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COTTON INSECT LOSS ESTIMATES – 2005

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Abstract

Cotton losses pests reduced overall yields by 4.47%. The bollworm/budworm complex retained the top ranking as the number one cotton pest by reducing yields by 1.498%. *Lygus* was number two at 0.901%; stink bugs were 3rd at 0.639%; Thrips were 4th at 0.429%., and spider mites were 5th at 0.35%. Total cost and loss for insects in 2005 were $1.256 billion. Direct management costs for arthropods were $56.62 per acre.

Introduction

2005 marks the 26th report on arthropod losses which continues to show that we must remain vigilant in managing the pest complexes which attack our crop. While there has been some slight change in the pest complex we still see bollworms and budworms leading the way in inflicting damage to the crop. Overall losses were up slightly at 4.47% in 2005. Oklahoma reported a greater than 10% loss to arthropod pests in 2005 (Table 1). The national average is always affected greatest by Texas which has 5.968 million acres of cotton; losses in Texas were 3.55%. Management of the bollworm/budworm complex, primarily by transgenic cotton, has greatly reduced their impact, yet they remain the number one pest for 2005 at 1.496% reduction in yield. Heliothines infested about 82% of the US cotton crop in 2005, second only to Thrips which were found in 91%of the US crop (Table 2). Boll weevils continue to be a factor even though they infest only 13% of the crop (Table 2), and are reported as pests in Arkansas, Oklahoma, Louisiana and Texas (Table 8). Total arthropod losses across the US (Table 1) were 4.47% translating to 1.555 million bales of cotton. Oklahoma reported 13.3% loss representing 63,908 bales and Arizona was second at 8.69% and 77,890 bales. South Carolina (3rd) reported losses of 8%, Alabama (4th) had 7.2%, North Carolina (5th) had 6.8%, California (6th) 6.6% and Virginia (7th) 5.6%.

All other states reported less than 5% loss. Mississippi (4.47%), Georgia (4.21%), Arkansas (4.0%), Florida (3.60%), Texas (3.55%), Tennessee (3.16%), New Mexico (3.13%), Louisiana (3.0%) reported 3% or above in losses. Missouri (0.86%), and Kansas (0.41%) had the lowest per cent loss. Texas reported 443,596 bales lost, Mississippi lost 168,868 and California lost 160,393 to arthropod pests.

Pest status continues to change and once minor pests now cause major losses. Bugs continue to increase in importance and overall rank among pests of cotton. *Lygus* spp. and stink bugs rank 2nd and 3rd respectively among most injurious pests again in 2005. Only bollworm/budworm exceeded 1% in losses in 2005 and only four pests: Thrips (92%), bollworm/budworm (83%), aphids (73%), and *Lygus* (53%) infested more than half of the US crop (Table 2).

Discussion

Heliothines: US top arthropod pest complex

Bollworms and budworms are the undisputed top cotton pests again for 2005, and once more, bollworms (*H. zea*) were the dominant species at more than 95%. Total losses to all pests continue to be low since widespread acceptance of boll weevil eradication and the introduction of transgenic cotton. The 1.498% loss to heliothines with the 95% bollworm infests about 82% of the US crop. Heliothine damages resulted in the loss of 520,778 bales of cotton (Table 3). Oklahoma (3.33%), New Mexico (2.94%), North Carolina (2.53%), Alabama (2.39%), and Texas (2.20%) reported losses to heliothines greater than 2%. Texas losses amounted to 265793 bales. No other state lost more than 50,000 bales to this pest complex. California, Kansas, and Virginia reported no losses to heliothines.

Bt cotton acreage increased to 7.395 million acres in 2005 (Table 4). Heliothines were sprayed on 3.050 million *Bt* cotton acres in 2005. The cost of *Bt* is estimated at $10.08 per acre of the US crop. This represents about 17.8% of the cost of arthropod management and is second only to foliar application (49%) costs. *Bt* technology is used on about 52% of the total US Crop. (Williams, 2006).

Lygus: second most damaging pest in US cotton

In 2003 combined losses in the US to bugs were 1.96%, in 2004 combined losses were 1.84% and in 2005 combined losses were 1.78%. *Lygus* (0.956%) infest about 53% of the US crop. Stink bugs (0.64%)infest 47% and cotton fleahoppers (0.183%) infest 35% (Table 2).

This report combines the western species, *Lygus hesperus*, and the eastern species, *Lygus lineolaris*. Arizona (4.19%) and California (3.82%), Mississippi (1.82%), Arkansas (1.66%), Louisiana (1.14%), and Alabama (1.02%) reported highest losses to *Lygus*. All other state losses were less than 1%: Tennessee (0.40%), Georgia (0.28%), Missouri (0.23%), Florida (0.20%), North Carolina (0.10%), Oklahoma (0.06%), Kansas (0.06%), and New Mexico(0.04%),. Texas, South Carolina and Virginia reported no loss to *Lygus*. These pests combined to reduce yields by 0.901%, for a loss of 313,194 bales of US cotton while infesting 7.606 million acres (Table 5).

Stink bugs: third most damaging pests

Stink bugs reduced the US crop by 0.639% in 2005. South Carolina (7.0%) reported major problems with this pest. North Carolina (3.36%), Florida (2.61%), Alabama (2.39%) Virginia (1.91%) and Georgia (1.74%) lost the most to stink bugs. All other states lost less than 1% to the complex. The stink bug complex infested 6.628 million acres of cotton in 2005 and destroyed 222,132 bales of cotton (Table 5). California, Kansas, and Missouri reported no losses to stink bugs.

Early season Thrips reduce US crop by 0.429%

Early season Thrips infested 91% of the US acreage in 2005 and cost US farmers $5.76 per acre in management (Williams, 2006). There were 149,090 bales of US cotton lost to this complex of pests in 2005. Virginia (3.66%) and Oklahoma (3.0%), reported the greatest losses from Thrips. California and South Carolina reported no losses from early-season Thrips (Table 6).

Spider mites rank fifth at 0.350%

Spider mites are a persistent low level pest which occurs in most years. They have resurged in the last two years. Mites infested 5.151 million acres of cotton in 2005. California (1.87%) reported greater than 1% losses to spider mites in 2005. Nine other states reported losses to these pests. 121,871 bales of US cotton were lost to spider mites in 2005 (Table 7).

Cotton Fleahopper ranks sixth in damage at 0.18%

Cotton fleahopper (0.18%) infested almost 5 million acres of cotton in 2005 (Table 6). Oklahoma (6.0%), Texas (0.264%), Arizona (0.070%) and Kansas (0.118%) reported losses to cotton fleahopper. All other states reported no loss. Fleahoppers destroyed 62,519 bales of cotton.

Aphids: 7th most damaging pest of US cotton

Aphids infested 73% of US cotton, and yield losses were 0.127%. California (0.86%), Texas (0.116%), Oklahoma (0.103%) and Florida (0.10%) reported 0.1% loss or greater to aphids. Seven states: Arkansas, Missouri, Virginia, New Mexico, North Carolina, South Carolina and Kansas reported no losses to aphids; only Kansas reported no acres infested (Table 7). Aphids reduced yields by 44,112 bales of US cotton.

Fall armyworm at 0.112 %

Fall armyworm (0.112%) infested about 3.272 million acres of cotton and reduced yields by 38,980 bales of cotton. Eleven states reported losses to this pest: Louisiana 0.490%), Arkansas (0.371%), Alabama (0.153%), Mississippi (0.111%), Texas (0.085%), Tennessee (0.068%), Florida (0.063%) Oklahoma (0.056%), Georgia (0.027%), New Mexico (0.011%) and Arizona (0.001%). Six states reported no losses to these pests, four states reported no acres infested (Table 9).

Silverleaf whitefly (*Bemisia* sp) rank 9th

Four states reported infestations of silverleaf whiteflies (*Bemisia* sp) in 2005. This traditionally western pest seems to be expanding its range eastward. The 0.082% reduction in yield places it as the 9th most damaging pest in US cotton. Arizona

(1.72%) lost 28,427 bales of cotton, California (0.006%) lost 139 and Texas lost 35 for a total of 28,601 bales. *Bemisia* sp were reported in 821,497 acres (Table 11).

Boll weevils (0.049%) rank tenth and pink bollworms (0.045%) eleventh most damaging pests in US cotton

Arizona (0.645%) lost 5,777 bales of cotton to pink bollworm in 2005. Texas (0.077%), California (0.02%) and New Mexico (0.001%) also lost cotton to the pink bollworm. Pink bollworm eradication cost US producers about $0.28 per acre in eradication costs (Table 12).

Boll weevils infested 2.221 million acres of cotton in 2002 and slightly less at 2.097 million acres in 2003, dropped to 1.572 million acres in 2004 but saw a resurgence to 1.828 million acres in 2005. This pest reduced US cotton yield by 0.049%. Arkansas, Louisiana, Oklahoma and Texas reported acres infested by boll weevil. Texas (0.137%) and Oklahoma (0.01%) reported lost bales to boll weevil. Those losses amounted to 17,160 bales of cotton (Table 8). Boll weevil eradication costs for US cotton were $8.46 per acre (Williams, 2006).

Other pests of cotton

Losses from all remaining pests of cotton were almost negligible. Averaged across the cotton belt, all other pests of cotton reduced yields by less than 0.05% in 2005. European cornborers (Table 8), beet armyworms (Table 9), cutworms and loopers (Table 10), bandedwinged whiteflies (Table 11), cotton leafperforator (Table 12), grasshoppers and other insects, which included darkling beetles, yellowstriped armyworms, clouded plant bugs and western flower Thrips (Table 13), saltmarsh caterpillars and southern armyworms (Table 14) contributed to the losses from arthropod pests in 2005.

Conclusion

Total losses from insect pests in US cotton in 2005 were 4.47%, up from the 4.18% in 2004 (Table 2). Pest complexes are gradually changing with once minor pest emerging to fill the niche for the boll weevil and tobacco budworm. Losses below 5% continue to reflect the outstanding contribution technology has made to managing pest complexes which long have plagued cotton growers. The boll weevil and tobacco budworm remain a threat, but are no longer the major factors in production they once were. The costs of insect management were $56.62 per acre in 2005; costs plus loss were $88.01 per acre (Williams 2006).

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Table 1. Number of acres, percent reduction in yield by arthropods, cost plus loss and bales lost by state in 2005

	Acres cotton	% Reduction	Cost plus loss	Bales lost
US	14,268,268	4.47	$1,255,787,271	1,555,072
Oklahoma	242,982	13.29	$30,513,557	63,908
Arizona	239,000	8.69	$56,215,381	77,890
South Carolina	265,000	8.00	$36,843,625	44,167
Alabama	630,000	7.20	$66,736,900	108,179
North Carolina	806,000	6.79	$80,057,940	113,576
California	665,830	6.61	$99,420,804	160,393
Virginia	93,000	5.58	$7,568,108	10,179
Mississippi	1,200,000	4.47	$162,811,300	168,868
Georgia	1,210,000	4.21	$101,700,500	106,104
Arkansas	1,030,000	4.00	$165,130,580	132,429
Florida	90,000	3.60	$7,530,258	8,106
Texas	5,968,201	3.55	$286,716,023	443,956
Tennessee	616,000	3.16	$50,435,076	40,553
New Mexico	67,255	3.13	$4,189,408	5,054
Louisiana	620,000	3.00	$77,284,330	54,256
Missouri	440,000	0.86	$17,001,064	11,884
Kansas	85,000	0.41	$216,320	438

Table 2. Percent lost, acres infested, rank, and percent of US cotton infested by insect pests in 2005

pest	% Reduction	acres infested	Rank by % loss	% infested
Bollworm/Budworm	1.498	11,755,012	1	82.4
Lygus	0.901	7,606,972	2	53.3
Stink Bugs	0.639	6,628,712	3	46.5
Thrips	0.429	13,038,538	4	91.4
Spider Mites	0.350	5,151,075	5	36.1
Cotton Fleahopper	0.180	4,898,395	6	34.3
Aphids	0.127	10,364,069	7	72.6
Fall Armyworm	0.112	3,271,879	8	22.9
Silverleaf Whitefly (Bemisia)	0.082	821,497	9	5.8
Pink Bollworm	0.045	697,210	10	4.9
Boll Weevil	0.049	1,827,734	11	12.8
Other Insects	0.028	656,249	12	4.6
Beet Armyworm	0.019	213,000	13	1.5
Loopers	0.008	2,968,962	14	20.8
Grasshoppers	0.0031	886,738	15	6.2
Saltmarsh Caterpillars	0.0012	896,735	16	6.3
Cutworms	0.0007	1,333,455	17	9.3
Cotton Leaf Perforator	0.0001	337,634	18	2.4
Southern Armyworms	0.0000	279,088	19	2.0
European Cornborer	0.0000	213,000	20	1.5
Banded Winged Whitefly	0.0000	948,642	21	6.6

*Other Insects include yellowstriped armyworms, western flower Thrips, darkling beetles, striped flea beetles and clouded plant bugs.

Table 3. Bollworm and budworm: percent of population, yield reduction, acres infested and bales lost by state in 2005

States	% yield Reduction	% crop infested	% bollworm	Acres infested	bales lost
US	1.498	82	95	11,755,012	520,778
Alabama	2.389	100	7460	630,000	35,892
Arizona	0.091	33	7406	78,675	817
Arkansas	0.972	97	7437	1,000,000	32,171
California	0.000	0	451	3,183	0
Florida	0.450	15	8478	13,500	1,013
Georgia	1.971	88	8884	1,070,000	49,688
Kansas	0.000	29	0	25,000	0
Louisiana	0.103	52	8387	320,687	1,871
Mississippi	1.313	91	8792	1,093,750	49,579
Missouri	0.273	55	3409	240,500	3,758
New Mexico	2.936	95	2111	63,700	4,739
North Carolina	2.532	100	9007	806,000	42,367
Oklahoma	3.332	98	3729	238,100	16,022
South Carolina	1.000	100	8500	265,000	5,521
Tennessee	0.900	100	9505	616,000	11,550
Texas	2.128	87	2263	5,197,917	265,793
Virginia	0.000	100	89	93,000	0

Table 4. Bt cotton acreage, acres sprayed for caterpillars, average number of applications and percent of population which was bollworm from 1995 to 2005

Year	*Bt* cotton acreage	Acres *Bt* sprayed	Avg. # applications	% Population bollworm
1995	<15,000	nr	nr	30*
1996	1,851,094	nr	nr	40*
1997	2,271,824	nr	nr	50*
1998	2,731,827	nr	nr	60*
1999	4,234,785	1,055,331	0.290	76
2000	5,220,392	1,455,084	0.330	79
2001	5,717,747	2,727,821	0.400	74
2002	4,893,810	3,091,586	0.520	83
2003	6,040,529	3,151,114	0.551	86
2004	6,591,338	2,909,459	0.466	94
2005	7,395,393	3,050,093	0.541	95

nr – not reported * polled entomologists for estimates

Table 5. *Lygus* and stink bugs: percent yield reduction, acres infested and bales lost by state in 2005

	Lygus			stink bugs		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.901	7,606,972	313,194	0.639	6,628,712	222,132
Alabama	1.02	610,000	15,396	2.391	560,000	35,917
Arizona	4.19	222,602	37,564	0.110	104,824	983
Arkansas	1.66	1,000,000	54,947	0.132	1,000,000	4,359
California	3.82	509,284	92,838	0.000	0	0
Florida	0.20	18,000	450	2.610	78,300	5,873
Georgia	0.28	670,000	6,979	1.736	1,050,000	43,750
Kansas	0.06	10,000	63	0.000	0	0
Louisiana	1.14	600,000	20,533	0.160	330,266	2,890
Mississippi	1.82	1,200,000	68,871	0.274	924,750	10,360
Missouri	0.23	400,000	3,125	0.000	150,000	0
New Mexico	0.04	7,200	69	0.004	1,800	6
North Carolina	0.10	806,000	1,673	3.356	806,000	56,151
Oklahoma	0.06	15,000	297	0.257	125,000	1,237
South Carolina	0.00	265,000	0	7.000	265,000	38,646
Tennessee	0.40	616,000	5,133	0.719	492,000	9,225
Texas	0.00	647,886	122	0.074	650,772	9,240
Virginia	0.00	10,000	0	1.914	90,000	3,495

Table 6. Thrips and cotton fleahoppers: percent yield reduction, acres infested and bales lost by state in 2005

	Thrips			cotton fleahopper		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.429	13,038,538	149,090	0.180	4,898,395	62,519
Alabama	0.783	630,000	11,760	0.000	10,000	0
Arizona	0.171	191,200	1,536	0.070	113,543	627
Arkansas	0.154	1,000,000	5,096	0.000	800,000	0
California	0.000	630,239	0	0.000	0	0
Florida	0.180	32,400	405	0.000	900	0
Georgia	0.083	1,010,000	2,104	0.000	0	0
Kansas	0.235	40,000	250	0.118	10,000	125
Louisiana	0.194	600,000	3,500	0.000	35,579	0
Mississippi	0.211	1,200,000	7,975	0.000	7,200	0
Missouri	0.236	415,000	3,242	0.000	40,000	0
New Mexico	0.136	3,800	219	0.000	0	0
North Carolina	0.800	806,000	13,385	0.000	806,000	0
Oklahoma	3.000	242,982	14,427	6.000	242,982	28,854
South Carolina	0.000	265,000	0	0.000	10,000	0
Tennessee	0.200	616,000	2,567	0.000	5,000	0
Texas	0.608	5,262,917	75,939	0.264	2,817,191	32,913
Virginia	3.661	93,000	6,684	0.000	0	0

Table 7. Spider mites and aphids: percent yield reduction, acres infested and bales lost by state in 2005

	spider mites			aphids		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.350	5,151,075	121,871	0.127	10,364,069	44,112
Alabama	0.343	225,000	5,146	0.036	560,000	542
Arizona	0.168	59,750	1,508	0.023	15,887	204
Arkansas	0.638	785,000	21,138	0.000	820,000	0
California	1.874	623,873	45,491	0.860	572,945	20,889
Florida	0.00	0	0	0.100	90,000	225
Georgia	0.000	11,000	0	0.069	830,000	1,729
Kansas	0.000	0	0	0.000	0	0
Louisiana	0.750	465,174	13,568	0.097	600,000	1,750
Mississippi	0.640	925,000	24,153	0.093	1,112,520	3,493
Missouri	0.128	225,100	1,759	0.000	50,000	0
New Mexico	0.000	0	0	0.000	9,000	0
North Carolina	0.000	264,000	0	0.000	806,000	0
Oklahoma	0.005	2,500	25	0.103	50,000	495
South Carolina	0.000	26,250	0	0.000	26,500	0
Tennessee	0.180	369,600	2,310	0.020	616,000	257
Texas	0.054	1,150,228	6,775	0.116	4,131,217	14,529
Virginia	0.000	18,600	0	0.000	74,000	0

Table 8. Boll weevil and European cornborers: percent yield reduction, acres infested and bales lost by state in 2005

	boll weevil				European cornborers		
	% Reduction	Acres infested	Bales lost	Eradication costs per acre	% Reduction	Acres infested	Bales lost
US	0.049	1,827,734	17,160	$8.46	0.000	213000	0
Alabama	0.000	0	0	$4.29	0.000	0	0
Arizona	0.000	0	0	$0.75	0.000	0	0
Arkansas	0.000	700,000	0	$14.90	0.000	10000	0
California	0.000	0	0	$0.00	0.000	0	0
Florida	0.000	0	0	$5.00	0.000	0	0
Georgia	0.000	0	0	$3.00	0.000	0	0
Kansas	0.000	0	0	$0.00	0.000	0	0
Louisiana	0.000	311456	0	$10.00	0.000	0	0
Mississippi	0.000	0	0	$9.23	0.000	2000	0
Missouri	0.000	0	0	$12.65	0.000	0	0
New Mexico	0.000	0	0	$11.63	0.000	0	0
North Carolina	0.000	0	0	$3.50	0.000	200000	0
Oklahoma	0.010	1,200	48	$14.73	0.000	0	0
South Carolina	0.000	0	0	$5.00	0.000	0	0
Tennessee	0.000	0	0	$9.80	0.000	1000	0
Texas	0.137	815,078	17,113	$10.16	0.000	0	0
Virginia	0.000	0	0	$4.35	0.000	0	0

Table 9. Beet and fall armyworms: percent yield reduction, acres infested and bales lost by state in 2005

	Beet armyworm			Fall armyworm		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.019	1,694,577	6,599	0.112	3,271,879	38,980
Alabama	0.000	5,000	0	0.153	220,000	2,302
Arizona	0.016	53,256	141	0.001	9,219	10
Arkansas	0.057	388,000	1,875	0.371	801,000	12,281
California	0.024	318,303	580	0.000	0	0
Florida	0.000	0	0	0.063	11,250	141
Georgia	0.000	40,000	0	0.027	165,000	688
Kansas	0.000	0	0	0.000	0	0
Louisiana	0.000	45,481	0	0.490	379,792	8,862
Mississippi	0.003	59,250	102	0.111	506,000	4,206
Missouri	0.000	5,000	0	0.000	5,000	0
New Mexico	0.000	650	0	0.011	2,500	18
North Carolina	0.000	5,400	0	0.000	80,000	0
Oklahoma	0.288	56,000	1,385	0.056	27,000	267
South Carolina	0.000	0	0	0.000	0	0
Tennessee	0.000	24,000	0	0.068	210,000	875
Texas	0.020	694,237	2,515	0.075	855,118	9,331
Virginia	0.000	0	0	0.000	0	0

Table 10. Cutworms and loopers: percent yield reduction, acres infested and bales lost by state in 2005

	cutworms			Loopers		
	% Reduction	Acres infested	Bales lost	% Reduction	Acres infested	Bales lost
US	0.001	1,333,455	251	0.008	2,968,962	2,636
Alabama	0.000	67,000	0	0.000	70,000	0
Arizona	0.001	1,975	5	0.001	15,499	5
Arkansas	0.005	496,000	172	0.004	550,000	125
California	0.000	0	0	0.000	63,661	0
Florida	0.000	0	0	0.000	2,200	0
Georgia	0.000	11,000	0	0.046	560,000	1,167
Kansas	0.000	0	0	0.000	0	0
Louisiana	0.000	0	0	0.071	501,001	1,282
Mississippi	0.002	195,000	63	0.001	176,500	57
Missouri	0.000	30,000	0	0.000	0	0
New Mexico	0.000	0	0	0.000	0	0
North Carolina	0.000	335,000	0	0.000	56,000	0
Oklahoma	0.000	0	0	0.000	0	0
South Carolina	0.000	0	0	0.000	2,650	0
Tennessee	0.001	55,000	11	0.000	200,000	0
Texas	0.000	142,480	0	0.000	771,451	0
Virginia	0.000	0	0	0.000	0	0

Table 11. Whiteflies: percent yield reduction, acres infested and bales lost by state in 2005

	bandedwing whitefly			silverleaf whitefly		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.000	948,642	0	0.082	821,497	28,601
Alabama	0.000	4,000	0	0.000	0	0
Arizona	0.000	46,555	0	3.172	224,909	28,427
Arkansas	0.000	550,000	0	0.000	0	0
California	0.000	0	0	0.006	381,963	139
Florida	0.000	0	0	0.000	0	0
Georgia	0.000	0	0	0.000	28,000	0
Kansas	0.000	0	0	0.000	0	0
Louisiana	0.000	153,892	0	0.000	0	0
Mississippi	0.000	90,500	0	0.000	0	0
Missouri	0.000	15,000	0	0.000	0	0
New Mexico	0.000	0	0	0.000	0	0
North Carolina	0.000	0	0	0.000	0	0
Oklahoma	0.000	0	0	0.000	0	0
South Carolina	0.000	0	0	0.000	0	0
Tennessee	0.000	8,000	0	0.000	0	0
Texas	0.000	80,695	0	0.000	186,625	35
Virginia	0.000	0	0	0.000	0	0

Table 12. Cotton leaf perforator and pink bollworm: percent yield reduction, acres infested and bales lost by state in 2005

	cotton leaf perforator			pink bollworm			
States	**% Reduction**	**Acres infested**	**Bales lost**	**Eradication* costs per acre**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.0001	337,634	21	$0.28	0.045	697,210	15,798
Alabama	0.0000	0	0	$0.00	0.000	0	0
Arizona	0.0023	25,821	21	$0.00	0.645	102,729	5,777
Arkansas	0.0000	33,150	0	$0.00	0.000	0	0
California	0.0000	15,000	0	$5.22	0.019	25,000	456
Florida	0.0000	0	0	$0.00	0.000	0	0
Georgia	0.0000	0	0	$0.00	0.000	0	0
Kansas	0.0000	0	0	$0.00	0.000	0	0
Louisiana	0.0000	0	0	$0.00	0.000	0	0
Mississippi	0.0000	0	0	$0.00	0.000	0	0
Missouri	0.0000	0	0	$0.00	0.000	0	0
New Mexico	0.0000	0	0	$6.98	0.001	900	1
North Carolina	0.0000	0	0	$0.00	0.000	0	0
Oklahoma	0.0000	185,000	0	$0.00	0.000	0	0
South Carolina	0.0000	0	0	$0.00	0.000	0	0
Tennessee	0.0000	0	0	$0.00	0.000	0	0
Texas	0.0000	78,663	0	$10.00	0.077	568,581	9,564
Virginia	0.0000	0	0	$0.00	0.000	0	0

*A $10 assessment is made in the Texas Far West over 47,000 acres, a $6.98 assessment in New Mexico over 17,286 acres.

Table 13. Grasshoppers and others: percent yield reduction, acres infested and bales lost by state in 2005

	Grasshoppers			Others*		
US	0.0031	886,738	1,066	0.028	656,249	9,857
Alabama	0.0000	35,000	0	0.082	127,000	1,225
Arizona	0.0141	18,237	126	0.000	12,249	0
Arkansas	0.0000	150,000	0	0.000	0	0
California	0.0000	0	0	0.000	0	0
Florida	0.0000	300	0	0.000	3,000	0
Georgia	0.0000	0	0	0.000	0	0
Kansas	0.0000	0	0	0.000	0	0
Louisiana	0.0000	325,976	0	0.000	0	0
Mississippi	0.0000	88,775	0	0.000	54,000	7
Missouri	0.0000	1,000	0	0.000	0	0
New Mexico	0.0009	1,150	1	0.000	0	0
North Carolina	0.0000	80,000	0	0.000	0	0
Oklahoma	0.1770	86,000	851	0.000	0	0
South Carolina	0.0000	0	0	0.000	0	0
Tennessee	0.0000	60,000	0	0.672	460,000	8,625
Texas	0.0007	40,300	88	0.000	0	0
Virginia	0.0000	0	0	0.000	0	0

*Others include Western flower Thrips, yellowstriped armyworms, darkling beetles, striped flea beetles, clouded plant bug and some states reported **slug** damage

Table 14. Saltmarsh caterpillars and southern armyworms: percent yield reduction, acres infested and bales lost by state in 2005

	Saltmarsh caterpillars			Southern armyworms		
States	**% Reduction**	**Acres infested**	**Bales lost**	**% Reduction**	**Acres infested**	**Bales lost**
US	0.0012	896,735	406	0.000	279,088	1
Alabama	0.0000	0	0	0.000	168,000	0
Arizona	0.0156	30,132	140	0.000	1,262	0
Arkansas	0.0080	630,000	266	0.000	0	0
California	0.0000	0	0	0.000	0	0
Florida	0.0000	0	0	0.000	33,500	0
Georgia	0.0000	0	0	0.000	16,000	0
Kansas	0.0000	0	0	0.000	0	0
Louisiana	0.0000	151,003	0	0.000	45,126	0
Mississippi	0.0000	36,200	0	0.000	4,200	1
Missouri	0.0000	5,000	0	0.000	0	0
New Mexico	0.0000	0	0	0.000	0	0
North Carolina	0.0000	0	0	0.000	0	0
Oklahoma	0.0000	0	0	0.000	0	0
South Carolina	0.0000	0	0	0.000	0	0
Tennessee	0.0000	1,000	0	0.000	0	0
Texas	0.0000	43,400	0	0.000	11,000	0
Virginia	0.0000	0	0	0.000	0	0