFECT OF MANAGEMENT TREATMENT  
ON COTTON GROWTH, DEVELOPMENT  
AND YIELD – THREE YEAR RESULTS**

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**Abstract**

A study was conducted for three years in West Tennessee on Cotton under dryland conditions evaluating the impact of sequential applications of a size control growth regulators, foliar nutrients and PGR-4. Meppiquit Chloride alone (TMT 1, standard recommended practices only) or with a fruiting agent, either Bacillus Cerengesis or Cytokin at pinhead and matchhead tank mix with Miller Sol-U-Gro (0.6-2.4-0.015 ai. Or 5 lbs. Of product per acre) (TMT 2). TMT 3 consisted of TMT 2 followed by 4 oz/a of PGR-4 tank mix with 5 lbs of urea per acre and 0.2 lbs of Solubor at peak bloom. Pix or Mep+ was applied full season as needed for size control. These treatments were applied over a base treatment of all University of Tennessee recommended practices. The study was replicated three to five times and plots were 10 to 25 acres, depending on the year. All spray applications were made with ground custom application equipment at 10 gpa. Plots were harvested with standard spindle harvest equipment with twice over harvest. One full trailer or module was harvested per plot. The area harvested was measured after harvest to determine yield. Lint yield was determined following ginning.

Compared to treatment one (843 lbs. lint/A), both treatment two (906 lbs. lint/A) and three (907 lbs. lint /A) numerically improved yield 63 and 64 lbs. per acre over the three year study period. Compared to treatment 1, treatment 2 numerically improved bolls per foot by 5.94 or 20% and treatment 3 improved bolls per foot by 9.32 or 32%. Although an improvement in boll number was obtained, when compared to treatment one for boll size, there was a numerical decrease in boll size of 15% for treatment two and a 20% decrease for treatment three.

These results indicate that the use of University of Tennessee Recommended Practices together with careful insect scouting and COTMAN 98, can significantly improve yields (treatment 1 at 843 lbs lint/A) over grower obtained West Tennessee average of 625 lbs lint/A. Further increased yields are possible with more intensive use of plant growth regulators together with early and mid-season foliar feeding. Further research should be conducted investigating the relationship between increasing bolls numbers while decreasing the boll size.