

MEPIQUAT CHLORIDE APPLICATIONS WITH A CANVAS WICK

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Abstract

Cotton (*Gossypium hirsutum* L.) growers are frequently faced with variations in plant height with variations in plant height within fields. Mepiquat chloride (Pix™, MepiChlor™) can be used to control plant height and create some earliness. Early cutout, increased stress, and reduced yields, however, are risks involved with the use of mepiquat chloride that are magnified when the product is applied too early to stressed or otherwise slow growing cotton. The canvas wick applicator is a device that can be set at a specified height and will apply mepiquat chloride only to the plants in the field that are taller than the wick, leaving the shorter, slower growing plants untreated. Applications of this sort have the potential to minimize risks associated with mepiquat chloride, and may result in a more uniform plant height throughout a given field.

Experiments were conducted at multiple locations in North Carolina in 1998 to compare the effect of mepiquat chloride with wick and conventional sprayed applications. Additional experiments were conducted to study various timings of wick applications as well as the particular height of the wick related to the cotton. Results shown in Table 1 indicate that plant height can be controlled more effectively at lower rates with a wick compared to a spray. Lint yield was neither increased nor decreased significantly with the wick application compared to a spray at any rate. Studies involving various timings of applications and wick height showed similar results and are not reported here.

Data reported here indicate that it is possible to control plant height with reduced rates of mepiquat chloride when applied with a wick. No adverse effects of wicked applications were observed when mepiquat chloride was applied at the same time as any conventionally sprayed rate. Results show the potential for the wick applicator as a means to apply mepiquat chloride more specifically while possibly reducing rates. Future investigations will investigate physiological effects and possible differences between sprayed and wicked applications of mepiquat chloride.

Table 1. Plant height 5 weeks after application, and lint yield of mepiquat chloride treatments. Data combined over 3 locations for plant height and 4 locations for lint yield. All treatments applied at first bloom.

Treatment	Rate	Plant height	Lint yield
	-oz/acre-	-inches-	-lb/acre-
Check		46.6	1169
Spray	1	41.5	1171
Wick	1	38.7	1164
Spray	3	38.7	1193
Wick	3	37.4	1146
Spray	6	36.6	1215
Wick	6	36.2	1086
Spray	9	36.2	1083
Wick	9	35.9	1121
Spray	12	36.3	1118
Wick	12	34.4	1165