

COTTON INSECT LOSSES -2016, COMPILED FOR COTTON FOUNDATION

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Explanation of Tables

In an attempt at capturing as many of the costs of insect management as possible, the Cotton Insect Losses estimates have changed in the last few years. They were begun as a simple attempt to arrive at the 'average cost of spraying insecticide' for control of cotton arthropod pests. We still attempt to arrive at the most accurate estimate possible for spray activities, but have also added some of the other costs which are incurred in cotton insect pest management. These 'additional' costs increase the bottom line of expenditures for arthropod pest management - but also more accurately reflect true expenditures. We include 'at planting insecticide costs', (an estimate of the cost of systemic insecticides applied at planting for control of thrips and other pests of seedling cotton) 'Bt cotton costs', (an estimate of the technology fee and the seed surcharge) 'eradication costs' (which include the maintenance fee in those states which have eradicated the weevil and other eradication projects) and 'scouting costs' to the traditional 'foliar insecticide costs'. Bales lost are also given a dollar value using 480 pound bales at the average per pound price. Remember these are estimates and may not totally reflect an individual farm or area, but they do reflect trends and serve as a general comparison.

Background

This report is sponsored by a grant from the Cotton Foundation. This information was provided by state coordinators and was collected from surveys of county agents, extension specialists, private consultants and research entomologists. All data are averaged over a total reporting unit. For example, if a unit report represents 100 acres and an 8% loss on 25 of these acres, then in the table summary this shows up as a 2% loss. $((.08 \times 25)/100)$. This type of averaging is used for all data reported including yields and costs of control. Because of averaging and rounding some individual state summary numbers listed as '0' are slightly larger. Costs are averaged to the nearest cent, bales and acres to the nearest whole number, other numbers are rounded to the nearest .001. Bales are calculated at 480 pounds.

State Coordinators

Alabama --- Dr. Timothy Reed

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Arkansas --- Dr. Gus Lorenz

New Mexico --- Dr. Jane Pierce

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Virginia --- Dr. Sally Taylor

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Highlights

Cotton losses to arthropod pests reduced overall yields by 2.60%. *Lygus* were the top ranked pests in 2016 reducing yields by 0.734%. Stink bugs were ranked second at 0.640%. Thrips were ranked third at 0.423%. The bollworm/budworm complex were fourth at 0.413%. Spider mites reduced yields by 0.120% and cotton fleahoppers caused 0.091% loss. No other pest exceeded 0.1% loss. Total costs and losses for insects in 2016 were \$569.5 million. Direct management costs for arthropods were \$34.05 per acre.

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Table 1

USDA Yields and Acreages

Cotton Insect Losses 2016

State	Upland Cotton		Cotton yields in pounds lint per acre		
	<u>Acres planted</u>	<u>Acres harvested</u>	<u>Est. Yield*</u>	<u>Dec-15</u>	<u>2015</u>
Alabama	345000	342000	956	996	838
Arizona	115509	114000	1,643	1062	1590
Arkansas	380000	375000	1,088	1516	1124
California	66000	65000	1,618	1920	1826
Florida	102000	100000	875	864	781
Georgia	1190000	1180000	915	915	995
Kansas	32000	31000	852	1,099	768
Louisiana	145000	140000	900	926	852
Mississippi	440000	435000	1,214	1214	1021
Missouri	285000	271000	1,200	1,001	1125
New Mexico	47000	40000	890	1020	976
North Carolina	280000	275000	628	628	682
Oklahoma	305000	285000	912	952	862
South Carolina	190000	189000	900	737	402
Tennessee	255000	250000	1,075	1085	1035
Texas	5700000	5300000	738	670	619
Virginia	73000	72000	700	673	817
total US	9,950,509	9,464,000	862	821	755
<u>Pima</u>					
Arizona	15000	15000		882	1147
California	155000	153000		1518	1499
New Mexico	8000	8000		935	1052
Texas	17000	16000		1080	1152
total pima US	195000	191000		1409	1403
TOTAL US	10,145,509	9,655,000			768

Table 1a

State	USDA Cotton Acreages			Cotton Insect Losses 2016		
	Area Planted			Area Harvested		
	2014	2015	2016	2014	2015	2016
<u>Upland</u>						
Alabama	350,000	315,000	345000	348,000	312,000	342000
Arizona	165,000	85,000	115509	162,500	83,000	114000
Arkansas	335,000	210,000	380000	330,000	205,000	375000
California	212,000	47,000	66000	210,000	46,000	65000
Florida	107,000	85,000	102000	105,000	83,000	100000
Georgia	1,380,000	1,120,000	1190000	1,370,000	1,110,000	1180000
Kansas	31,000	16,000	32000	29,000	15,000	31000
Louisiana	170,000	110,000	145000	168,000	107,000	140000
Mississippi	425,000	320,000	440000	420,000	315,000	435000
Missouri	250,000	185,000	285000	245,000	175,000	271000
New Mexico	48,000	35,000	47000	39,900	30,000	40000
North Carolina	465,000	385,000	280000	460,000	380,000	275000
Oklahoma	240,000	210,000	305000	220,000	195,000	285000
South Carolina	280,000	235,000	190000	278,000	215,000	189000
Tennessee	275,000	155,000	255000	270,000	140,000	250000
Texas	6,217,000	4,800,000	5700000	4,966,000	4,500,000	5300000
Virginia	87,000	85,000	73000	86,000	84,000	72000
total US	11,037,000	8,398,000		9,707,400	7,995,000	9464000
<u>Pima</u>						
Arizona	15,000	15000	15000	14,500	18,000	15000
California	155,000	155000	155000	154,000	114,000	153000
New Mexico	5,000	8000	8000	4,900	7,300	8000
Texas	17,000	17000	17000	16,000	15,000	16000
All US Cotton	11,037,000		195000	9,707,400	7,995,000	

USDA NASS January 2017

Table 2
Losses 2016

at Planting Insecticide Applications

Cotton Insect

States	Acres treated	weightedCost/ all acres	Cost/ treated acre	Acres treated	weightedCost/ all acres	Cost/ treated acre	Total Cost
	Seed treatments			In-furrow treatments			
North Alabama	61,690	\$4.28	\$7.13	10,282	\$0.60	\$6.00	\$501,536
South Alabama	213,713	\$12.60	\$14.00	20,640	\$1.04	\$12.00	\$3,239,663
Arizona	13,270	\$1.27	\$11.03	111	\$0.01	\$5.78	\$146,959
Southeast Arkansas	81,426	\$12.50	\$12.50	0	\$0.00	\$6.00	\$1,017,825
Northeast Arkansas	284,574	\$12.50	\$12.50	0	\$0.00	\$6.00	\$3,557,175
California	0	\$0.00	\$0.00	0	\$0.00	\$6.00	\$0
Florida	71,400	\$10.50	\$15.00	40,800	\$6.00	\$15.00	\$1,683,000
Georgia	1,003,000	\$6.06	\$7.13	118,000	\$0.60	\$6.00	\$7,859,390
Kansas	18,600	\$4.28	\$7.13	3,100	\$0.60	\$6.00	\$151,218
Louisiana	136,000	\$15.00	\$15.00	2,720	\$0.18	\$9.00	\$2,064,480
Mississippi - Delta	321,750	\$9.41	\$9.50	9,750	\$0.36	\$12.00	\$3,173,625
Mississippi - Hills	99,000	\$9.41	\$9.50	3,000	\$0.36	\$12.00	\$976,500
Missouri	285,000	\$14.00	\$14.00	233,700	\$6.56	\$8.00	\$5,859,600
New Mexico	21,523	\$6.23	\$10.74	1,855	\$0.10	\$1.94	\$234,753
North Carolina	261,000	\$14.58	\$16.20	130,500	\$6.75	\$15.00	\$6,185,700
Oklahoma	89,791	\$3.90	\$13.00	0	\$0.00	\$6.00	\$1,167,278
South Carolina	162,000	\$8.91	\$9.90	18,000	\$0.90	\$9.00	\$1,765,800
Tennessee	245,000	\$9.90	\$9.90	0	\$0.00	\$0.00	\$2,425,500
Texas Coast & Blacklands	569,380	\$5.92	\$7.13	0	\$0.00	\$0.00	\$4,059,679
Texas Rolling Plains	1,057,760	\$6.27	\$7.13	0	\$0.00	\$6.00	\$7,541,829
Texas Farwest & High Plains	2,880,000	\$5.70	\$7.13	108,000	\$0.18	\$6.00	\$21,182,400
Virginia	72,000	\$8.00	\$8.00	36,000	\$0.90	\$1.80	\$640,800
All States	7,947,876	\$7.05	\$8.70	727,691	\$0.66	\$8.83	\$75,610,821

Table 3
2016

State	Number Acres	Cost/ treated Acre	Wt cost/all acres	Total Cost
North Alabama	102,816	\$1.50	\$1.50	\$154,224
South Alabama	237,459	\$1.50	\$1.50	\$356,189
Arizona	115,509	\$1.22	\$1.22	\$140,921
Southeast Arkansas	81,426	\$4.00	\$4.00	\$325,704
Northeast Arkansas	284,574	\$4.00	\$4.00	\$1,138,296
California	0	\$0.00	\$0.00	\$0
Florida	102,000	\$2.00	\$2.00	\$204,000
Georgia	1,180,000	\$1.50	\$1.50	\$1,770,000
Kansas	0	\$10.00	\$0.00	\$0
Louisiana	136,000	\$6.00	\$6.00	\$816,000
Mississippi - Delta	325,000	\$4.00	\$4.00	\$1,300,000
Mississippi - Hills	100,000	\$4.00	\$4.00	\$400,000
Missouri	285,000	\$5.00	\$5.00	\$1,425,000
New Mexico	37,108	\$5.95	\$5.95	\$220,793
North Carolina	290,000	\$0.90	\$0.90	\$261,000
Oklahoma	299,302	\$4.50	\$4.50	\$1,346,859
South Carolina	180,000	\$1.25	\$1.25	\$225,000
Tennessee	245,000	\$1.50	\$1.50	\$367,500
Texas Coast & Blacklands	686,000	\$12.64	\$12.64	\$8,671,040
Texas Rolling Plains	1,202,000	\$6.00	\$6.00	\$7,212,000
Texas Far West & High Plains	3,600,000	\$6.00	\$6.00	\$21,600,000
Virginia	72,000	\$0.50	\$0.50	\$36,000
All States - Boll Weevil	9,561,194	\$5.02	\$4.89	\$57,531,877
Arizona Pink Bollworm	115,509	\$5.46	\$5.46	\$630,679
California Pink Bollworm	218,977	\$6.74	\$6.74	\$1,475,905
New Mexico Pink Bollworm	5,937	\$6.98	\$1.12	\$41,442
West Texas Pink Bollworm	0	\$0.00	\$0.00	\$0
Total US - Pink Bollworm	364,463	\$6.55	\$0.24	\$2,148,026
Total US - Insect Eradication*	9,925,657	\$6.01	\$6.08	\$59,679,903

*PBW and BW erad areas may overlap!

Table 4

Bt Cotton by State

Cotton Insect Losses 2016

State	Number acres	Bt cost/Acre	Average/ all Acres	Total Cost	% population Bollworm	Acres Bt cotton sprayed	Avg. appli to Bt cotton
Alabama, North	102,816	\$15.84	\$15.84	\$1,628,605	0%	37425	0.52
Alabama, South	235,084	\$17.98	\$17.80	\$4,226,770	100%	33197	1.05
Arizona	111,361	\$28.92	\$27.88	\$3,220,859	99%	0	0.00
Arkansas, Southeast	79,797	\$7.99	\$7.83	\$637,460	80%	73039	1.50
Arkansas, Northeast	281,728	\$8.10	\$8.01	\$2,280,633	100%	219264	1.00
California	0	\$0.00	\$0.00	\$0	0%	0	0.00
Florida	102,000	\$28.17	\$28.17	\$2,873,398	0%	141	0.00
Georgia	1,174,218	\$15.00	\$14.93	\$17,613,270	100%	17714	1.00
Kansas	27,528	\$7.71	\$6.84	\$212,167	80%	10999	1.50
Louisiana	136,000	\$19.86	\$19.86	\$2,700,960	100%	58072	1.00
Mississippi, Delta	318,500	\$27.80	\$27.25	\$8,854,755	100%	312000	1.77
Mississippi, Hills	96,000	\$26.94	\$25.86	\$2,586,080	100%	94000	1.00
Missouri	285,000	\$19.28	\$19.28	\$5,494,823	100%	281865	1.00
New Mexico	29,315	\$13.55	\$10.71	\$397,293	92%	837	1.00
North Carolina	289,420	\$25.26	\$25.21	\$7,310,900	100%	130935	0.99
Oklahoma	294,034	\$6.42	\$6.31	\$1,888,583	100%	5509	1.00
South Carolina	175,554	\$18.33	\$17.88	\$3,217,860	100%	51480	1.00
Tennessee	243,775	\$22.53	\$22.42	\$5,492,900	80%	147466	1.00
Texas Coast and Blacklands	672,280	\$7.54	\$7.39	\$5,068,652	80%	205800	1.49
Texas Far West & High Plains	2,808,000	\$21.00	\$16.38	\$58,968,000	100%	0	0.00
Texas Rolling Plains	936,358	\$21.00	\$16.36	\$19,663,518	100%	1154	1.00
Virginia	72,000	\$20.00	\$20.00	\$1,440,000	50%	72000	2.00
US	8,470,770	\$18.39	\$15.88	\$155,786,664	95%	1477835	0.65

Table 5

Types of Cotton

Cotton Insect Losses 2016

	Acres of cotton which are							
	Bollgard	Widestrike	TwinLink	WS3	Herbicides GM only	non-GM conventional	Organic	Pima
US	5,963,366	1,621,326	867,917	20,526	978,365	124,076	7,779	191,983
Alabama	200,616	112,829	24,456	0	1,900	475	0	0
Arizona	101,331	8,879	1,151	0	4,148	0	0	13,378
Arkansas	310,689	40,671	10,166	0	0	4,474	0	0
California	0	0	0	0	0	0	0	154,255
Florida	89,760	9,384	1,530	1,326	0	0	0	0
Georgia	919,220	199,066	55,932	0	0	5,900	0	0
Kansas	19,530	7,750	248	0	620	620	372	0
Louisiana	61,200	47,600	25,840	0	340	1,020	0	0
Mississippi	342,750	59,000	4,250	8,500	5,250	5,250	0	0
Missouri	245,100	25,365	11,400	0	0	2,850	0	0
New Mexico	20,780	8,535	0	0	5,418	2,672	445	2,350
North Carolina	159,500	116,000	8,120	5,800	290	290	0	0
Oklahoma	275,448	4,041	14,546	0	0	0	0	0
South Carolina	143,100	30,366	2,088	0	0	0	2,160	0
Tennessee	192,325	44,100	2,450	4,900	0	1,225	0	0
Texas	2,867,618	864,540	691,340	0	960,400	99,300	4,802	22,000
Virginia	14,400	43,200	14,400	0	0	0	0	0

Table 6

Application Technology Acres and Costs by State

Cotton Insect Losses 2016

State	applications by air			applications by ground			# Acres w
	% Acres	cost/ Acre	# apps	% Acres	cost/ Acre	# apps	NO apps
Alabama, North	15%	\$6.00	0.30	85%	\$4.50	1.50	5,141
Alabama, South	15%	\$5.00	1.60	85%	\$4.50	2.40	23,746
Arizona	46%	\$16.37	1.33	38%	\$14.04	1.91	32,111
Arkansas, Southeast	90%	\$7.50	3.50	100%	\$4.50	4.00	0
Arkansas, Northeast	90%	\$7.50	2.50	100%	\$4.50	4.00	0
California	85%	\$9.00	1.60	15%	\$13.50	2.00	6,569
Florida	10%	\$8.00	1.00	97%	\$6.00	4.00	2,040
Georgia	30%	\$7.00	2.00	70%	\$4.50	2.00	177,000
Kansas	60%	\$8.00	1.60	35%	\$4.50	2.40	1,550
Louisiana	100%	\$6.00	4.00	50%	\$5.50	2.00	0
Mississippi Delta	80%	\$6.00	1.60	50%	\$5.50	2.40	0
Mississippi Hills	20%	\$7.50	1.60	90%	\$5.50	2.40	5,000
Missouri	20%	\$7.00	2.00	80%	\$8.00	5.00	0
New Mexico	35%	\$5.43	1.10	17%	\$4.54	1.00	13,359
North Carolina	55%	\$8.00	1.00	50%	\$4.00	2.46	14,500
Oklahoma	20%	\$8.50	1.60	80%	\$5.50	2.40	29,930
South Carolina	10%	\$7.50	1.00	95%	\$5.00	2.00	1,800
Tennessee	30%	\$7.50	1.50	70%	\$4.50	3.90	0
Texas Coast & Blacklands	45%	\$6.00	1.60	55%	\$4.50	2.40	17,150
Texas Rolling Plains	6%	\$10.00	1.00	4%	\$4.50	1.00	937,560
Texas Far West & High Plains	2%	\$10.00	0.50	4%	\$4.50	1.00	2,736,000
Virginia	0%	\$0.00	0.00	100%	\$4.50	3.00	0
Total US	23%	\$7.44	1.86	37%	\$5.12	2.63	4,003,456

Table 7

State	Cotton Insect monitoring Costs			Cotton Insect losses 2016	
	Acres	Times/wk	wt Avg Cost	Cost per	Total
	Scouted	Scouted	over all acres	scouted acre	Cost
Alabama, North	64,774	1.00	\$4.41	\$7.00	\$453,419
Alabama, South	201,840	1.00	\$7.23	\$8.50	\$1,715,641
Arizona	110,263	1.87	\$12.18	\$12.76	\$1,406,999
Arkansas, Southeast	81,426	1.50	\$9.00	\$9.00	\$732,834
Arkansas, Northeast	284,574	1.50	\$7.00	\$7.00	\$1,992,018
California	216,787	1.00	\$9.90	\$10.00	\$2,167,872
Florida	40,800	1.00	\$3.20	\$8.00	\$326,400
Georgia	767,000	1.00	\$4.55	\$7.00	\$5,369,000
Kansas	19,530	1.00	\$4.41	\$7.00	\$136,710
Louisiana	136,000	1.00	\$7.00	\$7.00	\$952,000
Mississippi, Delta	321,750	1.00	\$7.92	\$8.00	\$2,574,000
Mississippi, Hills	99,000	1.00	\$6.93	\$7.00	\$693,000
Missouri	245,100	1.00	\$6.88	\$8.00	\$1,960,800
New Mexico	26,347	1.00	\$6.73	\$9.48	\$249,767
North Carolina	174,000	1.00	\$4.80	\$8.00	\$1,392,000
Oklahoma	59,860	1.00	\$1.40	\$7.00	\$419,023
South Carolina	135,000	1.00	\$6.00	\$8.00	\$1,080,000
Tennessee	196,000	1.50	\$8.40	\$10.50	\$2,058,000
Texas Coast & Blacklands	432,180	1.00	\$4.73	\$7.50	\$3,241,350
Texas Rolling Plains	120,200	1.00	\$0.70	\$7.00	\$841,400
Texas Far west & High Plains	180,000	1.00	\$0.35	\$7.00	\$1,260,000
Virginia	36,000	1.00	\$1.00	\$2.00	\$72,000
Total US	3,948,431	0.99	\$3.17	\$7.88	\$31,094,233

Table 8

US Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	3,709,377	1,480,156	1	0.18	\$1.86	0.413%	117,118
Beet Armyworm	130,088	934	0	0.00	\$0.00	0.000%	29
Fall Armyworm	571,926	140,556	1	0.01	\$0.10	0.062%	21,604
Loopers	122,325	0	0	0.00	\$0.00	0.000%	0
Cutworms	305,759	494,839	1	0.05	\$0.18	0.000%	100
Cotton Leafperforator	6,648	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	32,104	982	1	0.00	\$0.00	0.000%	68
Verde Plant Bugs	157,780	75,460	1	0.01	\$0.05	0.002%	52
Cotton Fleahopper	6,229,625	1,355,471	1	0.16	\$0.76	0.091%	16,439
Lygus	4,906,100	2,374,603	3	0.74	\$6.62	0.734%	260,154
Stink Bugs	4,390,201	2,623,231	2	0.44	\$2.95	0.640%	164,558
Clouded Plant bugs	363,648	104,340	1	0.01	\$0.05	0.023%	8,141
Brown Stink bug	705,959	76,415	0	0.00	\$0.00	0.005%	1,962
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	252,778	7,140	1	0.00	\$0.00	0.000%	42
Spider Mites	2,066,204	687,779	1	0.09	\$1.03	0.120%	40,813
Thrips	9,477,763	3,340,547	1	0.37	\$2.14	0.423%	120,286
Aphids	3,054,545	498,525	1	0.05	\$0.31	0.017%	5,949
Grasshoppers	1,597,856	81,983	1	0.01	\$0.04	0.000%	19
Banded Winged Whitefly	495,141	5,621	1	0.00	\$0.01	0.027%	5,631
Silverleaf Whitefly	465,999	214,807	2	0.03	\$0.78	0.037%	12,338
Darkling Beetle	2,906	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	14,475	3,244	1	0.00	\$0.00	0.000%	85
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	982	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	68,600	0	0	0.00	\$0.00	0.000%	0
				2.14	\$16.89	2.60%	775,389

Yield & Management Results	
Total Acres	9,811,171
Total bales Harvested	17,618,236
yield (lbs/acre)	862
Total bales Lost to Insects	775,389
Percent Yield Loss	2.60%
Yield w/o Insects (lbs/ac)	885
Ave. # Spray Applications	2.14
Bales lost all factors	3,885,548
% yield loss all factors	20.07%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$21,038,620	\$2.14
At Planting Costs		\$69,297,222	\$7.06
In-furrow costs		\$6,435,758	\$0.66
Scouting costs		\$31,094,233	\$3.17
Eradication costs		\$50,358,951	\$5.13
Transgenic cotton		\$155,835,898	\$15.88
Total Costs		\$334,060,683	\$34.05
Yield Lost to insects		\$235,411,881	\$23.99
Total Losses + Costs		\$569,472,563	\$58.04
PBW erad	\$6.55	Bwev erad	\$5.02

Table 9

Alabama Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	85,069	61,323	1	0.21	\$1.95	0.093%	814
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	1,028	103	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	173,345	0	0.00	\$0.00	0.000%	0
Lygus	211,264	85,436	1	0.36	\$3.60	0.227%	1,991
Stink Bugs	314,571	214,741	2	1.16	\$10.67	1.318%	11,546
Clouded Plant bugs	0	1,187	0	0.00	\$0.00	0.000%	0
Brown Stink bug	59,365	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	23,746	0	0	0.00	\$0.00	0.000%	0
Spider Mites	49,450	8,152	1	0.02	\$0.29	0.015%	127
Thrips	339,247	125,828	1	0.37	\$3.01	0.649%	5,686
Aphids	80,295	3,403	1	0.01	\$0.06	0.000%	0
Grasshoppers	47,492	11,873	1	0.02	\$0.10	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevil	0	0	0	0.00	\$0.00	0.000%	0
				2.16	\$19.69	2.302%	20,165

Yield & Management Results	
Total Acres	340,275
Total bales Harvested	677,592
yield (lbs/acre)	956
Total bales Lost to Insects	20,165
Percent Yield Loss	2.30%
Yield w/o Insects (lbs/ac)	978
Ave. # Spray Applications	2.16
Bales lost all factors	198,314
% yield loss all factors	22.64%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$6,698,434	\$19.69
At Planting Costs		\$3,283,954	\$9.65
In-furrow costs		\$225,690	\$0.66
Scouting costs		\$2,145,382	\$6.30
Eradication costs		\$510,413	\$1.50
Transgenic cotton		\$5,855,376	\$17.21
Total Costs		\$18,719,249	\$55.01
Yield Lost to insects		\$6,097,855	\$17.92
Total Losses + Costs		\$24,817,104	\$72.93

Table 9a

North Alabama
#apps/ acre

Cotton Insect Losses 2016

Pest	acres infested	acres treated	trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	25,704	25,704	1	0.25	\$2.38	0.250%	644
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	1,028	103	1	0.00	\$0.01	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	92,534	61,690	2	1.20	\$13.20	0.675%	1,740
Stink Bugs	77,112	1,028	1	0.01	\$0.09	0.075%	193
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	25,704	1,028	1	0.01	\$0.12	0.025%	64
Thrips	101,788	30,845	1	0.30	\$2.55	0.990%	2,552
Aphids	56,549	1,028	1	0.01	\$0.07	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				1.78	\$18.40	2.015%	5,194

**Yield & Management
Results**

Total Acres	102,816
Total bales Harvested	192,780
yield (lbs/acre)	900
Total bales Lost to Insects	5,194
Percent Yield Loss	2.02%
Yield w/o Insects (lbs/ac)	919
Ave. # Spray Applications	1.78
Bales lost all factors	64,999
% yield loss all factors	25.22%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$1,892,174	\$18.40
At Planting Costs	\$439,847	\$4.28
In-furrow costs	\$61,690	\$0.60
Scouting costs	\$453,419	\$4.41
Eradication costs	\$154,224	\$1.50
Transgenic cotton	\$1,628,605	\$15.84
Total Costs	\$4,629,959	\$45.03
Yield Lost to insects	\$1,570,740	\$15.28
Total Losses + Costs	\$6,200,699	\$60.31

Table 9b

South Alabama

Cotton Insect Losses 2016

2017 Beltwide Cotton Conferences, Dallas, TX, January 4-6, 2017

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Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	59,365	35,619	1	0.18	\$1.71	0.025%	155
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	173,345	0	0.00	\$0.00	0.000%	0
Lygus	118,730	23,746	1	0.12	\$1.14	0.100%	622
Stink Bugs	237,459	213,713	2	1.98	\$18.81	2.000%	12,431
Clouded Plant bugs	0	1,187	0	0.00	\$0.00	0.000%	0
Brown Stink bug	59,365	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	23,746	0	0	0.00	\$0.00	0.000%	0
Spider Mites	23,746	7,124	1	0.03	\$0.36	0.010%	62
Thrips	237,459	94,984	1	0.40	\$3.20	0.500%	3,108
Aphids	23,746	2,375	1	0.01	\$0.06	0.000%	0
Grasshoppers	47,492	11,873	1	0.05	\$0.30	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.77	\$25.58	2.635%	16,378

Yield & Management Results	
Total Acres	237,459
Total bales Harvested	484,812
yield (lbs/acre)	980
Total bales Lost to Insects	16,378
Percent Yield Loss	2.64%
Yield w/o Insects (lbs/ac)	1,007
Ave. # Spray Applications	2.77
Bales lost all factors	136,742
% yield loss all factors	21.74%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$6,074,201	\$25.58
At Planting Costs		\$2,991,983	\$12.60
In-furrow costs		\$142,475	\$0.60
Scouting costs		\$1,715,641	\$7.23
Eradication costs		\$356,189	\$1.50
Transgenic cotton		\$4,226,770	\$17.80
Total Costs		\$15,507,260	\$65.31
Yield Lost to insects		\$4,952,691	\$20.86
Total Losses + Costs		\$20,459,951	\$86.16

Table 10

Arizona Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	6,264	0	0	0.00	\$0.00	0.004%	20
Beet Armyworm	8,065	0	0	0.00	\$0.00	0.003%	13
Fall Armyworm	7,382	0	0	0.00	\$0.00	0.000%	0
Loopers	5,730	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	5	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	5,885	982	1	0.01	\$0.17	0.014%	68
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	58,253	3,274	1	0.02	\$0.09	0.006%	32
Lygus	108,779	72,164	1	0.84	\$18.27	2.461%	12,362
Stink Bugs	20,407	819	1	0.01	\$0.16	0.005%	23
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	36,025	1,090	1	0.01	\$0.08	0.032%	159
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	2,456	0	0	0.00	\$0.00	0.000%	0
Spider Mites	18,804	4,330	1	0.04	\$0.92	0.054%	270
Thrips	115,509	16,343	1	0.14	\$1.56	0.051%	254
Aphids	5,456	1,967	1	0.02	\$0.27	0.014%	71
Grasshoppers	696	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	10,284	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	80,613	42,913	1	0.46	\$13.09	1.094%	5,494
Darkling Beetle	2,906	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	13,733	3,244	1	0.03	\$0.40	0.016%	79
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	982	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				1.57	\$35.01	3.813%	18,845

**Yield & Management
Results**

Total Acres	115,509
Total bales Harvested	395,434
yield (lbs/acre)	1,643
Total bales Lost to Insects	18,845
Percent Yield Loss	3.81%
Yield w/o Insects (lbs/ac)	1,708
Ave. # Spray Applications	1.57
Bales lost all factors	106,917
% yield loss all factors	21.28%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$4,043,751	\$35.01
At Planting Costs	\$259,104	\$2.24
In-furrow costs	\$10,014	\$0.09
Scouting costs	\$1,406,999	\$12.18
Eradication costs	\$771,600	\$6.68
Transgenic cotton	\$3,220,862	\$27.88
Total Costs	\$9,712,331	\$84.08
Yield Lost to insects	\$5,698,795	\$49.34
Total Losses + Costs	\$15,411,126	\$133.42

PBW Erad	\$5.46	BW Erad	\$1.22
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Table 10a

Arizona *Bt*

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	2,128	0	0.0	0.00	\$0.00	0.001%	3
Beet Armyworm	3,939	0	0.0	0.00	\$0.00	0.000%	0
Fall Armyworm	4,471	0	0.0	0.00	\$0.00	0.000%	0
Loopers	5,730	0	0.0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0.0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0.0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	5,885	982	1.0	0.01	\$0.19	0.015%	71
Verde Plant Bugs	0	0	0.0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	55,342	3,274	0.8	0.02	\$0.10	0.007%	32
Lygus	104,633	69,243	1.4	0.85	\$18.27	2.500%	12,143
Stink Bugs	17,484	819	1.0	0.01	\$0.18	0.004%	21
Clouded Plant bugs	0	0	0.0	0.00	\$0.00	0.000%	0
Brown Stink bug	36,025	1,090	1.0	0.01	\$0.09	0.034%	165
Bagrada Bugs	0	0	0.0	0.00	\$0.00	0.000%	0
Leaf footed bugs	2,456	0	0.0	0.00	\$0.00	0.000%	0
Spider Mites	18,804	4,330	1.1	0.04	\$1.03	0.058%	281
Thrips	111,361	12,219	1.0	0.11	\$1.19	0.040%	194
Aphids	5,432	1,965	1.0	0.02	\$0.28	0.015%	73
Grasshoppers	696	0	0.0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	10,284	0	0.0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	76,489	40,003	1.2	0.45	\$12.56	1.108%	5,381
Darkling Beetle	2,906	0	0.0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	10,822	819	1.0	0.01	\$0.11	0.013%	65
Mealybugs	0	0	0.0	0.00	\$0.00	0.000%	0
Crickets	982	0	0.0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0.0	0.00	\$0.00	0.000%	0
				1.52	\$33.99	3.794%	18,428

Yield & Management Results	
Total Acres	111,361
Total bales Harvested	383,598
yield (lbs/acre)	1,653
Total bales Lost to Insects	18,428
Percent Yield Loss	3.79%
Yield w/o Insects (lbs/ac)	1,719
Ave. # Spray Applications	1.52
Bales lost all factors	102,095
% yield loss all factors	21.02%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$3,784,769	\$33.99
At Planting Costs		\$216,574	\$1.94
In-furrow costs		\$10,387	\$0.09
Scouting costs		\$1,325,605	\$11.90
Eradication costs		\$743,891	\$6.68
Transgenic cotton		\$3,340,833	\$30.00
Total Costs		\$9,422,060	\$84.61
Yield Lost to insects		\$5,572,481	\$50.04
Total Losses + Costs		\$14,994,541	\$134.65

Table 10b

Pest	Arizona Conventional				Cotton Insect Losses 2016		
	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	4,136	0	0	0.00	\$0.00	1.329%	220
Beet Armyworm	4,126	0	0	0.00	\$0.00	0.995%	164
Fall Armyworm	2,911	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	5	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	2,911	0	0	0.00	\$0.00	0.000%	0
Lygus	4,146	2,921	1	0.70	\$17.25	1.333%	220
Stink Bugs	2,923	0	0	0.00	\$0.00	0.000%	0
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	0	0	0	0.00	\$0.00	0.000%	0
Thrips	4,148	4,124	1	1.37	\$15.72	0.333%	55
Aphids	24	2	1	0.00	\$0.01	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	4,124	2,911	1	0.70	\$28.07	0.331%	55
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	2,911	2,426	0	0.18	\$0.88	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.95	\$61.93	4.322%	714

**Yield & Management
Results**

Total Acres	4,148
Total bales Harvested	11,836
yield (lbs/acre)	1,370
Total bales Lost to Insects	714
Percent Yield Loss	4.32%
Yield w/o Insects (lbs/ac)	1,432
Ave. # Spray Applications	2.95
Bales lost all factors	4,681
% yield loss all factors	28.34%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$256,883	\$61.93
At Planting Costs	\$36,386	\$8.77
In-furrow costs	\$0	\$0.00
Scouting costs	\$82,717	\$19.94
Eradication costs	\$27,709	\$6.68
Transgenic cotton	\$0	\$0.00
Total Costs	\$403,695	\$97.32
Yield Lost to insects	\$215,860	\$52.04
Total Losses + Costs	\$619,555	\$149.36

Table 10c

Pest	Arizona Pima				Cotton Insect Losses 2016		
	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	5,575	4,256	2	0.50	\$10.57	0.227%	108
Beet Armyworm	2,599	324	1	0.02	\$0.31	0.016%	8
Fall Armyworm	507	0	0	0.00	\$0.00	0.000%	0
Loopers	1,216	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	1,673	304	1	0.02	\$0.41	0.424%	202
Saltmarsh Caterpillar	1,520	122	0	0.00	\$0.05	0.005%	2
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	5,979	0	0	0.00	\$0.00	0.000%	0
Lygus	7,196	6,891	1	0.70	\$12.30	2.155%	1,027
Stink Bugs	1	0	0	0.00	\$0.00	0.000%	0
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	2,029	0	0	0.00	\$0.00	0.012%	6
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	1,824	0	0	0.00	\$0.00	0.000%	0
Thrips	13,378	0	0	0.00	\$0.00	0.000%	0
Aphids	1,218	1,216	1	0.09	\$1.73	0.102%	49
Grasshoppers	1,216	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	4,155	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	6,283	5,979	1	0.58	\$13.19	0.079%	37
Darkling Beetle	1,419	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	1,723	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				1.91	\$38.56	3.02%	1,438

**Yield & Management
Results**

Total Acres	13,378
Total bales Harvested	34,341
yield (lbs/acre)	1,232
Total bales Lost to Insects	1,438
Percent Yield Loss	3.02%
Yield w/o Insects (lbs/ac)	1,271
Ave. # Spray Applications	1.91
Bales lost all factors	13,283
% yield loss all factors	27.89%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$515,860	\$38.56
At Planting Costs	\$2,027	\$0.15
In-furrow costs	\$18,240	\$1.36
Scouting costs	\$111,890	\$8.36
Eradication costs	\$89,365	\$6.68
Transgenic cotton	\$0	\$0.00
Total Costs	\$737,382	\$55.12
Yield Lost to insects	\$690,409	\$51.61
Total Losses + Costs	\$1,427,790	\$106.73
PBW Erad	\$5.46	BW Erad \$1.22

Table 11

Pest	Acres Infested	Acres Treated	Arkansas Summary		Cotton Insect Losses 2016		
			# of apps/acres treated	# of apps per total cot acres	cost/acre	Overall % reduction	bales lost per pest
Bollworm/Budworm	366,000	296,635	1	0.90	\$10.18	1.178%	17,963
Beet Armyworm	36,600	37	0	0.00	\$0.00	0.000%	0
Fall Armyworm	77,271	7,320	1	0.02	\$0.14	0.000%	0
Loopers	0	0	1	0.00	\$0.00	0.000%	0
Cutworms	109,800	18,300	1	0.05	\$0.15	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	8,157	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	329,400	0	0	0.00	\$0.00	0.000%	0
Lygus	366,000	366,000	4	4.00	\$32.00	3.604%	54,966
Stink Bugs	274,500	73,200	1	0.20	\$1.20	0.188%	2,859
Clouded Plant bugs	187,030	14,229	1	0.03	\$0.17	0.000%	0
Brown Stink bug	274,500	73,200	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	4,076	0	0	0.00	\$0.00	0.000%	0
Spider Mites	91,500	7,320	1	0.02	\$0.24	0.000%	0
Thrips	366,000	366,000	1	1.00	\$3.00	0.250%	3,812
Aphids	146,400	814	0	0.00	\$0.00	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	75,215	2,846	1	0.01	\$0.09	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				6.23	\$47.17	5.220%	79,601

Yield & Management**Results**

Total Acres	366,000
Total bales Harvested	829,312
yield (lbs/acre)	1,088
Total bales Lost to Insects	79,601
Percent Yield Loss	5.22%
Yield w/o Insects (lbs/ac)	1,148
Ave. # Spray Applications	6.23
Bales lost all factors	695,618
% yield loss all factors	45.62%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$17,262,951	\$47.17
At Planting Costs	\$4,575,000	\$12.50
In-furrow costs	\$0	\$0.00
Scouting costs	\$2,724,852	\$7.44
Eradication costs	\$1,464,000	\$4.00
Transgenic cotton	\$2,918,093	\$7.97
Total Costs	\$28,944,896	\$79.08
Yield Lost to insects	\$24,071,332	\$65.77
Total Losses + Costs	\$53,016,228	\$144.85

Table 11a

Northeast Arkansas

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	284,574	221,968	1	0.78	\$8.81	1.000%	11,857
Beet Armyworm	28,457	28	0	0.00	\$0.00	0.000%	0
Fall Armyworm	56,915	5,691	1	0.02	\$0.14	0.000%	0
Loopers	0	0	1	0.00	\$0.00	0.000%	0
Cutworms	85,372	14,229	1	0.05	\$0.15	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	14	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	256,117	0	0	0.00	\$0.00	0.000%	0
Lygus	284,574	284,574	4	4.00	\$32.00	3.560%	42,212
Stink Bugs	213,431	56,915	1	0.20	\$1.20	0.188%	2,223
Clouded Plant bugs	170,744	14,229	1	0.05	\$0.30	0.000%	0
Brown Stink bug	213,431	56,915	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	5	0	0	0.00	\$0.00	0.000%	0
Spider Mites	71,144	5,691	1	0.02	\$0.24	0.000%	0
Thrips	284,574	284,574	1	1.00	\$3.00	0.250%	2,964
Aphids	113,830	0	0	0.00	\$0.00	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	71,144	2,846	1	0.01	\$0.10	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				6.13	\$45.94	4.998%	59,257

Yield & Management Results		
Total Acres	284,574	
Total bales Harvested	668,156	
yield (lbs/acre)	1,127	
Total bales Lost to Insects	59,257	
Percent Yield Loss	5.00%	
Yield w/o Insects (lbs/ac)	1,186	
Ave. # Spray Applications	6.13	
Bales lost all factors	517,569	
% yield loss all factors	43.65%	

Economic Results		
	Total	Per Acre
Foliar Insecticides Costs	\$13,074,468	\$45.94
At Planting Costs	\$3,557,175	\$12.50
In-furrow costs	\$0	\$0.00
Scouting costs	\$1,992,018	\$7.00
Eradication costs	\$1,138,296	\$4.00
Transgenic cotton	\$2,280,633	\$8.01
Total Costs	\$22,042,590	\$77.46
Yield Lost to insects	\$17,919,198	\$62.97
Total Losses + Costs	\$39,961,788	\$140.43

Table 11b

Southeast Arkansas				Cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	81,426	74,668	2	1.38	\$15.54	1.800%	6,107
Beet Armyworm	8,143	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	20,357	1,629	1	0.02	\$0.14	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	24,428	4,071	1	0.05	\$0.15	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	8,143	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	1	0.00	\$0.00	0.000%	0
Cotton Fleahopper	73,283	0	0	0.00	\$0.00	0.000%	0
Lygus	81,426	81,426	4	4.00	\$32.00	3.760%	12,757
Stink Bugs	61,070	16,285	1	0.20	\$1.20	0.188%	636
Clouded Plant bugs	16,285	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	61,070	16,285	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	4,071	0	0	0.00	\$0.00	0.000%	0
Spider Mites	20,357	1,629	1	0.02	\$0.24	0.000%	0
Thrips	81,426	81,426	1	1.00	\$3.00	0.250%	848
Aphids	32,570	814	0	0.00	\$0.00	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	4,071	0	1	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				6.67	\$52.27	5.998%	20,348

Yield & Management Results		
Total Acres	81,426	
Total bales Harvested	161,156	
yield (lbs/acre)	950	
Total bales Lost to Insects	20,348	
Percent Yield Loss	6.00%	
Yield w/o Insects (lbs/ac)	1,011	
Ave. # Spray Applications	6.67	
Bales lost all factors	178,119	
% yield loss all factors	52.50%	

Economic Results		
	Total	Per Acre
Foliar Insecticides Costs	\$4,256,394	\$52.27
At Planting Costs	\$1,017,825	\$12.50
In-furrow costs	\$0	\$0.00
Scouting costs	\$732,834	\$9.00
Eradication costs	\$325,704	\$4.00
Transgenic cotton	\$637,460	\$7.83
Total Costs	\$6,970,216	\$85.60
Yield Lost to insects	\$6,153,241	\$75.57
Total Losses + Costs	\$13,123,457	\$161.17

Table 12

California Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	2,190	0	2	0.00	\$0.00	0.000%	0
Beet Armyworm	43,795	22	1	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	1	0.00	\$0.00	0.000%	0
Loopers	43,795	0	1	0.00	\$0.00	0.000%	0
Cutworms	2,190	0	1	0.00	\$0.00	0.000%	0
Cotton Leafperforator	6,569	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	2,190	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	1	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	2	0.00	\$0.00	0.000%	0
Lygus	216,787	131,386	2	1.20	\$18.00	1.980%	15,545
Stink Bugs	21,898	0	1	0.00	\$0.00	0.000%	0
Clouded Plant bugs	0	0	1	0.00	\$0.00	0.000%	0
Brown Stink bug	6,569	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	216,787	197,079	1	0.90	\$10.80	0.000%	0
Thrips	216,787	6,569	1	0.03	\$0.15	0.000%	0
Aphids	120,437	32,847	1	0.15	\$1.01	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	131,386	65,693	2	0.60	\$24.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.88	\$53.96	1.980%	15,545

Yield & Management Results	
Total Acres	218,977
Total bales Harvested	738,135
yield (lbs/acre)	1,618
Total bales Lost to Insects	15,545
Percent Yield Loss	1.98%
Yield w/o Insects (lbs/ac)	1,651
Ave. # Spray Applications	2.88
Bales lost all factors	46,948
% yield loss all factors	5.98%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$11,816,765	\$53.96
At Planting Costs		\$0	\$0.00
In-furrow costs		\$0	\$0.00
Scouting costs		\$2,167,872	\$9.90
Eradication costs		\$1,475,905	\$6.74
Transgenic cotton		\$0	\$0.00
Total Costs		\$15,460,543	\$70.60
Yield Lost to insects		\$8,207,571	\$37.48
Total Losses + Costs		\$23,668,114	\$108.08

Table 13

Florida Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	51,000	204	1	0.00	\$0.02	0.000%	0
Beet Armyworm	0	10	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	91,800	91,800	2	1.80	\$13.50	0.450%	1,348
Stink Bugs	102,000	91,800	2	1.80	\$10.80	2.000%	5,993
Clouded Plant bugs	5,100	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	14,280	0	0	0.00	\$0.00	0.000%	0
Spider Mites	20,400	7,140	1	0.07	\$0.42	0.014%	42
Thrips	102,000	15,300	1	0.15	\$1.20	0.020%	60
Aphids	81,600	76,500	1	0.75	\$2.06	0.300%	899
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				5.27	\$30.80	2.944%	8,821

Yield & Management Results

Total Acres	102,000
Total bales Harvested	185,938
yield (lbs/acre)	875
Total bales Lost to Insects	8,821
Percent Yield Loss	2.94%
Yield w/o Insects (lbs/ac)	902
Ave. # Spray Applications	5.27
Bales lost all factors	113,691
% yield loss all factors	37.94%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$3,141,447	\$30.80
At Planting Costs	\$1,071,000	\$10.50
In-furrow costs	\$612,000	\$6.00
Scouting costs	\$326,400	\$3.20
Eradication costs	\$204,000	\$2.00
Transgenic cotton	\$2,873,398	\$28.17
Total Costs	\$8,228,245	\$80.67
Yield Lost to insects	\$2,963,878	\$29.06
Total Losses + Costs	\$11,192,123	\$109.73

Table 14

Georgia Summary				Cotton Insect Losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	295,000	17,700	1	0.02	\$0.11	0.250%	8,555
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	11,800	0	0	0.00	\$0.00	0.000%	0
Lygus	424,800	165,200	1	0.15	\$1.08	0.180%	6,160
Stink Bugs	1,062,000	1,003,000	2	1.70	\$12.75	1.350%	46,199
Clouded Plant bugs	11,800	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	23,600	0	0	0.00	\$0.00	0.000%	0
Spider Mites	354,000	70,800	1	0.06	\$0.48	0.300%	10,266
Thrips	1,168,200	472,000	1	0.40	\$2.40	0.990%	33,879
Aphids	708,000	59,000	1	0.05	\$0.35	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	11,800	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	236,000	106,200	1	0.12	\$1.40	0.200%	6,844
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.50	\$18.57	3.270%	111,904

Yield & Management Results	
Total Acres	1,180,000
Total bales Harvested	2,249,375
yield (lbs/acre)	915
Total bales Lost to Insects	111,904
Percent Yield Loss	3.27%
Yield w/o Insects (lbs/ac)	946
Ave. # Spray Applications	2.50
Bales lost all factors	1,172,769
% yield loss all factors	34.27%

Economic Results	
Total	Per Acre
Foliar Insecticides Costs	\$21,917,910
At Planting Costs	\$7,151,390
In-furrow costs	\$708,000
Scouting costs	\$5,369,000
Eradication costs	\$1,770,000
Transgenic cotton	\$17,613,270
Total Costs	\$54,529,570
Yield Lost to insects	\$37,599,776
Total Losses + Costs	\$92,129,346

Table 15

Kansas Summary				Cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	3,100	2,300	1	0.07	\$0.66	0.133%	91
Beet Armyworm	0	0	1	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	1	0.00	\$0.00	0.000%	0
Loopers	0	0	1	0.00	\$0.00	0.000%	0
Cutworms	0	0	1	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	27,900	9,300	2	0.45	\$1.88	1.620%	1,106
Lygus	20,150	4,650	2	0.30	\$1.80	0.650%	444
Stink Bugs	4,650	310	1	0.01	\$0.05	0.150%	102
Clouded Plant bugs	0	0	1	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	0	0	0	0.00	\$0.00	0.000%	0
Thrips	5,000	1,000	1	0.05	\$0.35	0.850%	580
Aphids	0	0	0	0.00	\$0.00	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				0.88	\$4.73	3.403%	2,324

Yield & Management Results	
Total Acres	31,000
Total bales Harvested	55,025
yield (lbs/acre)	852
Total bales Lost to Insects	2,324
Percent Yield Loss	3.40%
Yield w/o Insects (lbs/ac)	882
Ave. # Spray Applications	0.88
Bales lost all factors	13,247
% yield loss all factors	19.40%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$146,764	\$4.73
At Planting Costs		\$132,618	\$4.28
In-furrow costs		\$18,600	\$0.60
Scouting costs		\$136,710	\$4.41
Eradication costs		\$0	\$0.00
Transgenic cotton		\$212,167	\$6.84
Total Costs		\$646,859	\$20.87
Yield Lost to insects		\$669,169	\$21.59
Total Losses + Costs		\$1,316,028	\$42.45

Table 16

Louisiana Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	136,000	74,800	2	1.10	\$15.40	3.000%	16,408
Beet Armyworm	0	14	0	0.00	\$0.00	0.000%	0
Fall Armyworm	13,600	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	1,360	136	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	13,600	13,600	0	0.00	\$0.00	0.000%	0
Lygus	136,000	136,000	4	4.00	\$44.00	3.000%	16,408
Stink Bugs	102,000	6,800	1	0.05	\$0.35	0.000%	0
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	102,000	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	102,000	34,000	1	0.25	\$3.25	0.375%	2,051
Thrips	136,000	34,000	1	0.25	\$1.75	0.000%	0
Aphids	122,400	6,800	1	0.05	\$0.30	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	1	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				5.70	\$65.05	6.375%	34,866

Yield & Management Results

Total Acres	136,000
Total bales Harvested	255,000
yield (lbs/acre)	900
Total bales Lost to Insects	34,866
Percent Yield Loss	6.38%
Yield w/o Insects (lbs/ac)	961
Ave. # Spray Applications	5.70
Bales lost all factors	291,917
% yield loss all factors	53.38%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$8,846,800	\$65.05
At Planting Costs	\$2,040,000	\$15.00
In-furrow costs	\$24,480	\$0.18
Scouting costs	\$952,000	\$7.00
Eradication costs	\$816,000	\$6.00
Transgenic cotton	\$2,700,960	\$19.86
Total Costs	\$15,380,240	\$113.09
Yield Lost to insects	\$10,543,464	\$77.53
Total Losses + Costs	\$25,923,704	\$190.62

Table 17

Mississippi Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	362,500	257,500	2	1.01	\$14.07	1.279%	20,636
Beet Armyworm	4,250	425	1	0.00	\$0.01	0.001%	16
Fall Armyworm	245,000	21,250	1	0.05	\$0.53	0.576%	9,298
Loopers	7,500	0	1	0.00	\$0.00	0.000%	0
Cutworms	117,500	42,500	1	0.10	\$0.60	0.003%	45
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	16	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	47,500	4,250	0	0.00	\$0.00	0.001%	18
Lygus	425,000	388,500	4	3.58	\$39.33	5.000%	80,647
Stink Bugs	90,000	23,250	1	0.05	\$0.49	0.212%	3,416
Clouded Plant bugs	26,250	2,125	1	0.01	\$0.05	0.340%	5,479
Brown Stink bug	47,500	2,125	1	0.01	\$0.05	0.112%	1,803
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	4,250	0	0	0.00	\$0.00	0.000%	0
Spider Mites	310,000	245,000	2	1.06	\$12.70	1.641%	26,471
Thrips	425,000	373,750	1	0.88	\$7.91	1.000%	16,129
Aphids	238,750	107,500	1	0.25	\$2.53	0.281%	4,530
Grasshoppers	23,250	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	37,500	325	1	0.00	\$0.01	0.088%	1,423
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				6.99	\$78.27	10.534%	169,911

Yield & Management

Results

Total Acres	425,000
Total bales Harvested	1,074,896
yield (lbs/acre)	1,214
Total bales Lost to Insects	169,911
Percent Yield Loss	10.53%
Yield w/o Insects (lbs/ac)	1,357
Ave. # Spray Applications	6.99
Bales lost all factors	538,040
% yield loss all factors	33.36%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$33,265,926	\$78.27
At Planting Costs	\$3,997,125	\$9.41
In-furrow costs	\$153,000	\$0.36
Scouting costs	\$3,267,000	\$7.69
Eradication costs	\$1,700,000	\$4.00
Transgenic cotton	\$11,440,835	\$26.92
Total Costs	\$53,823,886	\$126.64
Yield Lost to insects	\$59,536,972	\$140.09
Total Losses + Costs	\$113,360,858	\$266.73

Table 17a

Pest	acres infested	acres treated	Mississippi Delta		Cotton Insect Losses 2016		
			#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	292,500	227,500	2	1.26	\$17.64	1.350%	17,499
Beet Armyworm	3,250	325	1	0.00	\$0.01	0.001%	13
Fall Armyworm	195,000	16,250	1	0.05	\$0.53	0.600%	7,777
Loopers	6,500	0	1	0.00	\$0.00	0.000%	0
Cutworms	97,500	32,500	1	0.10	\$0.60	0.003%	39
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	16	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	32,500	3,250	0	0.00	\$0.00	0.001%	13
Lygus	325,000	318,500	5	4.41	\$48.51	5.000%	64,810
Stink Bugs	65,000	16,250	1	0.05	\$0.45	0.200%	2,592
Clouded Plant bugs	16,250	1,625	1	0.01	\$0.05	0.275%	3,565
Brown Stink bug	32,500	1,625	1	0.01	\$0.05	0.100%	1,296
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	3,250	0	0	0.00	\$0.00	0.000%	0
Spider Mites	260,000	195,000	2	1.20	\$14.40	1.800%	23,332
Thrips	325,000	308,750	1	0.95	\$8.55	1.000%	12,962
Aphids	178,750	97,500	1	0.30	\$3.00	0.275%	3,565
Grasshoppers	16,250	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	32,500	325	1	0.00	\$0.02	0.100%	1,296
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				8.33	\$93.79	10.705%	138,758

Yield & Management Results	
Total Acres	325,000
Total bales Harvested	846,354
yield (lbs/acre)	1,250
Total bales Lost to Insects	138,758
Percent Yield Loss	10.71%
Yield w/o Insects (lbs/ac)	1,400
Ave. # Spray Applications	8.33
Bales lost all factors	449,846
% yield loss all factors	34.71%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$30,483,050	\$93.79
At Planting Costs		\$3,056,625	\$9.41
In-furrow costs		\$117,000	\$0.36
Scouting costs		\$2,574,000	\$7.92
Eradication costs		\$1,300,000	\$4.00
Transgenic cotton		\$8,854,755	\$27.25
Total Costs		\$46,385,430	\$142.72
Yield Lost to insects		\$48,620,898	\$149.60
Total Losses + Costs		\$95,006,328	\$292.33

Table 17b

Pest	acres infested	Mississippi Hills		Cotton Insect Losses 2016			
		acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	70,000	30,000	1	0.36	\$5.04	1.050%	3,379
Beet Armyworm	1,000	100	1	0.00	\$0.01	0.001%	3
Fall Armyworm	50,000	5,000	1	0.05	\$0.53	0.500%	1,609
Loopers	1,000	0	1	0.00	\$0.00	0.000%	0
Cutworms	20,000	10,000	1	0.10	\$0.60	0.002%	6
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	15,000	1,000	0	0.00	\$0.00	0.002%	5
Lygus	100,000	70,000	2	1.40	\$15.40	5.000%	16,090
Stink Bugs	25,000	7,000	1	0.07	\$0.63	0.250%	804
Clouded Plant bugs	10,000	500	1	0.01	\$0.05	0.550%	1,770
Brown Stink bug	15,000	500	1	0.01	\$0.05	0.150%	483
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	1,000	0	0	0.00	\$0.00	0.000%	0
Spider Mites	50,000	50,000	1	0.65	\$7.80	1.125%	3,620
Thrips	100,000	65,000	1	0.65	\$5.85	1.000%	3,218
Aphids	60,000	10,000	1	0.10	\$1.00	0.300%	965
Grasshoppers	7,000	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	5,000	0	0	0.00	\$0.00	0.050%	161
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				3.39	\$36.95	9.980%	32,114

Yield & Management Results	
Total Acres	100,000
Total bales Harvested	228,542
yield (lbs/acre)	1,097
Total bales Lost to Insects	32,114
Percent Yield Loss	9.98%
Yield w/o Insects (lbs/ac)	1,219
Ave. # Spray Applications	3.39
Bales lost all factors	93,255
% yield loss all factors	28.98%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$3,694,900	\$36.95
At Planting Costs	\$940,500	\$9.41
In-furrow costs	\$36,000	\$0.36
Scouting costs	\$693,000	\$6.93
Eradication costs	\$400,000	\$4.00
Transgenic cotton	\$2,586,080	\$25.86
Total Costs	\$8,350,480	\$83.50
Yield Lost to insects	\$11,252,643	\$112.53
Total Losses + Costs	\$19,603,123	\$196.03

Table 18

		Missouri Summary		Cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	285,000	285,000	1	0.50	\$5.50	2.500%	24,707
Beet Armyworm	14,250	29	0	0.00	\$0.00	0.000%	0
Fall Armyworm	128,250	85,500	1	0.15	\$1.65	1.125%	11,118
Loopers	57,000	0	0	0.00	\$0.00	0.000%	0
Cutworms	5,700	285,000	1	1.00	\$4.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	285,000	285,000	4	4.00	\$32.00	5.000%	49,414
Stink Bugs	285,000	285,000	1	1.00	\$8.00	3.000%	29,648
Clouded Plant bugs	57,000	85,500	1	0.15	\$1.20	0.200%	1,977
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	285,000	57,000	1	0.20	\$1.60	0.000%	0
Thrips	285,000	57,000	1	0.20	\$1.00	3.000%	29,648
Aphids	22,800	22,800	1	0.08	\$0.64	0.080%	791
Grasshoppers	14,250	14,250	1	0.03	\$0.20	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				7.31	\$55.79	14.905%	147,303

Yield & Management Results	
Total Acres	285,000
Total bales Harvested	712,500
yield (lbs/acre)	1,200
Total bales Lost to Insects	147,303
Percent Yield Loss	14.91%
Yield w/o Insects (lbs/ac)	1,410
Ave. # Spray Applications	7.31
Bales lost all factors	275,779
% yield loss all factors	27.91%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$15,900,150	\$55.79
At Planting Costs		\$3,990,000	\$14.00
In-furrow costs		\$1,869,600	\$6.56
Scouting costs		\$1,960,800	\$6.88
Eradication costs		\$1,425,000	\$5.00
Transgenic cotton		\$5,494,823	\$19.28
Total Costs		\$30,640,373	\$107.51
Yield Lost to insects		\$49,493,821	\$173.66
Total Losses + Costs		\$80,134,194	\$281.17

Table 19

New Mexico Summary				Cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	2,969	186	1	0.01	\$0.05	0.107%	87
Beet Armyworm	37	4	1	0.00	\$0.00	0.000%	0
Fall Armyworm	371	186	1	0.01	\$0.05	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	111	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	74	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	371	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	13,730	1,855	1	0.05	\$0.54	0.666%	542
Lygus	24,120	3,711	1	0.10	\$1.22	0.975%	793
Stink Bugs	5,195	557	1	0.02	\$0.15	0.140%	114
Clouded Plant bugs	2,969	74	1	0.00	\$0.02	0.128%	104
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	371	0	0	0.00	\$0.00	0.000%	0
Spider Mites	0	0	0	0.00	\$0.00	0.000%	0
Thrips	32,655	27,831	1	0.75	\$5.17	1.760%	1,431
Aphids	742	371	1	0.00	\$0.11	0.000%	0
Grasshoppers	1,113	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	742	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	742	0	0	0.00	\$0.00	0.008%	7
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				0.94	\$7.31	3.784%	3,077

Yield & Management Results	
Total Acres	37,108
Total bales Harvested	68,804
yield (lbs/acre)	890
Total bales Lost to Insects	3,077
Percent Yield Loss	3.78%
Yield w/o Insects (lbs/ac)	925
Ave. # Spray Applications	0.94
Bales lost all factors	12,509
% yield loss all factors	15.38%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$271,254	\$7.31
At Planting Costs	\$231,153	\$6.23
In-furrow costs	\$3,599	\$0.10
Scouting costs	\$249,767	\$6.73
Eradication costs	\$262,235	\$7.07
Transgenic cotton	\$397,293	\$10.71
Total Costs	\$1,415,301	\$38.14
Yield Lost to insects	\$1,151,881	\$31.04
Total Losses + Costs	\$2,567,182	\$69.18
PBE	\$6.98	BWE \$5.95

Table 20

North Carolina Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	290,000	171,100	2	0.89	\$7.97	0.170%	878
Beet Armyworm	2,900	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	2,900	0	0	0.00	\$0.00	0.000%	0
Loopers	2,900	0	0	0.00	\$0.00	0.000%	0
Cutworms	2,900	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	2,900	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	290,000	206,857	3	2.14	\$12.84	0.200%	1,032
Stink Bugs	290,000	258,100	1	0.89	\$4.23	1.900%	9,808
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	290,000	13,543	1	0.05	\$0.56	0.040%	206
Thrips	290,000	223,300	1	0.77	\$5.39	1.000%	5,162
Aphids	290,000	24,737	1	0.09	\$0.58	0.000%	0
Grasshoppers	290,000	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	200,100	0	0	0.00	\$0.00	0.690%	3,562
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				4.82	\$31.56	4.000%	20,649

Yield & Management

Results

Total Acres	290,000
Total bales Harvested	379,417
yield (lbs/acre)	628
Total bales Lost to Insects	20,649
Percent Yield Loss	4.00%
Yield w/o Insects (lbs/ac)	654
Ave. # Spray Applications	4.82
Bales lost all factors	136,796
% yield loss all factors	26.50%

Economic Results

Total

Per Acre

Foliar Insecticides Costs	\$9,151,842	\$31.56
At Planting Costs	\$4,228,200	\$14.58
In-furrow costs	\$1,957,500	\$6.75
Scouting costs	\$1,392,000	\$4.80
Eradication costs	\$261,000	\$0.90
Transgenic cotton	\$7,310,900	\$25.21
Total Costs	\$24,301,442	\$83.80
Yield Lost to insects	\$6,442,340	\$22.21
Total Losses + Costs	\$30,743,782	\$106.01

Table 21

Oklahoma Summary				Cotton Insect Losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	5,986	500	1.00	0.00	\$0.02	0.027%	152
Beet Armyworm	0	0	1.00	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	1.00	0.00	\$0.00	0.000%	0
Loopers	0	0	1.00	0.00	\$0.00	0.000%	0
Cutworms	0	0	1.00	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0.00	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0.00	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	1.00	0.00	\$0.00	0.000%	0
Cotton Fleahopper	239,442	194,546	1.50	0.98	\$6.83	1.440%	8,189
Lygus	0	0	2.00	0.00	\$0.00	0.000%	0
Stink Bugs	29,930	14,965	1.00	0.05	\$0.45	0.100%	569
Clouded Plant bugs	0	0	1.00	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0.00	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0.00	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0.00	0.00	\$0.00	0.000%	0
Spider Mites	2,993	1,497	1.00	0.01	\$0.06	0.000%	0
Thrips	44,895	74,826	1.00	0.25	\$0.60	0.150%	853
Aphids	14,965	1,497	1.00	0.01	\$0.05	0.000%	0
Grasshoppers	44,895	0	0.00	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	1.00	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0.00	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0.00	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0.00	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0.00	0.00	\$0.00	0.000%	0
Crickets	0	0	0.00	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0.00	0.00	\$0.00	0.000%	0
				1.29	\$8.01	1.717%	9,762

Yield & Management Results	
Total Acres	299,302
Total bales Harvested	568,674
yield (lbs/acre)	912
Total bales Lost to Insects	9,762
Percent Yield Loss	1.72%
Yield w/o Insects (lbs/ac)	928
Ave. # Spray Applications	1.29
Bales lost all factors	58,099
% yield loss all factors	10.22%

Economic Results		
	Total	Per Acre
Foliar Insecticides Costs	\$2,396,926	\$8.01
At Planting Costs	\$946,393	\$3.16
In-furrow costs	\$0	\$0.00
Scouting costs	\$419,023	\$1.40
Eradication costs	\$1,346,859	\$4.50
Transgenic cotton	\$1,888,583	\$6.31
Total Costs	\$6,997,784	\$23.38
Yield Lost to insects	\$2,858,371	\$9.55
Total Losses + Costs	\$9,856,155	\$32.93

Table 22

South Carolina Summary

Cotton Insect losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	180,000	45,000	1	0.25	\$1.00	1.250%	6,911
Beet Armyworm	9,000	18	0	0.00	\$0.00	0.000%	0
Fall Armyworm	36,000	1,800	1	0.01	\$0.07	0.000%	0
Loopers	1,800	0	0	0.00	\$0.00	0.000%	0
Cutworms	18,000	1,800	1	0.01	\$0.04	0.010%	55
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	180,000	0	0	0.00	\$0.00	0.000%	0
Lygus	180,000	18,000	1	0.10	\$0.40	0.100%	553
Stink Bugs	180,000	162,000	2	1.80	\$7.20	1.250%	6,911
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	180,000	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	180,000	0	0	0.00	\$0.00	0.000%	0
Spider Mites	180,000	18,000	1	0.10	\$1.20	0.100%	553
Thrips	180,000	135,000	1	0.75	\$3.00	1.250%	6,911
Aphids	180,000	18,000	1	0.10	\$0.50	0.000%	0
Grasshoppers	180,000	1,800	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	135,000	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	18,000	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				3.12	\$13.41	3.960%	21,895

Yield & Management Results	
Total Acres	180,000
Total bales Harvested	337,500
yield (lbs/acre)	900
Total bales Lost to Insects	21,895
Percent Yield Loss	3.96%
Yield w/o Insects (lbs/ac)	937
Ave. # Spray Applications	3.12
Bales lost all factors	215,416
% yield loss all factors	38.96%

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$2,413,800	\$13.41
At Planting Costs		\$2,106,000	\$11.70
In-furrow costs		\$162,000	\$0.90
Scouting costs		\$1,080,000	\$6.00
Eradication costs		\$225,000	\$1.25
Transgenic cotton		\$3,217,860	\$17.88
Total Costs		\$9,204,660	\$51.14
Yield Lost to insects		\$7,356,881	\$40.87
Total Losses + Costs		\$16,561,541	\$92.01

Table 23

Tennessee Summary				Cotton Insect Losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	161,700	122,500	1	0.55	\$4.90	0.726%	4,688
Beet Armyworm	7,350	25	0	0.00	\$0.00	0.000%	0
Fall Armyworm	56,350	24,500	1	0.10	\$0.89	0.184%	1,188
Loopers	0	0	1	0.00	\$0.00	0.000%	0
Cutworms	17,150	147,000	1	0.60	\$1.14	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	12,250	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	245,000	245,000	3	3.00	\$26.40	2.400%	15,499
Stink Bugs	183,750	36,750	1	0.15	\$1.20	0.450%	2,906
Clouded Plant bugs	73,500	1,225	1	0.01	\$0.04	0.090%	581
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	61,250	7,350	1	0.03	\$0.36	0.075%	484
Thrips	245,000	208,250	1	0.94	\$3.04	1.000%	6,458
Aphids	73,500	2,450	1	0.01	\$0.09	0.009%	58
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	24,500	2,450	1	0.01	\$0.09	0.100%	646
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				5.39	\$38.14	5.034%	32,509

Yield & Management Results	
Total Acres	245,000
Total bales Harvested	548,698
yield (lbs/acre)	1,075
Total bales Lost to Insects	32,509
Percent Yield Loss	5.03%
Yield w/o Insects (lbs/ac)	1,132
Ave. # Spray Applications	5.39
Bales lost all factors	97,087
% yield loss all factors	15.03%

Economic Results		
	Total	Per Acre
Foliar Insecticides Costs	\$9,344,606	\$38.14
At Planting Costs	\$2,425,500	\$9.90
In-furrow costs	\$0	\$0.00
Scouting costs	\$2,058,000	\$8.40
Eradication costs	\$367,500	\$1.50
Transgenic cotton	\$5,492,900	\$22.42
Total Costs	\$19,688,506	\$80.36
Yield Lost to insects	\$11,391,094	\$46.49
Total Losses + Costs	\$31,079,601	\$126.86

Table 24

Texas Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	1,440,600	109,408	1	0.02	\$0.14	0.138%	13,344
Beet Armyworm	3,840	360	0	0.00	\$0.00	0.000%	0
Fall Armyworm	4,802	0	0	0.00	\$0.00	0.000%	0
Loopers	3,600	0	0	0.00	\$0.00	0.000%	0
Cutworms	30,020	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	335	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	157,780	75,460	0	0.00	\$0.01	0.001%	52
Cotton Fleahopper	5,308,000	955,300	1	0.18	\$1.24	0.068%	6,552
Lygus	1,809,400	102,900	0	0.01	\$0.03	0.002%	199
Stink Bugs	1,406,300	433,940	1	0.11	\$0.54	0.458%	44,230
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	84,020	8,408	1	0.00	\$0.01	0.003%	324
Thrips	5,433,120	1,069,800	1	0.24	\$1.47	0.070%	6,720
Aphids	969,200	144,940	1	0.03	\$0.16	0.000%	20
Grasshoppers	996,160	54,060	1	0.01	\$0.01	0.000%	19
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	68,600	0	0	0.00	\$0.00	0.000%	0
				0.60	\$3.63	0.740%	71,461

Yield & Management Results

Total Acres	5,488,000
Total bales Harvested	8,436,938
yield (lbs/acre)	738
Total bales Lost to Insects	71,461
Percent Yield Loss	0.740%
Yield w/o Insects (lbs/ac)	743
Ave. # Spray Applications	0.601
Bales lost all factors	1,219,382
% yield loss all factors	12.63%

Economic Results

Economic Results		Total	Per Acre
Foliar Insecticides Costs		\$19,922,301	\$3.63
At Planting Costs		\$32,135,908	\$5.86
In-furrow costs		\$567,000	\$0.10
Scouting costs		\$5,172,434	\$0.94
Eradication costs		\$37,535,695	\$6.84
Transgenic cotton		\$85,541,833	\$15.59
Total Costs		\$180,875,170	\$32.96
Yield Lost to insects		\$23,292,614	\$4.24
Total Losses + Costs		\$204,167,784	\$37.20
PBE	\$2.19	BWE	\$6.83

Table 24a

Texas Coast and Blacklands

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	480,200	68,600	1	0.10	\$0.45	1.050%	12,305
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	34	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	157,780	75,460	1	0.11	\$0.72	0.035%	404
Cotton Fleahopper	686,000	583,100	2	1.28	\$5.32	0.500%	5,860
Lygus	548,800	102,900	1	0.15	\$0.60	0.040%	469
Stink Bugs	445,900	253,820	2	0.56	\$2.64	0.195%	2,285
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	0	0	0	0.00	\$0.00	0.000%	0
Thrips	679,140	205,800	0	0.00	\$0.14	0.297%	3,481
Aphids	308,700	102,900	1	0.00	\$0.19	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	68,600	0	0	0.00	\$0.00	0.000%	0
				2.43	\$10.04	2.117%	24,804

Yield & Management Results	
Total Acres	686,000
Total bales Harvested	1,124,754
yield (lbs/acre)	787
Total bales Lost to Insects	24,804
Percent Yield Loss	2.12%
Yield w/o Insects (lbs/ac)	804
Ave. # Spray Applications	2.43
Bales lost all factors	376,185
% yield loss all factors	32.12%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$6,887,783	\$10.04
At Planting Costs	\$4,059,679	\$5.92
In-furrow costs	\$0	\$0.00
Scouting costs	\$3,241,350	\$4.73
Eradication costs	\$8,671,040	\$12.64
Transgenic cotton	\$5,068,652	\$7.39
Total Costs	\$27,928,504	\$40.71
Yield Lost to insects	\$8,214,958	\$11.98
Total Losses + Costs	\$36,143,462	\$52.69

Table 24b

Texas Rolling Plains				cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	240,400	4,808	1	0.00	\$0.03	0.010%	149
Beet Armyworm	240	0	1	0.00	\$0.00	0.000%	0
Fall Armyworm	1,202	0	1	0.00	\$0.00	0.000%	0
Loopers	0	0	1	0.00	\$0.00	0.000%	0
Cutworms	12,020	0	1	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	120	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	1,202,000	120,200	1	0.10	\$0.43	0.005%	75
Lygus	360,600	0	1	0.00	\$0.00	0.000%	0
Stink Bugs	240,400	72,120	1	0.06	\$0.29	0.400%	5,968
Clouded Plant bugs	0	0	1	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	12,020	4,808	1	0.00	\$0.05	0.010%	149
Thrips	1,189,980	0	1	0.00	\$0.00	0.000%	0
Aphids	300,500	24,040	1	0.02	\$0.15	0.001%	20
Grasshoppers	96,160	36,060	1	0.03	\$0.21	0.000%	6
Banded Winged Whitefly	0	0	1	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				0.22	\$1.14	0.427%	6,367

Yield & Management Results	
Total Acres	1,202,000
Total bales Harvested	1,312,183
yield (lbs/acre)	524
Total bales Lost to Insects	6,367
Percent Yield Loss	0.43%
Yield w/o Insects (lbs/ac)	526
Ave. # Spray Applications	0.22
Bales lost all factors	179,782
% yield loss all factors	10.48%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$1,375,088	\$1.14
At Planting Costs	\$7,541,829	\$6.27
In-furrow costs	\$0	\$0.00
Scouting costs	\$841,400	\$0.70
Eradication costs	\$7,452,400	\$6.20
Transgenic cotton	\$19,663,518	\$16.36
Total Costs	\$36,874,235	\$30.68
Yield Lost to insects	\$2,047,495	\$1.70
Total Losses + Costs	\$38,921,730	\$32.38

Table 24c

Texas Western Plains

Cotton Insect losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	720,000	36,000	1	0.01	\$0.08	0.100%	6,150
Beet Armyworm	3,600	360	0	0.00	\$0.00	0.000%	0
Fall Armyworm	3,600	0	0	0.00	\$0.00	0.000%	0
Loopers	3,600	0	0	0.00	\$0.00	0.000%	0
Cutworms	18,000	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	180	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	3,420,000	252,000	1	0.07	\$0.56	0.010%	584
Lygus	900,000	0	0	0.00	\$0.00	0.000%	0
Stink Bugs	720,000	108,000	2	0.05	\$0.23	0.400%	24,600
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	72,000	3,600	1	0.00	\$0.01	0.000%	0
Thrips	3,564,000	864,000	2	0.36	\$2.52	0.050%	3,044
Aphids	360,000	18,000	1	0.01	\$0.03	0.000%	0
Grasshoppers	900,000	18,000	1	0.01	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				0.49	\$3.35	0.46%	28,229

Yield & Management Results

Total Acres	3,600,000
Total bales Harvested	6,000,000
yield (lbs/acre)	800
Total bales Lost to Insects	34,379
Percent Yield Loss	0.56%
Yield w/o Insects (lbs/ac)	804
Ave. # Spray Applications	0.50
Bales lost all factors	590,954
% yield loss all factors	9.61%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$12,350,700	\$3.43
At Planting Costs	\$20,534,400	\$5.70
In-furrow costs	\$648,000	\$0.18
Scouting costs	\$1,260,000	\$0.35
Eradication costs	\$21,600,000	\$6.00
Transgenic cotton	\$58,968,000	\$16.38
Total Costs	\$115,361,100	\$32.04
Yield Lost to insects	\$11,221,142	\$3.12
Total Losses + Costs	\$126,582,242	\$35.16

Table 25

Virginia Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	36,000	36,000	1	0.50	\$3.00	1.000%	1,863
Beet Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Fall Armyworm	0	0	0	0.00	\$0.00	0.000%	0
Loopers	0	0	0	0.00	\$0.00	0.000%	0
Cutworms	0	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	0	0	0	0.00	\$0.00	0.000%	0
Lygus	72,000	72,000	2	2.00	\$3.20	1.500%	2,794
Stink Bugs	18,000	18,000	1	0.25	\$1.00	0.125%	233
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	0	0	0	0.00	\$0.00	0.000%	0
Thrips	72,000	72,000	1	1.00	\$6.40	1.000%	1,863
Aphids	0	0	0	0.00	\$0.00	0.000%	0
Grasshoppers	0	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				3.75	\$13.60	3.63%	6752

Yield & Management
Results

Total Acres	72,000
Total bales Harvested	105,000
yield (lbs/acre)	700
Total bales Lost to Insects	6,752
Percent Yield Loss	3.63%
Yield w/o Insects (lbs/ac)	726
Ave. # Spray Applications	3.75
Bales lost all factors	81,253
% yield loss all factors	43.63%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$979,200	\$13.60
At Planting Costs	\$576,000	\$8.00
In-furrow costs	\$64,800	\$0.90
Scouting costs	\$72,000	\$1.00
Eradication costs	\$36,000	\$0.50
Transgenic cotton	\$1,440,000	\$20.00
Total Costs	\$3,168,000	\$44.00
Yield Lost to insects	\$2,268,559	\$31.51
Total Losses + Costs	\$5,436,559	\$75.51

Table 26

Southeast Area States Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	937,069	331,327	1	0.20	\$1.46	0.311%	19,021
Beet Armyworm	11,900	28	0	0.00	\$0.00	0.000%	0
Fall Armyworm	38,900	1,800	1	0.00	\$0.01	0.000%	0
Loopers	4,700	0	0	0.00	\$0.00	0.000%	0
Cutworms	21,928	1,903	1	0.00	\$0.00	0.001%	55
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	2,900	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	191,800	173,345	0	0.00	\$0.00	0.000%	0
Lygus	1,269,864	639,293	2	0.59	\$3.86	0.240%	13,879
Stink Bugs	1,966,571	1,747,641	2	1.47	\$10.20	1.400%	80,690
Clouded Plant bugs	16,900	1,187	0	0.00	\$0.00	0.000%	0
Brown Stink bug	239,365	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	241,626	7,140	0	0.00	\$0.00	0.001%	42
Spider Mites	893,850	125,795	1	0.06	\$0.60	0.180%	11,213
Thrips	2,151,447	1,104,628	1	0.51	\$3.15	0.927%	54,400
Aphids	1,339,895	176,540	1	0.08	\$0.53	0.008%	479
Grasshoppers	517,492	13,673	0	0.00	\$0.01	0.000%	0
Banded Winged Whitefly	346,900	0	0	0.00	\$0.00	0.092%	3,562
Silverleaf Whitefly	254,000	106,200	1	0.06	\$0.71	0.109%	6,844
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.98	\$20.53	3.269%	190,186

Yield & Management Results	
Total Acres	2,164,275
Total bales Harvested	3,934,821
yield (lbs/acre)	873
Total bales Lost to Insects	190,186
Percent Yield Loss	3.27%
Yield w/o Insects (lbs/ac)	902
Ave. # Spray Applications	2.98
Bales lost all factors	1,889,072
% yield loss all factors	32.27%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$44,422,764	\$20.53
At Planting Costs	\$18,416,544	\$8.51
In-furrow costs	\$3,729,990	\$1.72
Scouting costs	\$10,384,782	\$4.80
Eradication costs	\$3,006,413	\$1.39
Transgenic cotton	\$38,380,856	\$17.73
Total Costs	\$118,341,350	\$54.68
Yield Lost to insects	\$62,286,086	\$28.78
Total Losses + Costs	\$180,627,436	\$83.46

Table 27

Midsouth Area States Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	1,311,200	1,036,435	1	0.81	\$9.72	1.560%	84,402
Beet Armyworm	62,450	528	0	0.00	\$0.00	0.000%	16
Fall Armyworm	520,471	138,570	1	0.07	\$0.64	0.419%	21,604
Loopers	64,500	0	0	0.00	\$0.00	0.000%	0
Cutworms	251,510	492,936	1	0.34	\$1.47	0.001%	45
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	20,423	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	390,500	17,850	0	0.00	\$0.00	0.000%	18
Lygus	1,457,000	1,420,500	4	3.71	\$34.45	4.026%	216,933
Stink Bugs	935,250	425,000	1	0.29	\$2.16	0.771%	38,829
Clouded Plant bugs	343,780	103,079	1	0.04	\$0.27	0.153%	8,037
Brown Stink bug	424,000	75,325	0	0.00	\$0.01	0.033%	1,803
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	8,326	0	0	0.00	\$0.00	0.000%	0
Spider Mites	762,326	343,350	1	0.38	\$3.98	0.526%	29,006
Thrips	1,182,500	680,320	1	0.48	\$3.29	1.047%	52,236
Aphids	823,450	505,550	1	0.35	\$2.13	0.162%	9,192
Grasshoppers	183,900	15,064	0	0.00	\$0.03	0.000%	0
Banded Winged Whitefly	137,215	5,621	1	0.00	\$0.04	0.043%	2,069
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	1.56	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				8.03	\$58.18	8.741%	464,190

Yield & Management Results

Total Acres	1,457,000
Total bales Harvested	3,420,405
yield (lbs/acre)	1,127
Total bales Lost to Insects	464,190
Percent Yield Loss	8.74%
Yield w/o Insects (lbs/ac)	1,235
Ave. # Spray Applications	8.03
Bales lost all factors	1,816,802
% yield loss all factors	34.16%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$84,761,631	\$58.18
At Planting Costs	\$17,027,625	\$11.69
In-furrow costs	\$2,047,080	\$1.40
Scouting costs	\$10,962,652	\$7.52
Eradication costs	\$5,772,500	\$3.96
Transgenic cotton	\$27,932,707	\$19.17
Total Costs	\$148,504,195	\$101.92
Yield Lost to insects	\$153,667,932	\$105.47
Total Losses + Costs	\$302,172,126	\$207.39

Table 28

Central Area States Summary

Cotton Insect Losses 2016

Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	1,449,686	112,208	1	0.02	\$0.14	0.132%	13,587
Beet Armyworm	3,840	360	0	0.00	\$0.00	0.000%	0
Fall Armyworm	4,802	0	0	0.00	\$0.00	0.000%	0
Loopers	3,600	0	0	0.00	\$0.00	0.000%	0
Cutworms	30,020	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	0	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	0	0	0	0.00	\$0.00	0.000%	0
Verde Plant Bugs	157,780	75,460	0	0.00	\$0.01	0.001%	52
Cotton Fleahopper	5,575,342	1,159,146	1	0.23	\$1.52	0.147%	15,847
Lygus	1,829,550	107,550	0	0.01	\$0.04	0.005%	643
Stink Bugs	1,440,880	449,215	1	0.11	\$0.53	0.438%	44,902
Clouded Plant bugs	0	0	0	0.00	\$0.00	0.000%	0
Brown Stink bug	0	0	0	0.00	\$0.00	0.000%	0
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	0	0	0	0.00	\$0.00	0.000%	0
Spider Mites	87,013	9,905	1	0.00	\$0.02	0.003%	324
Thrips	5,504,365	1,146,176	1	0.24	\$1.46	0.078%	8,154
Aphids	984,165	146,437	1	0.03	\$0.16	0.000%	20
Grasshoppers	1,041,055	54,060	1	0.01	\$0.01	0.000%	19
Banded Winged Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	0	0	0	0.00	\$0.00	0.000%	0
Darkling Beetle	0	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	0	0	0	0.00	\$0.00	0.000%	0
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	0	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	68,600	0	0	0.00	\$0.00	0.000%	0
				0.64	\$3.89	0.804%	83,547

Yield & Management Results

Total Acres	5,818,302
Total bales Harvested	9,060,636
yield (lbs/acre)	747
Total bales Lost to Insects	83,547
Percent Yield Loss	0.80%
Yield w/o Insects (lbs/ac)	754
Ave. # Spray Applications	0.64
Bales lost all factors	1,290,764
% yield loss all factors	12.54%

Economic Results

	Total	Per Acre
Foliar Insecticides Costs	\$22,632,934	\$3.89
At Planting Costs	\$33,214,919	\$5.71
In-furrow costs	\$585,600	\$0.10
Scouting costs	\$5,728,167	\$0.98
Eradication costs	\$38,882,554	\$6.68
Transgenic cotton	\$86,570,674	\$14.88
Total Costs	\$187,614,848	\$32.25
Yield Lost to insects	\$27,072,573	\$4.65
Total Losses + Costs	\$214,687,421	\$36.90

Table 29

		Western Area States		Cotton Insect losses 2016			
Pest	acres infested	acres treated	#apps/ acre trtd	#apps/ tot acres	cost/ acre	%red	Bales lost
Bollworm/Budworm	11,422	186	1	0.00	\$0.01	0.012%	107
Beet Armyworm	51,897	26	1	0.00	\$0.00	0.001%	13
Fall Armyworm	7,753	186	1	0.00	\$0.01	0.000%	0
Loopers	49,525	0	0	0.00	\$0.00	0.000%	0
Cutworms	2,301	0	0	0.00	\$0.00	0.000%	0
Cotton Leafperforator	6,648	0	0	0.00	\$0.00	0.000%	0
Saltmarsh Caterpillar	8,446	982	1	0.00	\$0.05	0.004%	68
Verde Plant Bugs	0	0	0	0.00	\$0.00	0.000%	0
Cotton Fleahopper	71,983	5,129	1	0.01	\$0.08	0.068%	574
Lygus	349,686	207,261	2	0.98	\$16.91	2.029%	28,700
Stink Bugs	47,500	1,375	1	0.00	\$0.06	0.015%	137
Clouded Plant bugs	2,969	74	1	0.00	\$0.00	0.013%	104
Brown Stink bug	42,594	1,090	1	0.00	\$0.02	0.010%	159
Bagrada Bugs	0	0	0	0.00	\$0.00	0.000%	0
Leaf footed bugs	2,827	0	0	0.00	\$0.00	0.000%	0
Spider Mites	235,591	201,409	1	0.54	\$6.64	0.017%	270
Thrips	364,951	50,743	1	0.14	\$1.09	0.191%	1,685
Aphids	126,635	35,185	1	0.09	\$0.69	0.004%	71
Grasshoppers	1,809	0	0	0.00	\$0.00	0.000%	0
Banded Winged Whitefly	11,026	0	0	0.00	\$0.00	0.000%	0
Silverleaf Whitefly	211,999	108,607	2	0.50	\$17.60	0.340%	42,918
Darkling Beetle	2,906	0	0	0.00	\$0.00	0.000%	0
Pale-striped Flea Beetles	14,475	3,244	1	0.01	\$0.12	0.006%	85
Mealybugs	0	0	0	0.00	\$0.00	0.000%	0
Crickets	982	0	0	0.00	\$0.00	0.000%	0
Boll Weevils	0	0	0	0.00	\$0.00	0.000%	0
				2.28	\$43.29	2.711%	37,466

Yield & Management Results	
Total Acres	371,594
Total bales Harvested	1,202,373
yield (lbs/acre)	1,553
Total bales Lost to Insects	37,466
Percent Yield Loss	2.71%
Yield w/o Insects (lbs/ac)	1,596
Ave. # Spray Applications	2.28
Bales lost all factors	158,949
% yield loss all factors	11.66%

Economic Results	Total	Per Acre
Foliar Insecticides Costs	\$16,086,085	\$43.29
At Planting Costs	\$490,258	\$1.32
In-furrow costs	\$13,613	\$0.04
Scouting costs	\$3,824,638	\$10.29
Eradication costs	\$2,509,740	\$6.75
Transgenic cotton	\$2,130,193	\$5.73
Total Costs	\$25,054,527	\$67.42
Yield Lost to insects	\$16,580,190	\$44.62
Total Losses + Costs	\$41,634,717	\$112.04

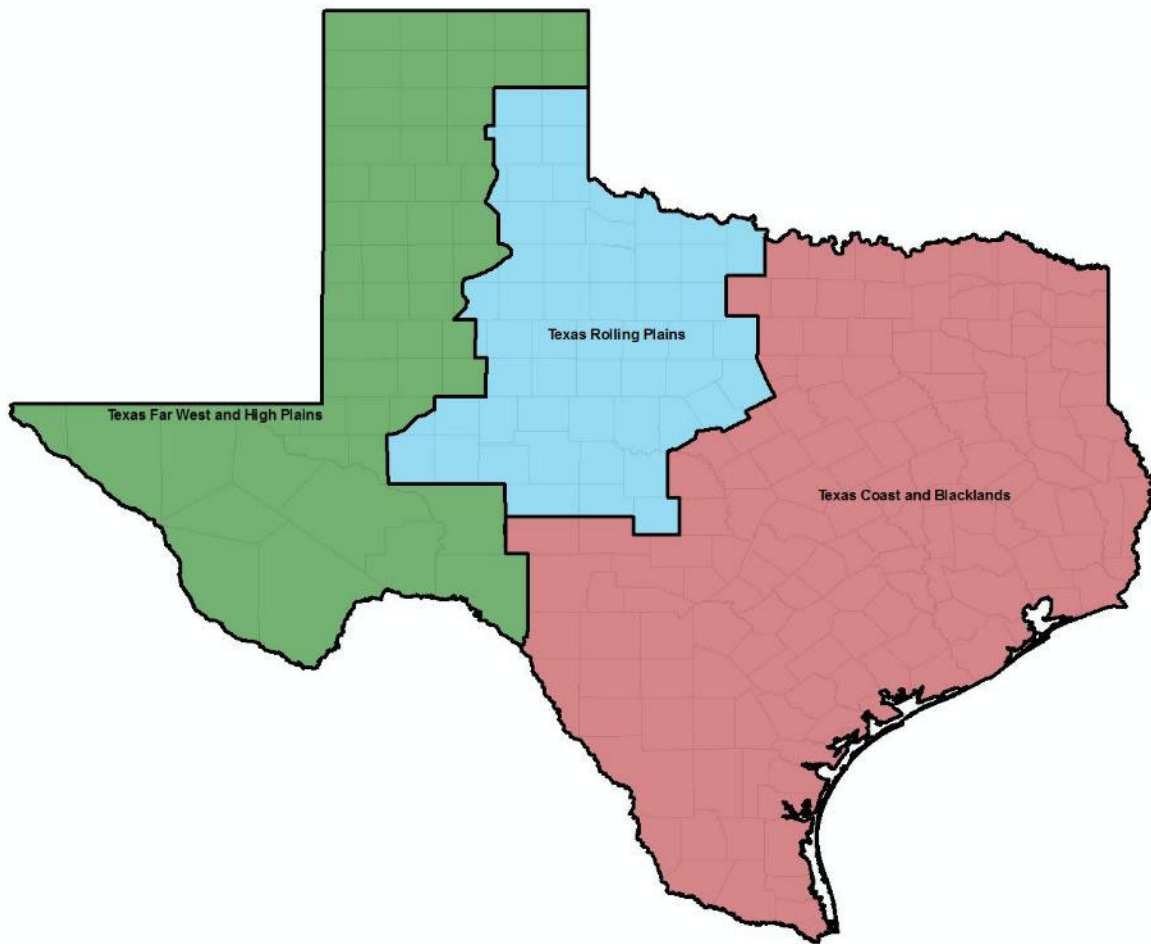


Figure 1: Texas reporting areas