

MEPIQUAT STUDIES ON DP 555 BG/RR IN 2003

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Large acreage of a new variety, DP 555 BG/RR, was expected in the 2003 season. This particular variety is noted for high yield potential and for vigorous vegetative growth. Preliminary experiences indicate that compared to other varieties, DP 555 BG/RR may require earlier and more aggressive applications of mepiquat products (Pix, etc.) to adequately control stalk height and growth.

Field trials were initiated at three locations—the Ponder Farm in western Tift County, the SunBelt Ag Expo near Moultrie, and the Water Tower field near Tifton—to evaluate mepiquat treatment regimes on DP 555 BG/RR (see Table 1). The former two sites were irrigated, the latter was not. Treatments were initiated at the 3rd square stage and followed at 10 day intervals. Pix Plus was the mepiquat chloride formulation. Experimental design include a randomized complete block with three replications.

Table 1. Cotton lint yields* (lb/A) of DP 555 BG/RR as influenced by mepiquat chloride (Pix Plus) rate and timing at three locations in 2003.

Trt	mepiquat rate/A	timing	Ponder Farm	SunBelt Expo	Water Tower
1	untreated	--	1687	1215	1039
2	8 oz	3 rd square	1568	1075	1187
3	8 oz 8oz	3 rd square 10 days later	1530	1144	1149
4	8 oz 12 oz	3 rd square 20 days later	1499	1304	1295
5	8 oz 16 oz	3 rd square 10 days later	1398	1149	1204
6	8 oz 16 oz	3 rd square 20 days later	1771	1306	1346
7	8 oz 16 oz	10 days after 3 rd square 10 days later	1630	1387	1432
8	16 oz 16 oz 16 oz	3 rd square 10 days later 10 days later	1558	1296	1224
LSD (0.10)			230	170	235
*Assumes 42 percent lint turnout					

Across the locations, there was no clear “winner” in terms of yield. At both irrigated sites, the untreated control resulted in yields comparable or superior to all other treatments. At the Water Tower field, yields in the untreated control plots were statistically below yields in treatments 4, 6, and 7. General observations of canopy and height management suggest that multiple applications of mepiquat chloride are needed to maintain reasonable plant height when conditions favor for rank growth (as in 2003).

An additional study was conducted at the Water Tower site to evaluate late season applications of mepiquat on cotton at cutout, at about 4 nodes above white flower. The treatment (1.5 pt/A of Pentia) was applied on August 5. Prior to the establishment of the study, the experimental area uniformly received three mepiquat applications to manage growth. Experimental design was a randomized complete block with eight replications.

Table 2. Cotton lint yield* (lb/A) of DP 555 BG/RR as affected by late season (cut out) application of mepiquat (Pentia) in 2003, Tifton.

Trt	rate/A	Yield
1	untreated	1485
2	1.5 pt	1447
LSD (0.10)		68
*Assumes 42 percent lint turnout.		

There was no statistical difference between the untreated control and the Pentia-treated plots. A slight difference in canopy height was evident for 2 to 3 weeks after treatment.