

# **COMPARISON OF ETHEPHON CONTAINING BOLL OPENERS**

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## **Introduction**

With most agricultural chemicals there are an abundance of products marketed to perform the same task. Boll opening products in cotton are no exception, as there are several containing the active ingredient ethephon. Generic products contain only the active ingredient ethephon. There are also other “enhanced” products which contain synergists in addition to ethephon. These are marketed at a premium to generic products and are touted to provide both faster and more effective boll opening and leaf removal than generic products. Finish Pro contains the additive cyclanilide which is an auxin synthesis and transport inhibitor. CottonQuik contains the additive AMADS which is an ethylene synergist.

The objective of this research was to compare the performance of a generic ethephon-containing product to the “enhanced” products in their effectiveness and speed of opening bolls.

## **Materials and Methods**

Small plot trials were established at the Southeast Research and Education Center in Midville, GA in 2003 and 2004. Treatments are listed in Table 1. These treatments were applied to cotton that was between 10 and 20% open in both years. Application to cotton this early allowed for the examination of these products over an extended period of time. In addition, since many of the bolls on the plants were immature and thus difficult to open, this process allowed for a better examination of response differences.

Prior to treatment application 6 feet of row was flagged in each plot. The number of green, unopened bolls was then counted in the tagged area. At 4, 11, and 13 days after treatment (DAT) the number of green bolls were counted in the same tagged area. From these data the percentage of green bolls opened by the treatments could be calculated.

Table 1. Ethephon treatment and rate applied to cotton at 10 to 20% open boll, Southeast Research and Education Center, Midville, GA, 2003 and 2004.

Treatment	Product	lb Gal <sup>-1</sup>	Rate A <sup>-1</sup>	lb ai A <sup>-1</sup>
1	Prep	6	01.50 pt	1.13
	DEF	6	10.00 oz	0.47
2	Finish 6	6	01.50 pt	1.13
	DEF	6	10.00 oz	0.47
3	CottonQuik	2.28	02.00 qt	1.13
	DEF	6	10.00 oz	0.47
4	DEF	6	10.00 oz	0.47
5	Untreated			

### Results and Discussion

At 4 DAT, there was no significant difference between the treatments with all providing less than 30% opening of initial green bolls (Table 2).

At 11 DAT, all treatments containing ethephon had opened significantly more bolls than treatments containing no ethephon. Only the CottonQuik treatment had opened a significantly greater percentage of bolls than the Prep treatment. However, the Finish 6 treatment was numerically greater than the Prep treatment. These data indicate that the enhanced products tended to open bolls faster than the generic product at 11 DAT.

By 13 DAT all ethephon containing treatments had opened a significantly greater percentage of bolls than the treatments containing no ethephon. There was no difference between the treatments containing ethephon.

Collectively these data indicate that up to approximately 11 DAT the “enhanced” ethephon-containing products may provide faster boll opening than generic products. However, by 13 DAT this response was not evident.

Table 2. Percentage of green bolls opened by ethephon treatments applied to cotton at 10 to 20% open boll, Southeast Research and Education Center, Midville, GA, 2003 and 2004.

Treatment	Product	Rate A <sup>-1</sup>	Green Bolls opened		
			4 DAT	11 DAT	13 DAT
			%		
1	Prep DEF	01.50 pt 10.00 oz	21.1 a	54.5 b	81.8 a
2	Finish 6 DEF	01.50 pt 10.00 oz	25.6 a	61.3 ab	81.2 a
3	CottonQuik DEF	02.00 qt 10.00 oz	28.6 a	66.0 a	85.6 a
4	DEF	10.00 oz	25.0 a	38.2 c	59.5 b
5	Untreated		19.8 a	35.8 c	55.5 b
	C.V.		20.6	14.8	13.0
	Pr>F		0.1427	0.0001	0.0001