

PEST MANAGEMENT NEWS

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Refugio County Cotton Stalk Destruction Meeting

Date: Tuesday, August 21, 2012

Time: 9:00 a.m.

Location: East of Bonnieview at northeast corner of Levein Rd. and Boening Rd.

1 hour CEU in IPM

Topic discussed will be cotton stalk destruction methods. I have made herbicide applications to two stalk destruction research trials in Refugio County. We will be walking through both of these trials. The first test is at the intersection of Levein Rd and Boening Rd. The second test is $\frac{3}{4}$ mile east of Bayside Richardson Gin on FM 1360. These trials evaluate 2,4-D application at timings up to 7 days after shredding or picking.

Cotton stalk destruction is a necessary component of boll weevil eradication. Without area wide stalk destruction, the eradication of the boll weevil is not possible. Past research has indicated the best method of controlling cotton plants is the application of 2,4-D herbicide at 1lb/A.

Last year, I conducted two research projects for control of cotton plants. One trial evaluated the timing of 2,4-D application after shredding and found that no differences occurred between the herbicide timings (Table 1). These timings went from within 5 minutes of shredding to 2 days after shredding. The second trial in 2011 evaluated three rates of 2,4-D and three rates of Dicamba on cotton that was left standing, shredded, and shredded and pulled (Table 2).

Important points from these trials are:

- 2,4-D (32 oz/A) provided better control of cotton plants than all rates of dicamba.
- Application of 2,4-D can be made any time after shredding (up to 2 days) with similar results.
- Pulled stalks without herbicide application achieved only 92% control of cotton plants.
- 23% of the surviving pulled stalks had squares at 35 days after pulling.
- 2,4-D treated plots did not have hostable plants 35 days after applications.

After last year's research, my preferred method of stalk destruction is application of 2,4-D (1 lb/A) to standing, shredded, or shredded and pulled stalks. Any field activity without the herbicide application will not result in fields being non hostable.

Table 1. Percent control of cotton stalks and percent of hostable plants with 2,4-D at various timings after stalk shredding at 35 days after initial treatment (Calhoun County, 2011).

Rating Date	9/19/2011			
Days After First Treatment	35			
1 Untreated Check	10	b	62.5	a
2 2,4-D (32 oz/A) immediately after shredding	61.3	a	0	b
3 2,4-D (32 oz/A) one hour post-shredding	61.3	a	0	b
4 2,4-D (32 oz/A) one day post-shredding	48.8	a	0	b
5 2,4-D (32 oz/A) two days post-shredding	52.5	a	5	b
LSD (P=.05)	18.96		18.23	
Standard Deviation	12.31		11.83	
CV	26.32		87.65	
Treatment Prob(F)	0.0004		0.0001	

Table 2. Percent control and hostable plants of mechanical and herbicide control methods for cotton stalk destruction (Calhoun County, 2011).

Rating Date			%Control	Hostable plants	
Trt-Eval Interval			9/21/11		
			35 DAT		
			#/10 plants		
<u>Shredded Stalks</u>					
1	2,4-D	16 oz/a	15.4	ef	0 d
2	2,4-D	32 oz/a	61.8	b	0 d
3	2,4-D	48 oz/a	54	b	0 d
4	Dicamba	8 oz/a	11.7	ef	3 bc
5	Dicamba	16 oz/a	1.5	f	0.3 d
6	Dicamba	24 oz/a	27.6	cde	1.3 cd
7	Untreated Check		22.3	def	3.7 bc
<u>Standing Stalks</u>					
8	2,4-D	16 oz/a	15.2	ef	0 d
9	2,4-D	32 oz/a	40.1	bcd	0 d
10	2,4-D	48 oz/a	49.7	bc	0 d
11	Dicamba	8 oz/a	16.3	def	4.7 b
12	Dicamba	16 oz/a	3.4	ef	3.3 bc
13	Dicamba	24 oz/a	7	ef	1.7 cd
14	Untreated Check		2.4	f	8.7 a
<u>Shredded / Stalk Puller</u>					
15	2,4-D	16 oz/a	96.7	a	0 d
16	2,4-D	32 oz/a	98.3	a	0 d
17	2,4-D	48 oz/a	99.2	a	0 d
18	Dicamba	8 oz/a	99.2	a	0 d
19	Dicamba	16 oz/a	94.2	a	0 d
20	Dicamba	24 oz/a	93.3	a	0.3 d
21	Untreated Check		91.7	a	2.3 bcd
LSD (P=.05)			24.38		2.45
Standard Deviation			14.78		1.48
CV			31		106.15
Treatment Prob(F)			0.0001		0.0001

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