

COTTON LOSSES 1989

Table 1a. Promising pesticides screened in 1988 for control of cotton arthropod pests.

State	Pesticide (lbs. AI/A)	Target Pest
Georgia	Ovasyn* (amitraz)	<u>Heliothis</u> eggs
	Dimilin*(diflubenzuron)	Beet armyworm suppression
	Andalin*(???)	Beet armyworm suppression
	SN-49844	<u>Heliothis</u> eggs
Mississippi	RH7988 25WP (.06)	Aphids
	B. <u>thuringiensis</u> strains	<u>Heliothis</u> larvae
	<u>Vericillium Lecanni</u> (106 spores/cm ²)	Aphids
	SN-49844 (0.125 and 0.25)	<u>Heliothis</u> eggs
Tennessee	Orthene*(acephate) (0.5, 0.75, 1.0)	Aphids, Thrips
	Capture*(bifenthrin) (0.06)	Aphids
	Baythroid* (cyfluthrin) (0.333)	
	Curacron*(profenofos) (0.5)	
	Swat*(phoshamidon) (0.25)	
	Metasystox-R*(axydemetonmethyl) 0.25)	

1 Other pesticides tested for supporting registration or recommendations for pest control may be found in the section: Research Progress and Accomplishments.

Table 1b. 1989 U.S. Cotton Crop Production. (Source: USDA Crop Reporting Service).

–Upland–	Acres Harvested (000's)	Acres Harvested (000's)	Per acre yield (lbs/acre) 1988	Per acre yield (lbs/acre) 1989	Production 000 480# bales 1988	Production 000 480# bales 1989
STATE						
Ala	375	340	486	551	380	390
AZ	349	239	1,190	1,305	865	650
ARK	675	590	742	700	1,044	860
CALIF	1,335	1,040	1,015	1,200	2,824	2,600
Fla.	29	29	566	574	34	35
GA	315	275	564	646	370	370
LA	645	620	705	674	948	870
MISS	1,190	1,050	736	709	1,825	1,550
MO	237	209	620	609	306	265
NM	69	66	710	618	102	85
NC	124	110	515	589	133	135
OKLA	435	330	334	276	303	190
SC	142	115	473	647	140	155
TENN	530	450	529	501	584	470
TEXAS	5,300	3,700	472	363	5,215	2,800
other	4	4	480	550	4	5

Total	11,754	9,167	616	598	15,077	11,429
--Pima--						
Ariz	128	245	904	891	241	455
Calif	2	19	853	960	3	38
N.M.	18	27	634	640	24	36
Tex.	42	75	769	805	67	125
TOTAL	189	366	848	859	334	654
All	11,943	9,533	619	608	15,412	12,083
Cotton						

Table 2. All States

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	5865741	4783596	2.6	3.85	2.75	331466
Boll/budworms	7478934	4683150	1.8	7.14	1.87	225115
Fleahoppers	4404730	1032670	0.1	3.09	0.11	12951
Lygus bugs	4072826	2346507	0.3	4.16	2.05	246667
Leaf perforator	234000	109000	0.0	9.04	0.00	267
Pink bollworm	416775	350505	0.2	8.94	0.14	16438
Spider mites	2659204	1599112	0.2	11.02	1.11	133838
Thrips	6581397	3593701	0.5	4.09	0.36	42782
Beet armyworms	1194911	529996	0.1	10.47	0.15	18629
Fall armyworms	584400	170336	0.0	7.80	0.03	3596
Minor pests	1004227	371727	0.1	9.86	0.05	5741
Aphids	6021428	3798381	0.8	5.06	0.55	65805
New pests	319805	181705	0.0	8.96	0.03	3223
W Flower Thrips	2198300	158857	0.0	7.36	0.03	3386

Acreage harvested: 9679129

Yield per acre: 1.24 Bales

Percent lost: 9.22

Dollars lost: 319,652,183

Cost per acre: 37.85

Table 3. Central Alabama

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	66000	66000	8.0	2.50	6.00	4826
Boll/budworms	66000	66000	4.0	4.80	2.00	1609
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	66000	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0

Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	6000	2000	0.0	0.00	0.00	0
Thrips	66000	3000	0.0	1.30	0.00	4
Beet armyworms	30000	3000	0.0	8.50	0.00	0
Fall armyworms	1000	0	0.0	0.00	0.00	0
Whiteflies	10000	5000	0.0	7.50	0.01	6
Aphids	66000	66000	1.5	3.00	0.00	0
New pests	30000	30000	0.7	9.00	0.91	731
W Flower Thrips	66000	1000	0.0	0.00	0.00	1

Acreage harvested: 66000

Yield per acre: 1.22 Bales

Percent lost: 8.92

Dollars lost: 2,067,039

Cost per acre:50.09

Table 4. North Alabama

Pest	Acres infested	Above treatment Threshold	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	204000	204000	5.4	2.20	4.00	10455
Boll/budworms	204000	204000	3.1	4.55	4.00	10455
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	204000	1734000	1.9	1.60	5.10	13330
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	70000	20000	0.0	6.00	0.01	26
Thrips	204000	20000	0.0	1.20	0.01	26
Beet armyworms	50000	1000	0.0	8.50	0.00	0
Fall armyworms	10000	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	204000	110000	0.5	2.80	0.54	1409
New pests*	40000	0	0.0	0.00	0.00	0
W Flower Thrips	204000	0	0.0	0.00	0.00	0

Acreage harvested: 204000

Yield per acre: 1.28 Bales

Percent lost: 13.66

Dollars lost: 10,281,816

Cost per acre: 30.56

* Soybean loopers

Table 5. South Alabama

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	70000	70000	15.0*	3.00	0.00	0
Boll/budworms	70000	700000	5.0	5.10	3.00	2844
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	70000	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	5000	1000	0.0	0.00	0.00	0
Thrips	70000	3000	0.0	1.30	0.00	4
Beet armyworms	35000	30000	1.1	9.00	0.86	813
Fall armyworms	5000	5000	0.0	0.00	0.00	0
Minor pests @	70000	17000	0.4	5.00	0.39	368
Aphids	35000	70000	2.0	3.00	0.00	0
New pests #	50000	45000	1.0	9.00	1.29	1219
W Flower Thrips	70000	1000	0.0	0.00	0.00	1

Acreage harvested; 70000

Yield per acre: 1.35 Bales

Percent Lost: 5.54

Dollars Lost: 1,511,640

Cost per acre: 96.65

* All 15 applications by BWE.

@ European Corn borer - 1000 acres above threshold (% Reduction+ 1.0)

Stinkbugs - 10000 acres above threshold (% Reduction= 0.5)

Whiteflies - 6000 acres above threshold (% Reduction= 0.1)

Soybean looper

Table 6. Arkansas, North of I-40

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	330000	315000	3.3	4.65	0.83	4045
Boll/budworms	290000	200000	0.6	7.55	0.43	2094
Fleahoppers	30000	2500	0.0	3.20	0.00	0
Lygus bugs	325000	80000	0.2	3.20	0.10	503
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	50000	120000	0.0	5.00	0.00	3
Thrips	340000	280000	0.8	4.45	0.40	1954
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0

Minor pests	0	0	0.0	0.00	0.00	0
Aphids	340000	190000	0.7	4.20	0.08	398
New pests	0	0	0.0	0.00	0.00	0
W Flower Thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 350000

Yield per acre: 1.40 Bales

Percent lost: 1.84

Dollars lost: 2,591,151

Cost per acre: 27.02

Table 7. Arkansas. South of I-40

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	220000	140000	2.3	4.75	1.75	5635
Boll/budworms	220000	220000	5.5	8.75	1.83	5903
Fleahoppers	50000	5000	0.0	3.50	0.00	7
Lygus bugs	200000	15000	0.1	3.50	0.02	50
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	20000	0	0.0	0.00	0.00	0
Thrips	220000	220000	1.8	3.50	0.92	2952
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	5000	0	0.0	0.00	0.00	0
Aphids	200000	150000	0.6	1.60	0.63	2013
New pests	0	0	0.0	0.00	0.00	0
W Flower Thrips	0	0	0.0	0.00	0.00	0

Average harvested: 240000

Yield per acre: 1.34 Bales

Percent lost: 5.14

Dollars Lost:4,769,142

Cost per acre: 66.92

Table 8. Arizona

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	120000	100000	0.9	5.00	0.01	133
Boll/budworms	300000	150000	0.7	10.00	0.20	2400
Fleahoppers	60000	10000	0.0	9.00	0.00	3
Lygus bugs	270000	190000	0.8	9.00	0.41	5067
Leaf perforator	200000	100000	0.4	9.00	0.02	267

Pink bollworm	320000	290000	3.2	9.00	1.32	16240
Spider mites	140000	90000	0.2	12.00	0.04	480
Thrips	350000	30000	0.1	7.00	0.00	8
Beet armyworms	110000	90000	0.6	12.00	0.12	1440
Fall armyworms	0	0	0.0	0.00	0.00	0
Whiteflies	200000	190000	1.2	12.00	0.21	2533
Aphids	30000	10000	0.0	9.00	0.00	13
New pests*	40000	20000	0.1	9.00	0.00	53
W Flower thrips	350000	30000	0.1	7.00	0.00	8

Average harvested: 460000

Yield per acre: 2.67 Bales

Percent Lost: 2.34

Dollars Lost: 8,249,856

Cost per acre: 76.93

*Mealybug

Table 9. California, San Joaquin valley

Pest	Acres infested	Above treatment Threshold	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	0	0	0.0	0.00	0.00	0
Boll/budworms	0	0	0.0	0.00	0.00	0
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	661500	535500	0.4	10.00	7.65	204661
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	976500	966000	1.4	12.00	4.60	123064
Thrips	0	0	0.0	0.00	0.00	0
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	252000	122500	0.0	10.00	0.12	3121
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	73500	2000	0.0	10.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 1050000

Yield per acre: 2.55 Bales

Percent Lost: 12.37

Dollars lost: 95,283,930

Cost per acre: 20.37

Table 10. California, Southern Deserts

Pest	Acres infested	Above treatment Threshold	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
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		Thresholds				
Boll weevils	0	0	0.0	0.00	0.00	0
Boll/budworms	15000	7500	0.3	10.00	0.25	210
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	24000	9000	0.3	10.00	0.00	0
Pink bollworm	30000	30000	6.0	10.00	0.06	50
Spider mites	0	0	0.0	0.00	0.00	0
Thrips	0	0	0.0	0.00	0.00	0
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	6000	2400	0.1	10.00	0.00	0
Whiteflies	30000	1500	0.1	10.00	0.00	0
Aphids	0	0	0.0	0.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower Thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 30000

Yield per acre: 2.80 Bales

Percent Lost: 0.31

Dollars lost: 74,995

Cost per acre: 66.80

Table 11. Florida

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	26736	26736	1.0	35.00*	1.70	544
Boll/budworms	26736	26736	8.4	8.80	5.50	1758
Fleahoppers	5300	600	0.0	6.00	0.00	1
Lygus bugs	4700	800	0.0	7.80	0.01	2
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	6200	0	0.0	0.00	0.00	0
Thrips	23236	1350	0.0	8.75	0.04	11
Beet armyworms	24636	24636	1.1	10.50	2.30	737
Fall armyworms	24636	21136	0.2	8.75	0.47	152
Minor pests @	17700	5200	0.0	17.50	0.16	50
Aphids	17700	14300	0.3	7.70	0.27	86
New pests #	21500	11500	0.2	7.00	0.34	110
W Flower thrips	21000	0	0.0	0.00	0.00	0

Acreage harvested: 26736

Yield per acre: 1.20 Bales

Percent lost: 10.79

Dollars lost: 993,614

Cost per acre: 126.63

BWE cost to producers

@ Whiteflies - 5200 acres above threshold

European corn borer - 0 acres above threshold

Soybean looper & Southern armyworm

Table 12. Georgia

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	270000	270000	13.1	3.76*	0.00	0
Boll/budworms	275000	260000	4.3	6.75	4.73	19229
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	50000	25000	0.1	3.95	0.09	370
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	37500	25000	0.1	7.25	0.00	0
Thrips	262500	250000	1.4	6.75	0.00	0
Beet armyworms	175000	162500	2.1	9.00	2.95	12018
Fall armyworms	0	0	0.0	0.00	0.00	0
Whiteflies	100000	45000	0.2	4.50	0.00	0
Aphids	225000	150000	1.6	3.88	0.55	2219
New pests @	100000	75000	0.4	9.00	0.27	1109
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 275000

Yield per acre: 1.48 Bale

Percent lost: 8.59

Dollars lost: 10,064,250

Cost per acre: 117.50

* Costs associated with BWE including federal contribution

@ Soybean looper

Table 13. Louisiana

Pest	Acres infested	Above treatment Thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	624849	608228	4.9	2.60	5.84	49951
Boll/budworms	622262	608228	5.8	7.25	5.84	49951
Fleahoppers	602110	456170	0.6	3.00	0.37	3122
Lygus bugs	607220	488880	0.5	3.00	0.39	3346
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	318044	175072	0.2	7.30	0.06	479

Thrips	620015	453345	0.7	2.45	0.15	1241
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	512856	440029	1.1	3.75	0.70	6023
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	342050	4000	0.0	4.10	0.00	0

Acreage harvested: 624849

Yield per acre: 1.37 Bales

Percent lost: 13.34

Dollars lost: 32,864,349

Cost per acre:65.57

Table 14. Mississippi Delta

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	724660	647260	4.3	2.36	4.52	48001
Boll/budworms	813160	791160	5.2	6.26	4.81	51053
Fleahoppers	90460	59000	0.1	1.45	0.07	754
Lygus bugs	622010	547010	1.1	2.06	1.38	14621
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	141000	70500	0.1	6.56	0.12	1272
Thrips	729700	639500	1.5	2.77	1.39	14764
Beet armyworms	23500	11000	0.0	5.34	0.04	391
Fall armyworms	37000	17500	0.0	5.04	0.03	282
Minor pests	90000	48000	0.1	6.38	0.09	914
Aphids	668700	587300	2.1	6.52	1.48	15702
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	270000	0	0.0	0.00	0.00	0

Acreage harvested: 826660

Yield per acre: 1.28 Bales

Percent lost: 13.92

Dollars lost: 42,553,441

Cost per acre:64.42

Table 15. Mississippi Hills

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	265372	259672	8.2	2.15	12.86	39074
Boll/budworms	256026	238326	3.4	5.48	3.84	11670
Fleahoppers	15500	3500	0.0	3.88	0.03	95

Lygus bugs	190876	135452	1.0	2.35	1.07	3244
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	37610	7000	0.1	8.86	0.06	197
Thrips	228426	171616	1.0	3.41	0.68	2071
Beet armyworms	23035	1000	0.0	8.00	0.01	35
Fall armyworms	25264	800	0.0	6.94	0.01	17
Minor pests	12027	7027	0.0	5.70	0.00	5
Aphids	201587	137777	1.0	4.43	0.61	1859
New pests	12500	0	0.0	0.00	0.00	0
W Flower thrips	45250	350	0.0	5.08	0.00	1

Acreage harvested: 260986

Yield per acre: 1.16 Bales

Percent lost: 19.18

Dollars lost: 16,781,272

Cost per acre:47.62

Table 16. Missouri

Pest	Acres infested	Above treatment threshold	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	200000	100000	2.7	7.00	4.55	13021
Boll/budworms	0	0	0.0	0.00	0.00	0
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	200000	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	20000	20000	0.1	8.00	0.18	521
Thrips	200000	200000	0.9	10.00	0.00	0
Beet armyworms	100000	0	0.0	0.00	0.00	0
Fall armyworms	200000	0	0.0	0.00	0.00	0
Stinkbugs	10000	10000	0.0	8.00	0.18	521
Aphids	100000	100000	1.4	10.00	2.27	6510
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 220000

Yield per acre: 1.30 Bales

Percent lost: 7.18

Dollars lost: 5,925,000

Cost per acre:42.91

Table 17. North Carolina

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	0	0	1.0	8.00*	0.00	0
Boll/budworms	120000	120000	2.9	7.10	8.60	12470
Fleahoppers	60000	0	0.0	0.00	0.00	0
Lygus bugs	120000	2000	2.0	4.25	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	0	0	0.0	0.00	0.00	0
Thrips	120000	108000	0.9	10.00	0.90	1305
Beet armyworms	0	0	0.0	0.00	0.00	0
Amyworms	0	0	0.0	0.00	0.00	0
Minor pests @	120000	1000	0.0	4.00	6.50	79
Aphids	0	0	0.0	0.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 120000

Yield per acre: 1.21 Bales

Percent lost: 9.55

Dollars lost: 3,989,820

Cost per acre:29.78

* BWE cost including fed contribution

@ Stinkbugs - 1000 acres over threshold (2.1% Yield Reduction)

European corn borer - 4.4% yield reduction

Table 18. New Mexico

PestAbove treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost		
Boll weevils	200	0	0.0	0.00	0.00	0
Boll/budworms	46550	25600	0.6	9.25	2.51	3243
Fleahoppers	22360	11240	0.1	7.21	0.53	686
Lygus bugs	26520	8550	0.1	7.65	0.42	544
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	6775	505	0.0	8.80	0.03	44
Spider mites	15350	6540	0.1	13.01	0.12	161
Thrips	39220	24890	0.4	9.76	3.15	4069
Beet armyworms	11540	4360	0.1	11.26	0.24	308
Fall armyworms	1500	0	0.0	0.00	0.00	0
Stinkbugs	1000	1000	0.0	9.00	0.01	15
Aphids	34085	13875	0.2	8.39	0.43	556
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 83350

Yield per acre: 1.55 Bales

Percent lost: 7.45

Dollars lost: 2,769,399

Cost per acre: 15.10

Table 19. Oklahoma

Pest	Acres infested	Above treatment threshold	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	350000	285000	3.0	5.25	3.08	5771
Boll/budworms	375000	150000	0.8	9.25	0.48	900
Fleahoppers	375000	150000	0.4	5.25	0.05	90
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	25000	2000	0.0	9.25	0.00	1
Thrips	375000	65000	0.2	4.75	0.00	3
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	60000	25000	0.1	5.25	0.02	31
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 375000

Yield per acre: 0.50 Bales

Percent lost: 3.62

Dollars lost: 1,957,320

Cost per acre: 27.03

Table 20. South Carolina

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	22924	19500	0.6	3.30	0.00	0
Boll/budworms	115000	100000	3.5	6.50	2.61	3650
Fleahoppers	15000	100	0.0	4.00	0.00	2
Lygus bugs	20000	1000	0.0	4.00	0.03	36
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	15000	2000	0.0	8.50	0.07	97
Thrips	110000	95000	2.5	4.50	4.13	5779
Beet armyworms	8000	2000	0.1	11.00	0.03	49
Fall armyworms	5000	500	0.0	10.00	0.02	24

Minor pests *	35000	16000	0.6	4.25	0.83	1168
Aphids	40000	15000	0.3	4.50	0.26	363
New pests	0	0	0.0	0.0	0.00	0
W Flower thrips	30000	500	0.0	5.00	0.01	12

Acreage harvested: 115000

Yield per acre: 1.22 Bales

Percent lost: 7.99

Dollars lost: 3,220,877

Cost per acre:40.33

* European corn borer - 15000 acres over threshold (2% Yield Reduction)

Stinkbugs - 1000 acres over threshold (4% Yield Reduction)

Table 21. Tennessee

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	428000	359000	5.6	5.00	15.96	71052
Boll/budworms	250000	95000	0.4	5.50	0.84	3760
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	354000	140000	0.3	3.00	0.16	693
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	10000	0	0.0	0.00	0.00	0
Thrips	430000	284000	0.9	2.50	1.26	5621
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	2000	0	0.0	0.00	0.00	0
Stinkbugs	190000	10000	0.0	2.50	0.01	49
Aphids	300000	10000	0.0	3.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 450000

Yield per acre: 0.99 Bales

Percent lost: 18.23

Dollars lost: 23,378,550

Cost per acre:33.67

Table 22. Texas - District 1

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	62000	54000	1.9	6.00	11.57	4698
Boll/budworms	28000	13000	0.2	9.50	1.86	754
Fleahoppers	40000	4000	0.1	3.50	0.17	70
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0

Table 1

Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	0	0	0.0	0.00	0.00	0
Thrips	52000	45000	0.6	4.50	0.64	261
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	17000	5000	0.1	4.00	0.07	29
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 70000

Yield per acre: 0.58 Bales

Percent lost: 14.31

Dollars lost: 1,673,741

Cost per acre:16.71

Table 23. Texas -District 2

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	95000	1400	0.0	5.50	0.00	1
Boll/budworms	1275000	640000	0.8	9.75	1.88	21667
Fleahoppers	1105000	55250	0.0	3.50	0.00	41
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	125000	15000	0.0	12.75	0.00	7
Thrips	1156000	578000	0.4	4.60	0.17	1957
Beet armyworms	150000	40000	0.0	11.75	0.00	24
Fall armyworms	15000	500	0.0	12.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	1325000	1126000	1.3	4.25	1.99	22872
New pests	0	0	0.0	0.00	0.00	0
W Flower Thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 1700000

Yield per acre: 0.68 Bales

Percent lost: 4.05

Dollars lost: 13,411,797

Cost per acre:16.27

Table 24. Texas -District 3

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
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Boll weevils	700000	500000	1.3	5.30	7.00	25521
Boll/budworms	700000	140000	0.0	9.00	0.06	219
Fleahoppers	700000	10000	0.0	1.50	0.00	0
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	80000	40000	0.0	10.00	0.00	0
Thrips	700000	30000	0.0	0.80	0.00	0
Beet armyworms	75000	20000	0.0	12.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	400000	40000	0.0	2.63	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 700000

Yield per acre: 0.52 Bales

Percent lost: 7.06

Dollars lost: 7,413,000

Cost per acre: 7.57

Table 25. Texas -District 4

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	36000	20000	1.6	4.00	5.71	4320
Boll/budworms	57000	16000	0.5	2.50	1.27	960
Fleahoppers	57000	53000	1.7	1.50	2.52	1908
Lygus bugs	8000	2000	0.0	3.00	0.03	24
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	10000	4000	0.1	8.00	0.03	24
Thrips	63000	45000	1.4	1.20	0.71	540
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	4500	600	0.0	2.50	0.00	1
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 63000

Yield per acre: 1.20 Bales

Percent lost: 10.29

Dollars lost: 2,239,695

Cost per acre: 12.48

Table 26. Texas - District 5 & 9

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	15000	15000	5.4	5.00	16.07	1688
Boll/budworms	15000	5000	0.7	8.00	0.71	75
Fleahoppers	15000	2000	0.1	5.00	0.14	15
Lygus bugs	7500	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	2000	1500	0.1	7.50	0.11	11
Thrips	15000	1000	0.1	3.00	0.36	38
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	15000	0	0.0	0.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 14000

Yield per acre: 0.75 Bales

Percent lost: 17.39

Dollars lost: 525,960

Cost per acre: 34.23

Table 27. Texas - District 6

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	50000	1000	0.0	4.58	0.00	0
Boll/budworms	422000	210000	1.1	8.00	1.49	4331
Fleahoppers	300000	500	0.0	3.50	0.00	0
Lygus bugs	40000	2000	0.0	5.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	60000	30000	0.1	4.30	0.04	103
Spider mites	0	0	0.0	0.00	0.00	0
Thrips	20000	20000	0.0	7.00	0.00	14
Beet armyworms	20000	500	0.0	11.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	400000	380000	1.8	6.00	1.80	5225
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	30000	20000	0.0	7.00	0.00	14

Acreage harvested: 422000

Yield per acre: 0.69 Bales

Percent lost: 3.34

Dollars lost: 2,789,820

Cost per acre: 20.95

Table 28. Texas - District 7

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	250000	200000	3.1	5.50	10.67	15000
Boll/budworms	250000	100000	0.9	7,50	1.33	1875
Fleahoppers	250000	10000	0.0	3.50	0.00	0
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	35000	10000	0.1	11.50	0.09	125
Thrips	0	0	0.0	0.00	0.00	0
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	250000	75000	0.5	4.25	0.00	0
New pests	25000	0	0.0	0.00	0.00	0
W Flower thrips	250000	0	0.0	0.00	0.00	0

Acreage harvested: 225000

Yield per acre: 0.63 Bale

Percent lost: 12.09

Dollars lost: 4,896,000

Cost per acre: 27.08

Table 29. Texas - District 8

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	20000	13000	1.6	6.00	1.95	455
Boll/budworms	15000	4000	0.6	12.00	1.00	233
Fleahoppers	20000	17500	1.8	3.50	1.75	408
Lygus bugs	17500	7500	0.6	5.00	0.75	175
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	8000	4000	0.3	12.00	1.00	233
Thrips	20000	16000	1.6	3.00	0.40	93
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall	0	0	0.0	0.00	0.00	0

armyworms						
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	5000	500	0.0	5.00	0.00	6
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 20000

Yield per acre: 1.17 Bales

Percent lost: 6.87

Dollars lost: 462,000

Cost per acre: 34.41

Table30. Texas - District 10

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	105000	15000	0.1	6.32	0.00	3
Boll/budworms	41000	38000	0.3	11.50	0.05	109
Fleahoppers	22000	7500	0.1	5.25	0.00	0
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	121000	85000	2.2	11.50	0.03	76
Thrips	65000	25000	0.0	6.50	0.00	0
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	0	0	0.0	0.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	35000	7	0.0	6.50	0.00	0

Acreage harvested: 135000

Yield per acre: 1.79 Bales

Percent lost: 0.08

Dollars lost: 54,026

Cost per acre: 30.48

Table 31. Texas - District 11

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	50000	30000	3.0	4.00	3.00	3125
Boll/budworms	50000	50000	2.0	6.00	5.00	5208
Fleahoppers	50000	50000	2.0	1.00	5.00	5208
Lygus bugs	1000	100	0.0	1.00	0.00	1
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0

Spider mites	0	0	0.0	0.00	0.00	0
Thrips	20000	5000	0.1	1.00	0.05	52
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	10000	3000	0.1	2.00	0.03	31
Aphids	0	0	0.0	0.00	0.00	0
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 50000

Yield per acre: 2.08 Bales

Percent lost: 13.08

Dollars lost: 3,924,300

Cost per acre: 26.22

Table32. Texas - District 12

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	300000	250000	6.9	6.50	5.56	8333
Boll/budworms	300000	75000	0.8	8.50	0.63	938
Fleahoppers	300000	100000	0.3	3.00	0.28	417
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	10000	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	150000	10000	0.1	8.00	0.03	42
Thrips	0	0	0.0	0.00	0.00	0
Beet armyworms	250000	125000	2.1	12.00	1.74	2604
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	300000	50000	0.3	6.00	0.14	208
New pests	0	0	0.0	0.00	0.00	0
W Flower thrips	300000	100000	1.1	7.50	2.22	3333

Acreage harvested: 180000

Yield per acre: 0.83 Bales

Percent lost: 10.58

Dollars lost: 4,572,000

Cost per acre: 88.50

Table 33. Texas - District 13

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	50000	50000	9.0	5.50	15.00	12375
Boll/budworms	50000	50000	5.0	8.00	6.50	5363

Fleahoppers	25000	5000	0.1	6.00	0.15	124
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	25000	20000	0.6	0.00	8.40	6930
Thrips	50000	2000	0.0	5.50	0.02	17
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	50000	20000	0.8	6.50	0.00	0
W Flower thrips	50000	2000	0.0	5.50	0.02	17

Acreage harvested: 50000

Yield per acre: 1.65 Bales

Percent lost: 30.09

Dollars lost: 7,149,384

Cost per acre: 95.74

Table 34. Texas - District 14

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	210000	163800	1.7	4.51	2.45	3440
Boll/budworms	210000	8400	0.1	5.33	0.04	59
Fleahoppers	195000	19810	0.1	3.50	0.00	0
Lygus bugs	21000	315	0.0	4.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	210000	10500	0.1	5.00	0.06	88
Thrips	30000	500	0.0	3.75	0.00	0
Beet armyworms	109200	15000	0.1	9.00	0.15	210
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests*	150500	12000	0.1	5.30	0.00	0
Aphids	111500	10000	0.0	4.25	0.20	280
New Pests@	800	200	0.0	4.00	0.00	0
W Flower thrips	135000	0	0.0	0.00	0.00	0

Acreage harvested: 200248

Yield per acre: 0.70 Bales

Percent lost: 2.91

Dollars lost: 1,174,118

Cost per acre: 9.91

* Soybean loopers - 12000 acres over threshold

Leaf miner - 200000 acres infested but none over threshold

@ Salt marsh caterpillars

Table 35. Texas - All Districts

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	1943000	1313200	1.1	5.60	2.81	78958
Boll/budworms	3413000	1349400	0.7	8.84	1.48	41790
Fleahoppers	3079000	334560	0.1	2.35	0.29	8191
Lygus bugs	95000	11915	0.0	4.70	0.01	200
Leaf perforator	10000	0	0.0	0.00	0.00	0
Pink bollworm	60000	30000	0.0	4.30	0.00	103
Spider mites	766000	200000	0.1	10.35	0.27	7537
Thrips	2191000	745000	0.2	4.22	0.11	2971
Beet armyworms	604200	200500	0.1	11.86	0.10	2839
Fall armyworms	15000	500	0.0	12.00	0.00	0
Minor pests	160500	15000	0.0	4.64	0.00	31
Aphids	2878000	1707100	0.8	4.71	1.02	28621
New Pests	25805	205	0.0	4.00	0.00	0
W Flower thrips	800000	122007	0.1	7.44	0.12	3364

Acreage harvested: 3829248

Yield per acre: 0.74 Bales

Percent lost: 6.20

Dollars lost: 50,285,842

Cost per acre: 20.67

Table 36. Virginia

Pest	Acres infested	Above treatment thresholds	No. insecticide Applications	Cost per Application	% yield reduction	Bales Lost
Boll weevils	0	0	0.0	0.00	0.00	0
Boll/budworms	1200	1200	0.8	10.00	4.70	135
Fleahoppers	0	0	0.0	0.00	0.00	0
Lygus bugs	0	0	0.0	0.00	0.00	0
Leaf perforator	0	0	0.0	0.00	0.00	0
Pink bollworm	0	0	0.0	0.00	0.00	0
Spider mites	0	0	0.0	0.00	0.00	0
Thrips	2300	0	0.0	0.00	0.00	0
Beet armyworms	0	0	0.0	0.00	0.00	0
Fall armyworms	0	0	0.0	0.00	0.00	0
Minor pests	0	0	0.0	0.00	0.00	0
Aphids	0	0	0.0	0.00	0.00	0
New Pests	0	0	0.0	0.00	0.00	0
W Flower thrips	0	0	0.0	0.00	0.00	0

Acreage harvested: 2300

Yield per acre: 1.25 Bales

Percent lost: 4.70

Dollars lost: 38,880

Cost per acre: 7.83