

XII. RESPONSE OF COTTON TO FOLIAR TOPSIN FUNGICIDE TREATMENTS FOR CONTROL OF HARDLOCK IN VIRGINIA (TAREC)

A. PURPOSE: To evaluate the efficacy of foliar fungicide sprays in control of hardlock

B. EXPERIMENTAL DESIGN:

1. Four randomized complete blocks separated by 15-ft alleyways
2. Two, 30-ft rows per plot with 36-in. row spacing
3. Seeding rate of four seed/row ft

C. APPLICATION OF TREATMENTS: All treatments were applied with 8002VS nozzles spaced 18-inches apart and delivering 16.5 gal/A.

D. TREATMENT AND RATE/A:

1. Untreated check
2. Topsin M 4.5F 16 fl oz (1st bloom + 2-wk later – 7/18, 8/1)
3. Topsin M 4.5F 16 fl oz (1st bloom + 2-wk later + 2-wk later – 7/18, 8/1, 8/15)
4. Topsin M 4.5F 16 fl oz (Pea-head square + 2 wk later + 2 wk later + 2 wk later – 7/7, 7/21, 8/1, 8/15)

E. ADDITIONAL INFORMATION:

1. Location: Tidewater Research Farm, Suffolk, VA
2. Crop history: Peanut 2004; Cotton 2003; Peanut 2002
3. Land preparation: rip-strip tilled
4. Planting date and cultivar: 4 May 2005, DP 555 RR
5. Soil fertility report:

pH.....	5.9
Ca	621 ppm
Mg	50 ppm
P	38 ppm
K.....	107 ppm
Zn	0.5 ppm
Mn	4.1 ppm
Soil type	Nansemond fine sandy loam
6. Herbicide: Cotoran 1 qt + Prowl 1 pt/A (19 Apr)
Roundup Ultra Max 22 fl oz/A (2 May, 24 May, 13 Jun)
MSMA 1 qt + Envoke 0.15 oz + Caparol 1.5 pt/A directed spray (11 Jul)
7. Insecticide: Temik 15G 5 lb/A (4 May)
Orthene 97S 6 oz/A (24 May, 13 Jun)
Baythroid 2E 2 fl oz/A (5 Aug, 11 Aug)
8. Growth regulator: Pentia 8 fl oz/A (7 Jul)
Pix Plus 8 fl oz/A (5 Aug)
9. Defoliant/Boll opener: Finish 1 qt + Def 6 oz + Dropp 0.1 lb/A (18 Oct)
10. Fertilization: 9-15-36 330 lb/A (18 Apr)
Liquid boron 1 qt/A (24 Jun, 6 Jul)
32% N 30 lb/A (24 Jun, 6 Jul)
11. Harvest date: 7 Nov 2005

Table 39. Number of flowers in untreated plots at the time of fungicide application.

Rep	Number of flowers*			
	Jul 19	Jul 21	Aug 1	Aug 15
I	35	64	149	137
II	30	70	177	173
II	22	57	176	152
IV	28	75	181	157
V	32	74	180	142
VI	8	44	131	156
Mean	26	64	166	153

* Data represent total number of flowers per plot.

Table 40. Effect of foliar sprays on incidence of hard lock and open bolls on 7 Nov.*

Treatment, rate/A and application date	Total number of locks	% hard lock	Open bolls
	Untreated check.....	37.9	15.3
Topsin M 4.5F 16 fl oz (7/18, 8/1).....	44.3	12.8	9.8
Topsin M 4.5F 16 fl oz (7/18, 8/1, 8/15).....	46.7	15.8	10.4
Topsin M 4.5F 16 fl oz (7/7, 7/21, 8/1, 8/15).....	47.8	12.6	10.6
LSD	n.s.	n.s.	n.s.

* Counts represent the mean of four plants/plot, and percentage of hardlock is based on the number of open bolls with one or more locules showing symptoms of hardlock. The mean number of locks was 4.5 per boll.

“n.s.” = not significant at P=0.05 according to Fisher’s Protected LSD.

Table 41. Effect of foliar sprays on yield of cotton.

Treatment, rate/A and application date	Yield*	
	lb/A	bales/A
Untreated check.....	3981	3.8
Topsin M 4.5F 16 fl oz (7/18, 8/1).....	3868	3.7
Topsin M 4.5F 16 fl oz (7/18, 8/1, 8/15).....	3918	3.7
Topsin M 4.5F 16 fl oz (7/7, 7/21, 8/1, 8/15).....	3933	3.8
LSD	n.s.	n.s.

* Weight (lb/A) includes lint + seed; bales/A are weight of lint only. Lint was 46% of total weight and 480 lb/bale. Plots were harvested on 7 Nov 2005.

“n.s.” = not significant at P=0.05 according to Fisher’s Protected LSD.