

# PEST MANAGEMENT NEWS

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THE INTEGRATED PEST MANAGEMENT NEWSLETTER

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FOR THE LOWER ROLLING PLAINS

## GROWING CONDITIONS & INSECT PESTS

Cotton maturity ranges from 4-5 leaf to bloom. Many fields are beginning to wilt in the afternoon. If we get a 1-2 inch rain within the next 2-3 weeks the crop most fields should do well.

Insect pests have increased in some fields. Fleahopper counts range from 0 to 60 per 100 plants, with the high numbers being found south of Anson and in the Champion area. And Aphids range from 0 to 90 per leaf.

### Cotton Fleahopper Philosophy

We found one field that has exceeded threshold levels of fleahoppers but square retention remains relatively high. The question of when to spray for fleahoppers in dryland cotton depends largely on square retention and current square set.

Coming up with an estimate on when to stop treating for cotton fleahoppers depends on several issues including plant population, yield goals, and fruit retention.

Consider this scenario:

- Plant population = 3 plants per foot
- Yield Goal = 500 lbs / Acre
- 15 open bolls / ft. = 500 lbs. / Acre

In this scenario, you will need 5 bolls per plant at the end of the season to make 1 bale / acre. You may also want to figure on losing about half of your fruit during the first few weeks of bloom due to drought and insects.

Thus, assuming that fleahoppers will not get all of the

squares, if you have more than 7 squares per plant that are no longer susceptible to fleahopper damage, you can stop worrying about cotton fleahoppers in this field. To make this work you also need to protect the field from other insect pests such as bollworms and aphids.

Speaking of **bollworms** and **aphids**, some fields have had increasing levels of these pests. **Bollworm** eggs have been found from 0-32 per 100 plants. While we don't spray for eggs, this can be an indicator that we need to be looking for small worms by the time you get this newsletter.

**Aphid** populations have ranged from 0 to 90 per leaf in survey fields. The economic threshold for aphids is 50 per leaf. While this population may not cause economic damage, the aphids can increase to damaging levels by the time that you are treating the field. Fields that have an aphid population of 100 aphids per leaf may have reduce yields.

## TURN-ROW MEETINGS

1 hour CEU available

All meetings begin at 8:30 a.m.

Monday	Tuesday	Wednesday	Thursday
28	29	30	31
Roscoe Coop Gin	Colorado City Coop Gin	Snyder Coop Gin	Stamford Coop Gin

**Table 1. Heat Units Accumulated from Selected Dates Through July 22, 2003**

From	Total Heat Units (DD60)	
	Average 1999-2002	2003
5/01	1561	1521
5/10	1436	1369
5/20	1284	1195
6/01	1090	1044
6/10	927	870
6/20	745	706
7/01	511	495
7/10	310	319

**Table 2. Accumulated Heat Units Required for Different Stages of Cotton.**

Growth Stage	From Emergence	From Previous Stage
1 <sup>st</sup> True Leaf	16	16
Pin-head Square	455	439
Match-head	560	105
1/3 Grown	770	210
First Bloom	1064	294
First Open Boll	1641	577
95% Mature	2271	630

**Table 3. Estimated Time Sequence of Growth and Development Stages in the Cotton Plant.**

Planting Date		
1 <sup>st</sup> Square	A	32 Days
1 <sup>st</sup> White	A	23 Days
1 <sup>st</sup> Open Boll	A	55 Days
30% Open	A	15 Days
60% Open	A	10 Days
85% Open	A	20 Days

**Table 4. Projected Dates of Crop Growth Landmarks for Various Planting Dates Based on Table 3.**

Planting Date	1 <sup>st</sup> Square	1 <sup>st</sup> White Bloom	1 <sup>st</sup> Open Boll	30% Open	60% Open	85% Open
5/01	6/02	6/25	8/19	9/03	9/13	10/03
5/10	6/11	7/04	8/28	9/12	9/22	10/12
5/20	6/21	7/14	9/07	9/22	10/02	10/22
6/01	7/03	7/26	9/19	10/04	10/14	11/03
6/10	7/12	8/04	9/28	10/13	10/23	11/12
6/20	7/22	8/14	10/08	10/23	11/02	11/22

\* Keep in mind that these dates are estimates, warmer and cooler temperatures will hasten and delay crop maturity, respectively.

The following is preliminary data from an insecticide trial intended to determine efficacy of three cotton fleahopper insecticides. The plots were also exposed to an increasing population of aphids. Applications were made on July 18, 2003 in Jones County.

PRELIMINARY DATA

# Texas Cooperative Extension

## Cotton Fleahopper Management in the Lower Rolling Plains

Insect	Cotton Fleahopper	Cotton Fleahopper	Cotton Fleahopper	Aphids
Rating Unit	/10 plts	/10 plts	/10 plts	/ lf
Rating Date	07/21/03	07/21/03	07/21/03	07/22/03
Insect Stage	Nymph	Adult	Total	
Trt-Eval Interval	3 DAT	3 DAT	3 DAT	4 DAT
Trt	Treatment	Rate	Rate	
1	Untreated			
2	TRIMAX	1	OZ/A	
3	TRIMAX	1.5	OZ/A	
4	ORTHENE	3.5	OZ/A	
5	INTRUDER	0.6	OZ/A	
	LSD (P=.05)	3.10	1.59	3.835
	Standard Deviation	1.38	0.71	1.700
	CV	83.36	202.03	85.02
	Bartlett's X2	7.245	2.038	10.066
	P(Bartlett's X2)	0.064	0.564	0.039*
	Replicate F	0.449	1.167	0.553
	Replicate Prob(F)	0.7224	0.3629	0.6556
	Treatment F	11.802	0.400	8.343
	Treatment Prob(F)	0.0004	0.8050	0.0019

Means followed by same letter do not significantly differ (P=.05, Tukey's HSD)