2017 COTTON INSECT LOSS ESTIMATES

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Background

Since 1978, estimates of losses resulting from cotton insect pests have been compiled based on surveys and observations of county agents, extension specialists, crop consultants, and research entomologists. Over the years additional information has been added to the surveys and report as situations have evolved (ex. introduction of Bt cotton, boll weevil eradication). This report is sponsored by the Cotton Foundation. I personally wish to thank all who contributed to this report.

Explanation of Tables

Data are weighted averages across a reporting unit (state, region within a state). These averages are based on the number of acres reported, the number of acres infested (with losses), and the estimated percent loss. Numbers of bales and numbers of acres are rounded to the nearest whole number, and bale weight was set at 480 lbs. The information included in this report are estimates across an area (portion of a state, state) and may not completely reflect what occurred at the local or individual farm level.

State Coordinators

Alabama – Tim Reed and Ron Smith
Arkansas – Gus Lorenz, Glenn Studebaker, and Nick Bateman
Arizona – Peter Ellsworth
California – Bob Hutmacher
Florida – Mike Donahoe
Georgia – Phillip Roberts
Kansas – Stu Duncan
Louisiana – Sebe Brown
Mississippi – Angus Catchot and Jeff Gore
Missouri – Scott Stewart and Glenn Studebaker
New Mexico – Jane Pierce
North Carolina – Dominic Reisig
Oklahoma – Jerry Goodson and Randy Bowman
South Carolina – Jeremy Greene
Tennessee - Scott Stewart
Texas – Charles Allen, David Kerns, Suhas Vyavhare, and Robert Bowling
Virginia – Sally Taylor

Table 1. Cotton insect loss estimates for South Alabama during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	261,209	100%	26,121	10%	1.0	$7.00	1.00%	0.10	$0.70	1.00%	6,177	$2,228,669	$8.53	27.5%
Beet Armyworm	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	7,836	3%	26,121	10%	1.0	$5.00	0.00%	0.10	$0.50	0.00%	0	$3,918	$0.01	0.0%
Cotton Leaf Perforator	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	52,242	20%	13,060	5%	1.0	$5.00	0.10%	0.05	$0.25	0.02%	124	$54,129	$0.21	0.7%
Cotton Fleahopper	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	261,209	100%	208,967	80%	1.5	$4.50	1.00%	1.20	$5.40	1.00%	6,177	$3,456,351	$13.23	42.7%
Brown Stink Bug	261,209	100%	52,242	20%	1.0	$5.00	0.10%	0.20	$1.00	0.10%	618	$465,891	$1.78	5.7%
Clouded Plant Bug	39,181	15%	26,121	10%	1.0	$5.00	0.10%	0.10	$0.50	0.02%	93	$50,392	$0.19	0.6%
Leaf Footed Bugs	78,363	30%	130,605	50%	1.0	$5.00	0.00%	0.50	$2.50	0.00%	0	$195,907	$0.75	2.4%
Spider Mites	52,242	20%	7,836	3%	1.0	$10.00	0.00%	0.03	$0.30	0.00%	0	$15,673	$0.06	0.2%
Thrips	261,209	100%	52,242	20%	1.0	$5.00	0.20%	0.20	$1.00	0.20%	1,235	$670,241	$2.57	8.3%
Aphids	91,423	35%	13,060	5%	1.0	$3.00	0.00%	0.05	$0.15	0.00%	0	$13,713	$0.05	0.2%
Grasshoppers	65,302	25%	39,181	15%	1.0	$7.00	0.00%	0.15	$1.05	0.00%	0	$68,567	$0.26	0.8%
Banded Winged Whitefly	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	65,302	25%	52,242	20%	1.5	$24.00	0.80%	0.30	$7.20	0.20%	1,235	$879,208	$3.37	10.9%
Boll Weevil	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.98	$20.55	2.54%	15,659	$8,102,659	$31.02	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Alabama			Total Acres	261,209		Total	Per Acre
Region	Southeast			Total Bales Harvested	492,488	Foliar Insecticide Costs	$5,367,845	$20.55
Year	2017			Total Bales Lost to Insects	15,659	Seed Treatment Costs	$3,291,233	$12.60
Total Acres (Upland)	261,209	In-furrow cost/treated acre	$12.00	Percent Yield Loss	2.5%	In-Furrow Costs	$156,725	$0.60
Yield / Acre (Upland)	905	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	929	Scouting Costs	$1,887,235	$7.22
Price / lb	$0.69	Cost/acre Boll Weevil Eradication	$3.50	Av. # Applications	2.98	Eradication Costs	$914,232	$3.50
yield potential (lb/acre)	1,135	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	124,982	Bt Cotton	$4,586,824	$17.56
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	20.2%	Total Costs	$16,204,094	$62.03
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	261,209	Yield Loss to Insects	$5,186,261	$19.85
% Acres Scouted	85%	No. apps by air	1	Boll Weevil Eradication (# acres)	261,209	Total Losses + Costs	$21,390,355	$81.89
Fee / Scouted Acre	$8.50	Cost/app by air	$5.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	222,028			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	235,088			
Cost/treated acre (Bt) Cotton	$17.56	Cost/app by ground	$4.50	In-Furrow Applications (# acres)	13,060			
% acres with seed treatment	90%	% Loss to weather	10.7%	Applications by Air (acres)	39,181			
Seed trt. cost/ treated acre	$14.00	% loss to non-arthropods	5.0%	Applications by Ground (acres)	222,028			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	5,224			

Table 1. Cotton insect loss estimates for South Alabama during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	75.0%	195,907	$60.00	$20.00	10%	19,591	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	13.0%	33,957	$45.00	$12.00	30%	10,187	1.0	100%
WideStrike 3	7.0%	18,285	-	-	-	-	-	-
TwinLink	5.0%	13,060	$60.00	$20.00	10%	1,306	1.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	261,209	$53.85	$17.56	11.9%	31,084	0.9	93.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	261,209	$53.85	$17.56	11.9%	31,084	0.9	93.0%
Non Upland Cotton			-	-	-	-	-	-
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		275,387	$53.85		11.9%	32,771	0.9	

Table 2. Cotton insect loss estimates for North Alabama during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	171,767	100%	42,942	25.0%	1.0	$11.00	2.50%	0.25	$2.75	2.50%	10,735	$4,027,791	$23.45	43.1%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	8,588	5%	3,435	2.0%	1.0	$7.50	0.00%	0.02	$0.15	0.00%	0	$1,288	$0.01	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	171,767	100%	154,590	90.0%	2.0	$11.00	0.75%	1.80	$19.80	0.75%	3,221	$4,467,782	$26.01	47.8%
Cotton Fleahopper	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	171,767	100%	8,588	5.0%	1.0	$8.50	0.03%	0.05	$0.43	0.03%	129	$115,726	$0.67	1.2%
Brown Stink Bug	171,767	100%	1,718	1.0%	1.0	$10.00	0.00%	0.01	$0.10	0.00%	4	$18,502	$0.11	0.2%
Clouded Plant Bug	42,942	25%	3,435	2.0%	1.0	$8.50	0.00%	0.02	$0.17	0.00%	0	$7,300	$0.04	0.1%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	171,767	100%	859	0.5%	1.0	$10.00	0.00%	0.01	$0.10	0.00%	0	$17,177	$0.10	0.2%
Thrips	171,767	100%	60,118	35.0%	1.0	$9.00	0.10%	0.35	$3.15	0.10%	429	$683,151	$3.98	7.3%
Aphids	171,767	100%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	17,177	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.51	$26.65	3.38%	14,518	$9,338,717	$54.37	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Alabama			Total Acres	171,767			
Region	Southeast			Total Bales Harvested	322,063	Foliar Insecticide Costs	$4,576,732	$26.65
Year	2017			Total Bales Lost to Insects	14,518	Seed Treatment Costs	$1,545,903	$9.00
Total Acres (Upland)	171,767	In-furrow cost/treated acre	$12.00	Percent Yield Loss	3.4%	In-Furrow Costs	$103,060	$0.60
Yield / Acre (Upland)	900	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	931	Scouting Costs	$1,004,837	$5.85
Price / lb	$0.69	Cost/acre Boll Weevil Eradication	$3.50	Av. # Applications	2.51	Eradication Costs	$601,185	$3.50
yield potential (lb/acre)	1,200	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	87,520	Bt Cotton	$2,950,958	$17.18
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	20.4%	Total Costs	$10,782,675	$62.78
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	171,767	Yield Loss to Insects	$4,808,362	$27.99
% Acres Scouted	90%	No. apps by air	1	Boll Weevil Eradication (# acres)	171,767	Total Losses + Costs	$15,591,037	$90.77
Fee / Scouted Acre	$6.50	Cost/app by air	$5.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	154,590			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	154,590			
Cost/treated acre (Bt) Cotton	$17.18	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	8,588			
% acres with seed treatment	90%	% Loss to weather	10.0%	Applications by Air (acres)	25,765			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	5.0%	Applications by Ground (acres)	146,002			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	8,588			

Table 2. Cotton insect loss estimates for North Alabama during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	75.0%	128,825	$57.00	$18.00	25%	32,206	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	17.0%	29,200	$41.00	$13.00	35%	10,220	1.5	100%
WideStrike 3	3.0%	5,153	$47.00	$19.00	0%	0	0.0	0%
TwinLink	5.0%	8,588	$57.00	$18.00	25%	2,147	1.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	171,766	$53.98	$17.18	25.9%	44,573	1.1	97.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	171,766	$53.98	$17.18	25.9%	44,573	1.1	97.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		171,766	$53.98		25.9%	44,573	1.1	

Table 3. Cotton insect loss estimates for Alabama during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	432,976	100%	69,063	16.0%	1.0	$8.59	1.60%	0.16	$1.37	1.60%	16,266	$5,980,275	$13.81	43.6%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	16,425	4%	29,556	6.8%	1.0	$5.99	0.00%	0.07	$0.41	0.00%	0	$6,769	$0.02	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	224,009	52%	167,651	38.7%	1.4	$7.38	0.36%	0.54	$3.99	0.19%	1,888	$1,519,425	$3.51	11.1%
Cotton Fleahopper	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	432,976	100%	217,556	50.2%	1.3	$6.09	0.62%	0.65	$3.98	0.62%	6,273	$3,801,435	$8.78	27.7%
Brown Stink Bug	432,976	100%	53,959	12.5%	1.0	$6.98	0.06%	0.12	$0.87	0.06%	619	$581,926	$1.34	4.2%
Clouded Plant Bug	82,123	19%	29,556	6.8%	1.0	$6.39	0.06%	0.07	$0.44	0.01%	117	$74,715	$0.17	0.5%
Leaf Footed Bugs	78,363	18%	130,605	30.2%	0.6	$3.02	0.00%	0.18	$0.55	0.00%	0	$43,015	$0.10	0.3%
Spider Mites	224,009	52%	8,695	2.0%	1.0	$10.00	0.00%	0.02	$0.20	0.00%	0	$44,986	$0.10	0.3%
Thrips	432,976	100%	112,360	26.0%	1.0	$6.59	0.16%	0.26	$1.71	0.16%	1,635	$1,281,600	$2.96	9.3%
Aphids	263,190	61%	13,060	3.0%	0.6	$1.81	0.00%	0.02	$0.03	0.00%	0	$8,668	$0.02	0.1%
Grasshoppers	82,479	19%	39,181	9.0%	0.6	$4.22	0.00%	0.05	$0.23	0.00%	0	$19,015	$0.04	0.1%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	65,302	15%	52,242	12.1%	0.9	$14.48	0.48%	0.11	$1.58	0.07%	742	$349,084	$0.81	2.5%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.26	$15.36	2.70%	27,541	$13,710,914	$31.67	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Alabama			Total Acres	432,976			
Region	Southeast			Total Bales Harvested	814,551	Foliar Insecticide Costs	$6,650,910	$15.36
Year	2017			Total Bales Lost to Insects	27,541	Seed Treatment Costs	$4,837,136	$11.17
Total Acres (Upland)	432,976	In-furrow cost/treated acre	$12.00	Percent Yield Loss	2.7%	In-Furrow Costs	$259,786	$0.60
Yield / Acre (Upland)	903	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	928	Scouting Costs	$2,902,434	$6.70
Price / lb	$0.69	Cost/acre Boll Weevil Eradication	$3.50	Av. # Applications	2.3	Eradication Costs	$1,515,416	$3.50
yield potential (lb/acre)	1,131	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	131,766	Bt Cotton	$7,612,397	$17.58
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	20.1%	Total Costs	$23,778,080	$54.92
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	432,976	Yield Loss to Insects	$9,121,727	$21.07
% Acres Scouted	87%	No. apps by air	1	Boll Weevil Eradication (# acres)	432,976	Total Losses + Costs	$32,899,807	$75.99
Fee / Scouted Acre	$7.71	Cost/app by air	$5.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	376,618			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.7	Seed Treatments (arthropods) (# acres)	389,678			
Cost/treated acre (Bt) Cotton	$17.58	Cost/app by ground	$4.70	In-Furrow Applications (# acres)	21,649			
% acres with seed treatment	90%	% Loss to weather	10.4%	Applications by Air (acres)	64,946			
Seed trt. cost/ treated acre	$12.41	% loss to non-arthropods	5.0%	Applications by Ground (acres)	368,030			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	13,813			

Table 3. Cotton insect loss estimates for Alabama during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	75%	324,732	$36.20	$19.21	16%	51,797	1.0	100%
Bollgard III	0%	0	-	-	-	-	-	-
WideStrike	15%	63,158	$27.15	$12.40	32%	20,200	1.2	100%
WideStrike 3	5%	23,438	$0.00	$7.54	0%	0	0.0	0%
TwinLink	5%	21,649	$36.20	$19.21	16%	3,453	1.0	100%
TwinLink Plus	0%	0	-	-	-	-	-	-
Total Bt	100%	432,976	$32.92	$17.58	17.4%	75,450	1.0	94.6%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	432,976	$32.92	$17.58	17.4%	75,450	1.0	94.6%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		432,976	$32.92		17.4%	75,450	1.0	

Table 4. Cotton insect loss estimates for Arizona non Bt cotton during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	2,890	56%	2,229	43.2%	1.6	$28.83	1.77%	0.68	$19.61	0.99%	195	$122,175	$23.68	25.3%
Beet Armyworm	1,238	24%	826	16.0%	2.0	$15.50	0.00%	0.32	$4.96	0.00%	0	$6,142	$1.19	1.3%
Fall Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	310	6%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	722	14%	0	0.0%	0.0	$0.00	0.37%	0.00	$0.00	0.05%	10	$3,360	$0.65	0.7%
Saltmarsh Caterpillar	2,374	46%	103	2.0%	1.0	$18.00	0.20%	0.02	$0.36	0.09%	18	$6,902	$1.34	1.4%
Lygus	4,954	96%	3,406	66.0%	1.8	$25.10	2.00%	1.19	$29.87	1.92%	377	$274,631	$53.22	56.9%
Cotton Fleahopper	2,786	54%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	1,197	23%	0	0.0%	0.0	$0.00	0.74%	0.00	$0.00	0.17%	34	$11,424	$2.21	2.4%
Brown Stink Bug	619	12%	0	0.0%	0.0	$0.00	0.74%	0.00	$0.00	0.09%	17	$5,712	$1.11	1.2%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	310	6%	155	3.0%	1.0	$17.00	0.00%	0.03	$0.51	0.00%	0	$158	$0.03	0.0%
Thrips	5,160	100%	413	8.0%	1.0	$7.00	0.00%	0.08	$0.56	0.00%	0	$2,890	$0.56	0.6%
Aphids	413	8%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	2,477	48%	1,290	25.0%	1.3	$30.00	0.50%	0.33	$9.90	0.24%	47	$40,312	$7.81	8.4%
Darkling Beetles	1,754	34%	93	1.8%	1.0	$16.00	0.37%	0.02	$0.32	0.13%	25	$8,961	$1.74	1.9%
Pale-Striped Flea Beetle	1,754	34%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Empoasca leafhoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Mealybugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.67	$66.09	3.68%	723	$482,667	$93.54	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arizona			Total Acres	19,374		Total	Per Acre
Region	West			Total Bales Harvested	14,710	Foliar Insecticide Costs	$341,002	$66.09
Year	2017			Total Bales Lost to Insects	723	Seed Treatment Costs	$6,192	$1.20
Total Acres (Upland)	5,160	In-furrow cost/treated acre	$18.00	Percent Yield Loss	3.7%	In-Furrow Costs	$31,579	$6.12
Yield / Acre (Upland)	1,368	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,421	Scouting Costs	$59,030	$11.44
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.47	Av. # Applications	2.67	Eradication Costs	$35,965	$6.97
yield potential (lb/acre)	1,826	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	4,511	Bt Cotton	$0	$0.00
Acres (Pima)	14,214	Cost/acre Pink Bollworm Eradication	$5.50	Total % yield Loss	23.0%	Total Costs	$473,768	$91.82
Yield / Acre (Pima)	1,383	% Insect apps by air	85%	Transgenic Cotton (arthropods) (# acres)	0	Yield Loss to Insects	$242,928	$47.08
% Acres Scouted	80%	No. apps by air	2.4	Boll Weevil Eradication (# acres)	5,160	Total Losses + Costs	$716,696	$138.89
Fee / Scouted Acre	$14.30	Cost/app by air	$18.50	Pink Bollworm Eradication (# acres)	5,160			
No. times scouted/week	2.5	% insect apps by ground	75%	# Scouted Acres	4,128			
% acres Transgenic (Bt) Cotton	0%	No. apps by ground	1.625	Seed Treatments (arthropods) (# acres)	1,238			
Cost/treated acre (Bt) Cotton	$0.00	Cost/app by ground	$13.38	In-Furrow Applications (# acres)	1,754			
% acres with seed treatment	24%	% Loss to weather	7.7%	Applications by Air (acres)	4,386			
Seed trt. cost/ treated acre	$5.00	% loss to non-arthropods	7.5%	Applications by Ground (acres)	3,870			
% acres with in-furrow	34%	% loss to other (chemical injury, weeds, diseases, etc.)	4.1%	No. acres with no foliar insecticide applications	1,290			

Table 4. Cotton insect loss estimates for Arizona non Bt cotton during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	-	-	-	-	-	-	-	-
Bollgard III	-	-	-	-	-	-	-	-
WideStrike	-	-	-	-	-	-	-	-
WideStrike 3	-	-	-	-	-	-	-	-
TwinLink	-	-	-	-	-	-	-	-
TwinLink Plus	-	-	-	-	-	-	-	-
Total Bt	0%	0						
Herbicide Traits Only	89%	4,644	-	-	-	-	-	-
Conventional	11%	516	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	5,160	-	-	-	-	-	-
Non Upland Cotton			-	-	-	-	-	-
Pima	100.0%	14,214	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Organic	-	-	-	-	-	-	-	-
Total (all Cotton)		19,374						

Table 5. Cotton insect loss estimates for Arizona transgenic Bt cotton during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	15,059	9.78%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Beet Armyworm	15,576	10.11%	1,772	1.2%	0.5	$7.00	0.01%	0.01	$0.07	0.00%	7	$3,442	$0.02	0.0%
Fall Armyworm	13,140	8.53%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	26,132	16.97%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	1,476	0.96%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0.00%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	19,953	12.96%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	151,215	98.19%	115,496	75.0%	1.8	$21.96	3.28%	1.31	$28.77	3.22%	21,502	$11,574,392	$75.16	75.6%
Cotton Fleahopper	93,947	61.01%	14,026	9.1%	0.8	$11.25	0.18%	0.07	$0.79	0.11%	715	$314,223	$2.04	2.1%
Stink Bugs (other than brown stink bug)	56,346	36.59%	0	0.0%	0.0	$0.00	0.15%	0.00	$0.00	0.06%	374	$125,664	$0.82	0.8%
Brown Stink Bug	57,799	37.53%	960	0.6%	0.9	$10.00	0.31%	0.01	$0.10	0.12%	769	$264,164	$1.72	1.7%
Clouded Plant Bug	0	0.00%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	1,476	0.96%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	32,140	20.87%	11,315	7.3%	1.0	$15.55	0.41%	0.07	$1.09	0.09%	575	$228,174	$1.48	1.5%
Thrips	153,995	100.00%	12,009	7.8%	0.8	$9.85	0.01%	0.07	$0.69	0.01%	33	$117,214	$0.76	0.8%
Aphids	21,223	13.78%	5,849	3.8%	0.9	$16.57	0.06%	0.04	$0.66	0.01%	53	$31,876	$0.21	0.2%
Grasshoppers	7,152	4.64%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	34,118	22.16%	1,070	0.7%	1.0	$35.50	0.02%	0.01	$0.36	0.01%	33	$23,200	$0.15	0.2%
Silverleaf Whitefly	93,401	60.65%	61,518	39.9%	1.4	$27.05	0.84%	0.54	$14.61	0.51%	3,409	$2,509,732	$16.30	16.4%
Darkling Beetles	23,327	15.15%	2,067	1.3%	1.0	$14.50	0.10%	0.01	$0.15	0.01%	94	$34,966	$0.23	0.2%
Pale-Striped Flea Beetle	55,635	36.13%	7,426	4.8%	0.7	$16.67	0.06%	0.04	$0.67	0.02%	147	$86,482	$0.56	0.6%
Empoasca leafhoppers	4,051	2.63%	387	0.3%	1.0	$24.24	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Mealybugs	92	0.06%	92	0.06%	0.5	$20.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0.00%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.18	$47.94	4.15%	27,711	$15,313,529	$99.44	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arizona			Total Acres	153,995		Total	Per Acre
Region	West			Total Bales Harvested	523,366	Foliar Insecticide Costs	$7,381,986	$47.94
Year	2017			Total Bales Lost to Insects	27,711	Seed Treatment Costs	$140,445	$0.91
Total Acres (Upland)	153,995	In-furrow cost/treated acre	$15.67	Percent Yield Loss	4.1%	In-Furrow Costs	$95,296	$0.62
Yield / Acre (Upland)	1,631	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,702	Scouting Costs	$1,807,330	$11.74
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.47	Av. # Applications	2.18	Eradication Costs	$1,073,345	$6.97
yield potential (lb/acre)	2,083	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	140,995	Bt Cotton	$5,790,030	$37.60
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$5.50	Total % yield Loss	21.1%	Total Costs	$16,288,432	$105.77
Yield / Acre (Pima)	0	% Insect apps by air	59%	Transgenic Cotton (arthropods) (# acres)	150,390	Yield Loss to Insects	$9,310,896	$60.46
% Acres Scouted	99%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	153,995	Total Losses + Costs	$25,599,328	$166.23
Fee / Scouted Acre	$11.85	Cost/app by air	$10.95	Pink Bollworm Eradication (# acres)	153,995			
No. times scouted/week	1.98	% insect apps by ground	56%	# Scouted Acres	152,455			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	2.4	Seed Treatments (arthropods) (# acres)	18,979			
Cost/treated acre (Bt) Cotton	$38.50	Cost/app by ground	$10.02	In-Furrow Applications (# acres)	6,083			
% acres with seed treatment	12%	% Loss to weather	9.7%	Applications by Air (acres)	91,262			
Seed trt. cost/ treated acre	$7.40	% loss to non-arthropods	1.4%	Applications by Ground (acres)	86,704			
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	5.8%	No. acres with no foliar insecticide applications	21,097			

Table 5. Cotton insect loss estimates for Arizona transgenic Bt cotton during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	77.4%	119,246	-	$38.50	-	-	-	-
Bollgard III	5.2%	7,988	-	$38.50	-	-	-	-
WideStrike	4.8%	7,358	-	$38.50	-	-	-	-
WideStrike 3	3.3%	5,057	-	$38.50	-	-	-	-
TwinLink	1.9%	2,956	-	$38.50	-	-	-	-
TwinLink Plus	5.1%	7,786	-	$38.50	-	-	-	-
Total Bt	97.7%	150,391	-	$38.50	-	-	-	-
Herbicide Traits Only	2.1%	3,208	-	-	-	-	-	-
Conventional	0.3%	397	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	153,996	-	-	-	-	-	-
Non Upland Cotton			-	-	-	-	-	-
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		153,996	-	-	-	-	-	-

Table 6. Cotton insect loss estimates for Arizona during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	17,949	11%	2,229	1.4%	0.1	$0.93	0.06%	0.00	$0.00	0.01%	44	$14,863	$0.09	0.1%
Beet Armyworm	16,814	11%	2,597	1.6%	0.5	$7.28	0.01%	0.01	$0.07	0.00%	4	$2,415	$0.02	0.0%
Fall Armyworm	13,140	8%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	26,442	17%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	1,476	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	722	0%	0	0.0%	0.0	$0.00	0.01%	0.00	$0.00	0.00%	0	$125	$0.00	0.0%
Saltmarsh Caterpillar	22,327	14%	103	0.1%	0.0	$0.58	0.01%	0.00	$0.00	0.00%	6	$2,053	$0.01	0.0%
Lygus	156,168	98%	118,902	74.7%	1.8	$22.06	3.23%	1.31	$28.89	3.17%	21,652	$11,787,101	$74.06	75.7%
Cotton Fleahopper	96,734	61%	14,026	8.8%	0.8	$10.89	0.17%	0.07	$0.75	0.10%	703	$309,322	$1.94	2.0%
Stink Bugs (other than brown stink bug)	57,543	36%	0	0.0%	0.0	$0.00	0.17%	0.00	$0.00	0.06%	425	$142,750	$0.90	0.9%
Brown Stink Bug	58,418	37%	960	0.6%	0.8	$9.68	0.32%	0.00	$0.05	0.12%	805	$273,123	$1.72	1.8%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	1,476	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	32,449	20%	11,470	7.2%	1.0	$15.59	0.40%	0.07	$1.12	0.08%	552	$221,736	$1.39	1.4%
Thrips	159,155	100%	12,422	7.8%	0.8	$9.75	0.00%	0.07	$0.64	0.00%	33	$113,188	$0.71	0.7%
Aphids	21,636	14%	5,849	3.7%	0.9	$16.03	0.05%	0.03	$0.53	0.01%	51	$28,424	$0.18	0.2%
Grasshoppers	7,152	4%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	34,118	21%	1,070	0.7%	1.0	$34.35	0.02%	0.01	$0.22	0.00%	34	$19,055	$0.12	0.1%
Silverleaf Whitefly	95,878	60%	62,808	39.5%	1.4	$27.15	0.83%	0.54	$14.56	0.50%	3,407	$2,540,615	$15.96	16.3%
Darkling Beetles	25,081	16%	2,160	1.4%	1.0	$14.55	0.10%	0.01	$0.20	0.02%	112	$42,705	$0.27	0.3%
Pale-Striped Flea Beetle	57,389	36%	7,426	4.7%	0.7	$16.13	0.06%	0.03	$0.53	0.02%	144	$79,178	$0.50	0.5%
Empoasca leafhoppers	4,051	3%	387	0.2%	1.0	$23.45	0.00%	0.00	$0.06	0.00%	0	$223	$0.00	0.0%
Mealybugs	92	0%	92	0.1%	0.5	$19.35	0.00%	0.00	$0.01	0.00%	0	$1	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								2.16	$47.62	4.10%	27,973	$15,576,876	$97.87	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arizona			Total Acres	173,369		Total	Per Acre
Region	West			Total Bales Harvested	538,076	Foliar Insecticide Costs	$7,578,693	$47.62
Year	2017			Total Bales Lost to Insects	27,973	Seed Treatment Costs	$148,036	$0.93
Total Acres (Upland)	159,155	In-furrow cost/treated acre	$15.74	Percent Yield Loss	4.1%	In-Furrow Costs	$123,375	$0.78
Yield / Acre (Upland)	1,623	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,692	Scouting Costs	$1,868,680	$11.74
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.47	Av. # Applications	2.2	Eradication Costs	$1,109,310	$6.97
yield potential (lb/acre)	2,057	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	145,506	Bt Cotton	$5,790,030	$36.38
Acres (Pima)	14,214	Cost/acre Pink Bollworm Eradication	$5.50	Total % yield Loss	21.1%	Total Costs	$16,618,123	$104.41
Yield / Acre (Pima)	1,383	% Insect apps by air	60%	Transgenic Cotton (arthropods) (# acres)	150,390	Yield Loss to Insects	$9,398,959	$59.06
% Acres Scouted	98%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	159,155	Total Losses + Costs	$26,017,082	$163.47
Fee / Scouted Acre	$11.93	Cost/app by air	$11.19	Pink Bollworm Eradication (# acres)	159,155			
No. times scouted/week	2.0	% insect apps by ground	57%	# Scouted Acres	156,583			
% acres Transgenic (Bt) Cotton	94%	No. apps by ground	2.3	Seed Treatments (arthropods) (# acres)	20,217			
Cost/treated acre (Bt) Cotton	$38.50	Cost/app by ground	$10.13	In-Furrow Applications (# acres)	7,837			
% acres with seed treatment	13%	% Loss to weather	9.6%	Applications by Air (acres)	95,648			
Seed trt. cost/ treated acre	$7.32	% loss to non-arthropods	1.6%	Applications by Ground (acres)	90,574			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	5.8%	No. acres with no foliar insecticide applications	22,387			

Table 6. Cotton insect loss estimates for Arizona during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	74.9%	119,246	-	$38.50	-	-	-	-
Bollgard III	5.0%	7,988	-	$38.50	-	-	-	-
WideStrike	4.6%	7,358	-	$38.50	-	-	-	-
WideStrike 3	3.2%	5,057	-	$38.50	-	-	-	-
TwinLink	1.9%	2,956	-	$38.50	-	-	-	-
TwinLink Plus	4.9%	7,786	-	$38.50	-	-	-	-
Total Bt	94.5%	150,390	-	$38.50	-	-	-	-
Herbicide Traits Only	4.9%	7,801	-	-	-	-	-	-
Conventional	0.6%	964	-	-	-	-	-	-
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	159,155	-	-	-	-	-	-
Non Upland Cotton			-	-	-	-	-	-
Pima	100.0%	14,214	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		173,369	-	-	-	-	-	-

Table 7. Cotton insect loss estimates for Southeast Arkansas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	170,000	100%	127,500	75.0%	1.3	$16.00	3.20%	0.94	$15.04	3.20%	22,667	$9,955,309	$58.56	32.3%
Beet Armyworm	1,700	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	42,500	25%	3,400	2.0%	1.0	$16.00	0.00%	0.02	$0.32	0.00%	0	$13,600	$0.08	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	51,000	30%	5,100	3.0%	1.0	$10.00	0.00%	0.03	$0.30	0.00%	0	$15,300	$0.09	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	17,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	170,000	100%	170,000	100.0%	4.0	$15.00	3.00%	4.00	$60.00	3.00%	21,250	$17,136,000	$100.80	55.6%
Cotton Fleahopper	153,000	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	127,500	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	127,500	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	34,000	20%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	17,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	59,500	35%	34,000	20.0%	1.0	$16.00	0.25%	0.20	$3.20	0.09%	623	$393,747	$2.32	1.3%
Thrips	170,000	100%	119,000	70.0%	1.0	$11.00	0.70%	0.70	$7.70	0.70%	4,958	$2,927,291	$17.22	9.5%
Aphids	102,000	60%	51,000	30.0%	1.0	$12.00	0.00%	0.30	$3.60	0.00%	0	$367,200	$2.16	1.2%
Grasshoppers	17,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	17,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								6.19	$90.16	6.99%	49,498	$30,808,447	$181.23	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arkansas			Total Acres	170,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	354,167	Foliar Insecticide Costs	$15,327,200	$90.16
Year	2017			Total Bales Lost to Insects	49,498	Seed Treatment Costs	$2,018,750	$11.88
Total Acres (Upland)	170,000	In-furrow cost/treated acre	$19.00	Percent Yield Loss	7.0%	In-Furrow Costs	$161,500	$0.95
Yield / Acre (Upland)	1,000	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,075	Scouting Costs	$1,530,000	$9.00
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	6.19	Eradication Costs	$510,000	$3.00
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	346,998	Bt Cotton	$1,584,400	$9.32
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	49.0%	Total Costs	$21,131,850	$124.31
Yield / Acre (Pima)	0	% Insect apps by air	90%	Transgenic Cotton (arthropods) (# acres)	166,600	Yield Loss to Insects	$16,156,147	$95.04
% Acres Scouted	100%	No. apps by air	4.5	Boll Weevil Eradication (# acres)	170,000	Total Losses + Costs	$37,287,997	$219.34
Fee / Scouted Acre	$9.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	170,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	161,500			
Cost/treated acre (Bt) Cotton	$9.51	Cost/app by ground	$6.50	In-Furrow Applications (# acres)	8,500			
% acres with seed treatment	95%	% Loss to weather	25.0%	Applications by Air (acres)	153,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	170,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	15.0%	No. acres with no foliar insecticide applications	0			

Table 7. Cotton insect loss estimates for Southeast Arkansas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	84.0%	142,800	$92.00	$10.00	75%	107,100	1.3	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	12.0%	20,400	$80.00	$6.00	100%	20,400	2.0	100%
WideStrike 3	1.0%	1,700	$92.00	$10.00	0%	0	0.0	0%
TwinLink	1.0%	1,700	$92.00	$10.00	75%	1,275	1.3	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	98%	166,600	$90.53	$9.51	77.3%	128,775	1.3	100%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	2.0%	3,400	$37.00	-	100%	3,400	2.0	80%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	170,000	$89.46	$9.51	77.8%	132,175	1.4	98.6%
Non Upland Cotton			-	-	-	-	-	-
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)								

Table 8. Cotton insect loss estimates for Northeast Arkansas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	260,000	100%	195,000	75.0%	1.3	$16.00	3.20%	0.94	$15.04	3.20%	34,667	$15,225,709	$58.56	27.0%
Beet Armyworm	2,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	65,000	25%	5,200	2.0%	1.0	$16.00	0.00%	0.02	$0.32	0.00%	0	$20,800	$0.08	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	78,000	30%	13,000	5.0%	1.0	$10.00	0.00%	0.05	$0.50	0.00%	0	$39,000	$0.15	0.1%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	26,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	260,000	100%	260,000	100.0%	5.0	$15.00	3.50%	5.00	$75.00	3.50%	37,917	$31,876,109	$122.60	56.4%
Cotton Fleahopper	234,000	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	195,000	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	195,000	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	130,000	50%	13,000	5.0%	1.0	$15.00	0.00%	0.05	$0.75	0.00%	0	$97,500	$0.38	0.2%
Leaf Footed Bugs	31,200	12%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	195,000	75%	104,000	40.0%	1.5	$16.00	1.10%	0.60	$9.60	0.83%	8,938	$4,789,363	$18.42	8.5%
Thrips	260,000	100%	182,000	70.0%	1.0	$11.00	0.50%	0.70	$7.70	0.50%	5,417	$3,770,109	$14.50	6.7%
Aphids	182,000	70%	78,000	30.0%	1.0	$12.00	0.00%	0.30	$3.60	0.00%	0	$655,200	$2.52	1.2%
Grasshoppers	26,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	26,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								7.66	$112.51	8.03%	86,939	$56,473,790	$217.21	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Arkansas			Total Acres	260,000			
Region	MidSouth			Total Bales Harvested	677,083	Foliar Insecticide Costs	$29,252,600	$112.51
Year	2017			Total Bales Lost to Insects	86,939	Seed Treatment Costs	$3,087,500	$11.88
Total Acres (Upland)	260,000	In-furrow cost/treated acre	$19.00	Percent Yield Loss	8.0%	In-Furrow Costs	$247,000	$0.95
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,359	Scouting Costs	$2,340,000	$9.00
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	7.66	Eradication Costs	$780,000	$3.00
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	520,271	Bt Cotton	$2,423,200	$9.32
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	48.0%	Total Costs	$38,130,300	$146.66
Yield / Acre (Pima)	0	% Insect apps by air	90%	Transgenic Cotton (arthropods) (# acres)	254,800	Yield Loss to Insects	$28,376,890	$109.14
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	260,000	Total Losses + Costs	$66,507,190	$255.80
Fee / Scouted Acre	$9.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	260,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	247,000			
Cost/treated acre (Bt) Cotton	$9.51	Cost/app by ground	$6.50	In-Furrow Applications (# acres)	13,000			
% acres with seed treatment	95%	% Loss to weather	22.0%	Applications by Air (acres)	234,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	260,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	17.0%	No. acres with no foliar insecticide applications	0			

Table 8. Cotton insect loss estimates for Northeast Arkansas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	84.0%	218,400	$92.00	$10.00	75%	163,800	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	12.0%	31,200	$80.00	$6.00	100%	31,200	1.5	100%
WideStrike 3	1.0%	2,600	$92.00	$10.00	0%	0	0.0	0%
TwinLink	1.0%	2,600	$92.00	$10.00	75%	1,950	1.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	98.0%	254,800	$90.53	$9.51	77.3%	196,950	1.1	100.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	2.0%	5,200	$37.00		100%	5,200	2.0	85%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	260,000	$89.46	$9.51	77.8%	202,150	1.1	98.7%
Non Upland Cotton			-	-	-	-	-	-
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		260,000	$89.46	-	77.8%	202,150	1.1	

Table 9. Cotton insect loss estimates for Arkansas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	430,000	100%	322,500	75.0%	1.3	$16.00	3.20%	0.94	$15.00	3.20%	63,860	$27,293,818	$63.47	29.9%
Beet Armyworm	4,300	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	107,500	25%	8,600	2.0%	1.0	$16.00	0.00%	0.02	$0.32	0.00%	0	$34,400	$0.08	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	129,000	30%	18,100	4.2%	1.0	$10.00	0.00%	0.04	$0.42	0.00%	0	$54,300	$0.13	0.1%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	43,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	430,000	100%	430,000	100.0%	4.6	$15.00	3.30%	4.60	$69.07	3.30%	65,902	$51,210,336	$119.09	56.0%
Cotton Fleahopper	387,000	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	322,500	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	322,500	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	164,000	38%	13,000	3.0%	0.6	$9.07	0.00%	0.02	$0.17	0.00%	0	$27,191	$0.06	0.0%
Leaf Footed Bugs	48,200	11%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	254,500	59%	138,000	32.1%	1.3	$16.00	0.76%	0.42	$6.69	0.45%	9,023	$4,647,107	$10.81	5.1%
Thrips	430,000	100%	301,000	70.0%	1.0	$11.00	0.58%	0.70	$7.70	0.58%	11,556	$7,082,883	$16.47	7.8%
Aphids	284,000	66%	129,000	30.0%	1.0	$12.00	0.00%	0.30	$3.60	0.00%	0	$1,022,400	$2.38	1.1%
Grasshoppers	43,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	43,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								7.04	$102.96	7.53%	150,341	$91,372,434	$212.49	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Arkansas			Total Acres	430,000			
Region	MidSouth			Total Bales Harvested	1,031,250	Foliar Insecticide Costs	$44,274,427	$102.96
Year	2017			Total Bales Lost to Insects	150,341	Seed Treatment Costs	$5,106,250	$11.88
Total Acres (Upland)	430,000	In-furrow cost/treated acre	$19.00	Percent Yield Loss	7.5%	In-Furrow Costs	$408,500	$0.95
Yield / Acre (Upland)	1,151	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,245	Scouting Costs	$3,870,000	$9.00
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	7.04	Eradication Costs	$1,290,000	$3.00
yield potential (lb/acre)	2,228	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	867,269	Bt Cotton	$4,007,600	$9.32
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	48.3%	Total Costs	$58,956,777	$137.11
Yield / Acre (Pima)	0	% Insect apps by air	90%	Transgenic Cotton (arthropods) (# acres)	421,400	Yield Loss to Insects	$49,071,228	$114.12
% Acres Scouted	100%	No. apps by air	4.2	Boll Weevil Eradication (# acres)	430,000	Total Losses + Costs	$108,028,006	$251.23
Fee / Scouted Acre	$9.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	430,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	3.8	Seed Treatments (arthropods) (# acres)	408,500			
Cost/treated acre (Bt) Cotton	$9.51	Cost/app by ground	$6.50	In-Furrow Applications (# acres)	21,500			
% acres with seed treatment	95%	% Loss to weather	23.2%	Applications by Air (acres)	387,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	1.4%	Applications by Ground (acres)	430,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	16.2%	No. acres with no foliar insecticide applications	0			

Table 9. Cotton insect loss estimates for Arkansas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	84%	361,200	$92.00	$10.00	75%	270,900	1.1	100%
Bollgard III	0%	0	-	-	-	-	-	-
WideStrike	12%	51,600	$80.00	$6.00	100%	51,600	1.7	100%
WideStrike 3	1%	4,300	$92.00	$10.00	0%	0	0.0	0%
TwinLink	1%	4,300	$92.00	$10.00	75%	3,225	1.1	100%
TwinLink Plus	0%	0	-	-	-	-	-	-
Total Bt	98%	421,400	$90.53	$9.51	77.3%	325,725	1.2	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	2%	8,600	$37.00		100%	8,600	2.0	83%
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	430,000	$89.46	$9.51	77.8%	334,325	1.2	98.7%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		430,000	$89.46		77.8%	334,325	1.2	

Table 10. Cotton insect loss estimates for upland cotton in California during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	1,800	2.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Beet Armyworm	9,000	10.0%	900	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$1,080	$0.01	0.0%
Fall Armyworm	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	9,000	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	900	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	2,700	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	89,100	99.0%	67,500	75.0%	3.0	$18.00	8.00%	2.25	$40.50	7.92%	29,017	$16,840,302	$187.11	77.0%
Cotton Fleahopper	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	9,000	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	2,700	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	54,000	60.0%	45,000	50.0%	1.0	$12.00	0.00%	0.50	$6.00	0.00%	0	$324,000	$3.60	1.5%
Thrips	89,100	99.0%	4,500	5.0%	1.0	$6.00	0.00%	0.05	$0.30	0.00%	0	$26,730	$0.30	0.1%
Aphids	72,000	80.0%	58,500	65.0%	2.0	$8.00	2.00%	1.30	$10.40	1.60%	5,862	$3,421,872	$38.02	15.6%
Grasshoppers	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	45,000	50.0%	31,500	35.0%	2.0	$40.00	0.00%	0.70	$28.00	0.00%	0	$1,260,000	$14.00	5.8%
Boll Weevil	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								4.81	$85.32	9.52%	34,879	$21,873,984	$243.04	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	California			Total Acres	90,000			
Region	West			Total Bales Harvested	315,000	Foliar Insecticide Costs	$7,678,800	$85.32
Year	2017			Total Bales Lost to Insects	34,879	Seed Treatment Costs	-	-
Total Acres (Upland)	90,000	In-furrow cost/treated acre	-	Percent Yield Loss	9.5%	In-Furrow Costs	-	-
Yield / Acre (Upland)	1,680	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,857	Scouting Costs	$1,069,200	$11.88
Price / lb	$0.95	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	4.81	Eradication Costs	$621,000	$6.90
yield potential (lb/acre)	1,954	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	51,366	Bt Cotton	-	-
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	$6.90	Total % yield Loss	14.0%	Total Costs	$9,369,000	$104.10
Yield / Acre (Pima)	-	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	70,020	Yield Loss to Insects	$15,904,824	$176.72
% Acres Scouted	99%	No. apps by air	-	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$25,273,824	$280.82
Fee / Scouted Acre	$12.00	Cost/app by air	-	Pink Bollworm Eradication (# acres)	90,000			
No. times scouted/week	1	% insect apps by ground	-	# Scouted Acres	89,100			
% acres Transgenic (Bt) Cotton	-	No. apps by ground	-	Seed Treatments (arthropods) (# acres)	-			
Cost/treated acre (Bt) Cotton	-	Cost/app by ground	-	In-Furrow Applications (# acres)	-			
% acres with seed treatment	-	% Loss to weather	1.0%	Applications by Air (acres)	72,000			
Seed trt. cost/ treated acre	-	% loss to non-arthropods	0.0%	Applications by Ground (acres)	-			
% acres with in-furrow	-	% loss to other (chemical injury, weeds, diseases, etc.)	3.5%	No. acres with no foliar insecticide applications	180			

Table 10. Cotton insect loss estimates for upland cotton in California during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	9.6%	8,649	-	-	-	-	-	-
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	40.8%	36,720	-	-	-	-	-	-
WideStrike 3	0.6%	495	-	-	-	-	-	-
TwinLink	25.2%	22,671	-	-	-	-	-	-
TwinLink Plus	1.7%	1,485	-	-	-	-	-	-
Total Bt	77.8%	70,020	-	-	-	-	-	-
Herbicide Traits Only	19.5%	17,532	-	-	-	-	-	-
Conventional	2.7%	2,448	-	-	-	-	-	-
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	90,000	-	-	-	-	-	-

Table 11. Cotton insect loss estimates for Pima cotton in California during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	4,160	2.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Beet Armyworm	20,800	10.0%	2,080	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$2,496	$0.01	0.0%
Fall Armyworm	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	20,800	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	2,080	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	6,240	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	205,920	99.0%	176,800	85.0%	3.0	$18.00	10.00%	2.55	$45.90	9.90%	79,494	$62,871,696	$302.27	77.7%
Cotton Fleahopper	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	20,800	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	6,240	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	124,800	60.0%	62,400	30.0%	1.0	$12.00	0.00%	0.30	$3.60	0.00%	0	$449,280	$2.16	0.6%
Thrips	104,000	50.0%	2,080	1.0%	1.0	$6.00	0.00%	0.01	$0.06	0.00%	0	$6,240	$0.03	0.0%
Aphids	166,400	80.0%	135,200	65.0%	2.0	$8.00	3.00%	1.30	$10.40	2.40%	19,271	$14,680,672	$70.58	18.1%
Grasshoppers	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	104,000	50.0%	72,800	35.0%	2.0	$40.00	0.00%	0.70	$28.00	0.00%	0	$2,912,000	$14.00	3.6%
Boll Weevil	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								4.87	$88.08	12.30%	98,765	$80,922,384	$389.05	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	California			Total Acres	208,000			
Region	West			Total Bales Harvested	665,600	Foliar Insecticide Costs	$18,320,640	$88.08
Year	2017			Total Bales Lost to Insects	98,765	Seed Treatment Costs	-	-
Total Acres (Pima)	208,000	In-furrow cost/treated acre	-	Percent Yield Loss	12.3%	In-Furrow Costs	-	-
Yield / Acre (Pima)	1,536	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,751	Scouting Costs	$2,265,120	$10.89
Price / lb	$1.40	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	4.87	Eradication Costs	$1,435,200	$6.90
yield potential (lb/acre)	1,853	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	142,928	Bt Cotton	-	-
Acres (Upland)	-	Cost/acre Pink Bollworm Eradication	$6.90	Total % yield Loss	17.8%	Total Costs	$22,020,960	$105.87
Yield / Acre (Upland)	-	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	-	Yield Loss to Insects	$66,370,080	$319.09
% Acres Scouted	99%	No. apps by air	-	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$88,391,040	$424.96
Fee / Scouted Acre	$11.00	Cost/app by air	-	Pink Bollworm Eradication (# acres)	208,000			
No. times scouted/week	1	% insect apps by ground	20%	# Scouted Acres	205,920			
% acres Transgenic (Bt) Cotton	-	No. apps by ground	-	Seed Treatments (arthropods) (# acres)	-			
Cost/treated acre (Bt) Cotton	-	Cost/app by ground	-	In-Furrow Applications (# acres)	-			
% acres with seed treatment	-	% Loss to weather	2.0%	Applications by Air (acres)	166,400			
Seed trt. cost/ treated acre	-	% loss to non-arthropods	0.0%	Applications by Ground (acres)	41,600			
% acres with in-furrow	-	% loss to other (chemical injury, weeds, diseases, etc.)	3.5%	No. acres with no foliar insecticide applications	416			

Table 11. Cotton insect loss estimates for Pima cotton in California during 2017, continued.

Pima Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Herbicide Traits Only	87.0%	180,960	-	-	-	-	-	-
Conventional	12.8%	26,624	-	-	-	-	-	-
Organic	0.2%	416	-	-	-	-	-	-
Total Pima Cotton	100.0%	208,000	-	-	-	-	-	-

Table 12. Cotton insect loss estimates for Florida during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	30,000	30%	20,000	20.0%	1.0	$9.50	2.00%	0.20	$1.90	0.60%	1,375	$558,600	$5.59	2.7%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	40,000	40%	20,000	20.0%	1.0	$16.50	0.80%	0.20	$3.30	0.32%	733	$399,398	$3.99	1.9%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	70,000	70%	60,000	60.0%	1.0	$8.50	5.00%	0.60	$5.10	3.50%	8,021	$3,283,061	$32.83	15.6%
Cotton Fleahopper	5,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	90,000	90%	50,000	50.0%	1.0	$9.75	1.00%	0.50	$4.88	0.90%	2,063	$1,191,332	$11.91	5.7%
Brown Stink Bug	45,000	45%	50,000	50.0%	1.5	$9.75	0.50%	0.75	$7.31	0.23%	516	$517,299	$5.17	2.5%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	30,000	30%	15,000	15.0%	1.0	$10.50	1.00%	0.15	$1.58	0.30%	688	$298,232	$2.98	1.4%
Spider Mites	40,000	40%	40,000	40.0%	1.2	$12.00	0.00%	0.48	$5.76	0.00%	0	$230,400	$2.30	1.1%
Thrips	100,000	100%	50,000	50.0%	1.0	$6.50	0.50%	0.50	$3.25	0.50%	1,146	$743,061	$7.43	3.5%
Aphids	50,000	50%	20,000	20.0%	1.0	$7.00	0.00%	0.20	$1.40	0.00%	0	$70,000	$0.70	0.3%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	95,000	95%	40,000	40.0%	2.0	$24.50	15.00%	0.80	$19.60	14.25%	32,656	$13,774,909	$137.75	65.4%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								4.38	$54.07	20.60%	47,198	$21,066,292	$210.66	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Florida			Total Acres	100,000			
Region	Southeast			Total Bales Harvested	161,458	Foliar Insecticide Costs	$5,407,250	$54.07
Year	2017			Total Bales Lost to Insects	47,198	Seed Treatment Costs	$1,020,000	$10.20
Total Acres (Upland)	100,000	In-furrow cost/treated acre	$25.00	Percent Yield Loss	20.6%	In-Furrow Costs	$1,000,000	$10.00
Yield / Acre (Upland)	775	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	976	Scouting Costs	$382,500	$3.83
Price / lb	$0.76	Cost/acre Boll Weevil Eradication	$2.00	Av. # Applications	4.38	Eradication Costs	$200,000	$2.00
yield potential (lb/acre)	1,100	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	118,239	Bt Cotton	$1,512,200	$15.12
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	51.6%	Total Costs	$9,521,950	$95.22
Yield / Acre (Pima)	0	% Insect apps by air	3%	Transgenic Cotton (arthropods) (# acres)	100,000	Yield Loss to Insects	$17,217,830	$172.18
% Acres Scouted	45%	No. apps by air	1	Boll Weevil Eradication (# acres)	100,000	Total Losses + Costs	$26,739,780	$267.40
Fee / Scouted Acre	$8.50	Cost/app by air	$8.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	97%	# Scouted Acres	45,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	5	Seed Treatments (arthropods) (# acres)	60,000			
Cost/treated acre (Bt) Cotton	$15.12	Cost/app by ground	$4.50	In-Furrow Applications (# acres)	40,000			
% acres with seed treatment	60%	% Loss to weather	30.0%	Applications by Air (acres)	3,000			
Seed trt. cost/ treated acre	$17.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	97,000			
% acres with in-furrow	40%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	0			

Table 12. Cotton insect loss estimates for Florida during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	76.0%	76,000	$87.50	$15.44	20%	15,200	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	18.0%	18,000	$80.00	$13.66	22%	3,960	1.0	100%
WideStrike 3	6.0%	6,000	$80.30	$15.48	10%	600	1.0	100%
TwinLink	0.0%	0	-	-	-	-	-	-
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	100,000	$85.72	$15.12	19.8%	19,760	1.0	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100%	100,000	$85.72	$15.12	19.8%	19,760	1.0	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		100,000	$85.72		19.8%	19,760	1.0	

Table 13. Cotton insect loss estimates for Georgia during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	512,000	40%	256,000	20.0%	1.0	$8.00	0.50%	0.20	$1.60	0.20%	8,000	$3,507,200	$2.74	2.1%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	12,800	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	576,000	45%	115,200	9.0%	1.0	$8.00	0.10%	0.09	$0.72	0.05%	1,800	$1,019,520	$0.80	0.6%
Cotton Fleahopper	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	1,088,000	85%	1,088,000	85.0%	1.2	$8.00	0.50%	1.02	$8.16	0.43%	17,000	$14,590,080	$11.40	8.6%
Brown Stink Bug	960,000	75%	960,000	75.0%	1.0	$9.00	1.00%	0.75	$6.75	0.75%	30,000	$16,560,000	$12.94	9.7%
Clouded Plant Bug	192,000	15%	12,800	1.0%	1.0	$8.00	0.10%	0.01	$0.08	0.02%	600	$216,960	$0.17	0.1%
Leaf Footed Bugs	51,200	4%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	640,000	50%	64,000	5.0%	1.0	$9.00	0.10%	0.05	$0.45	0.05%	2,000	$960,000	$0.75	0.6%
Thrips	1,267,200	99%	448,000	35.0%	1.0	$6.00	0.10%	0.35	$2.10	0.10%	3,960	$3,991,680	$3.12	2.3%
Aphids	960,000	75%	64,000	5.0%	1.0	$7.00	0.00%	0.05	$0.35	0.00%	0	$336,000	$0.26	0.2%
Grasshoppers	25,600	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	1,088,000	85%	896,000	70.0%	1.9	$18.00	9.00%	1.33	$23.94	7.65%	306,000	$128,862,720	$100.67	75.8%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.85	$44.15	9.23%	369,360	$170,044,160	$132.85	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Georgia			Total Acres	1,280,000			
Region	Southeast			Total Bales Harvested	2,133,333	Foliar Insecticide Costs	$56,512,000	$44.15
Year	2017			Total Bales Lost to Insects	369,360	Seed Treatment Costs	$6,144,000	$4.80
Total Acres (Upland)	1,280,000	In-furrow cost/treated acre	$6.00	Percent Yield Loss	9.2%	In-Furrow Costs	$1,152,000	$0.90
Yield / Acre (Upland)	800	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	881	Scouting Costs	$6,272,000	$4.90
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.20	Av. # Applications	3.85	Eradication Costs	$1,536,000	$1.20
yield potential (lb/acre)	1,500	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,849,360	Bt Cotton	$18,817,920	$14.70
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	46.2%	Total Costs	$90,433,920	$70.65
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	1,269,120	Yield Loss to Insects	$124,104,960	$96.96
% Acres Scouted	70%	No. apps by air	2	Boll Weevil Eradication (# acres)	1,280,000	Total Losses + Costs	$214,538,880	$167.61
Fee / Scouted Acre	$7.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.1	% insect apps by ground	90%	# Scouted Acres	896,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	1,024,000			
Cost/treated acre (Bt) Cotton	$14.83	Cost/app by ground	$4.00	In-Furrow Applications (# acres)	192,000			
% acres with seed treatment	80%	% Loss to weather	29.0%	Applications by Air (acres)	192,000			
Seed trt. cost/ treated acre	$6.00	% loss to non-arthropods	7.0%	Applications by Ground (acres)	1,152,000			
% acres with in-furrow	15%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	128,000			

Table 13. Cotton insect loss estimates for Georgia during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	79.0%	1,011,200	$85.00	$15.00	10%	101,120	1.0	100%
Bollgard III	0.1%	1,280	$90.00	$17.00	0%	0	0.0	100%
WideStrike	18.3%	234,240	$82.00	$14.00	65%	152,256	1.0	100%
WideStrike 3	0.5%	6,400	$83.00	$16.00	0%	0	0.0	100%
TwinLink	1.0%	12,800	$85.00	$15.00	10%	1,280	1.0	100%
TwinLink Plus	0.3%	3,200	$90.00	$17.00	0%	0	0.0	100%
Total Bt	99.2%	1,269,120	$84.45	$14.83	20.1%	254,656	1.0	100.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	0.3%	3,200	$25.00		75%	2,400	2.0	50%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	99.5%	1,272,320	$84.21	$14.83	20.2%	257,056	1.0	99.9%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		1,272,320	$84.21		20.2%	257,056	1.0	

Table 14. Cotton insect loss estimates for Kansas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	18,200	20%	4,550	5.0%	1.0	$9.25	1.00%	0.05	$0.46	0.20%	436	$144,450	$1.59	7.5%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	1,820	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	54,600	60%	13,650	15.0%	1.0	$6.00	1.00%	0.15	$0.90	0.60%	1,308	$457,236	$5.02	23.8%
Cotton Fleahopper	72,800	80%	22,750	25.0%	1.5	$4.50	2.00%	0.38	$1.71	1.60%	3,488	$1,212,744	$13.33	63.2%
Stink Bugs (other than brown stink bug)	13,650	15%	1,820	2.0%	1.0	$4.50	1.00%	0.02	$0.09	0.15%	327	$103,253	$1.13	5.4%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	9,100	10%	1,820	2.0%	1.0	$11.50	0.00%	0.02	$0.23	0.00%	0	$2,093	$0.02	0.1%
Thrips	81,900	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Aphids	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.62	$3.39	2.55%	5,559	$1,919,776	$21.10	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Kansas			Total Acres	91,000			
Region	Central			Total Bales Harvested	185,033	Foliar Insecticide Costs	$308,718	$3.39
Year	2017			Total Bales Lost to Insects	5,559	Seed Treatment Costs	$682,500	$7.50
Total Acres (Upland)	91,000	In-furrow cost/treated acre	$6.50	Percent Yield Loss	2.6%	In-Furrow Costs	$59,150	$0.65
Yield / Acre (Upland)	976	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,002	Scouting Costs	$445,900	$4.90
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	0.62	Eradication Costs	$0	$0.00
yield potential (lb/acre)	1,150	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	25,181	Bt Cotton	$910,000	$10.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	11.6%	Total Costs	$2,406,268	$26.44
Yield / Acre (Pima)	0	% Insect apps by air	65%	Transgenic Cotton (arthropods) (# acres)	91,000	Yield Loss to Insects	$1,734,408	$19.06
% Acres Scouted	70%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$4,140,676	$45.50
Fee / Scouted Acre	$7.00	Cost/app by air	$8.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	35%	# Scouted Acres	63,700			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	91,000			
Cost/treated acre (Bt) Cotton	$10.00	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	9,100			
% acres with seed treatment	100%	% Loss to weather	2.0%	Applications by Air (acres)	59,150			
Seed trt. cost/ treated acre	$7.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	31,850			
% acres with in-furrow	10%	% loss to other (chemical injury, weeds, diseases, etc.)	6.0%	No. acres with no foliar insecticide applications	84,450			

Table 14. Cotton insect loss estimates for Kansas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	75.0%	68,250	$65.00	$10.00	5%	3,413	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	2.0%	1,820	$65.00	$10.00	5%	91	1.0	100%
WideStrike 3	23.0%	20,930	$75.00	$10.00	5%	1,047	1.0	100%
TwinLink	0.0%	0	-	-	-	-	-	-
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	91,000	$67.30	$10.00	5.0%	4,550	1.0	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100%	91,000	$67.30	$10.00	5.0%	4,550	1.0	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		91,000	$67.30		5.0%	4,550	1.0	

Table 15. Cotton insect loss estimates for Louisiana during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	200,000	100%	190,000	95.0%	2.0	$22.00	5.00%	1.90	$41.80	5.00%	40,000	$22,184,000	$110.92	52.5%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	10,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	2,000	1%	2,000	1.0%	1.0	$7.00	0.00%	0.01	$0.07	0.00%	0	$140	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	200,000	100%	200,000	100.0%	4.0	$12.00	3.00%	4.00	$48.00	3.00%	24,000	$17,894,400	$89.47	42.4%
Cotton Fleahopper	20,000	10%	20,000	10.0%	1.0	$9.00	0.00%	0.10	$0.90	0.00%	0	$18,000	$0.09	0.0%
Stink Bugs (other than brown stink bug)	20,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	150,000	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	100,000	50%	50,000	25.0%	1.0	$15.00	0.50%	0.25	$3.75	0.25%	2,000	$1,066,200	$5.33	2.5%
Thrips	200,000	100%	50,000	25.0%	1.0	$11.00	0.00%	0.25	$2.75	0.00%	0	$550,000	$2.75	1.3%
Aphids	180,000	90%	50,000	25.0%	1.0	$12.00	0.00%	0.25	$3.00	0.00%	0	$540,000	$2.70	1.3%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								6.76	$100.27	8.25%	66,000	$42,252,740	$211.26	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Louisiana			Total Acres	200,000			
Region	Midsouth			Total Bales Harvested	416,667	Foliar Insecticide Costs	$20,054,000	$100.27
Year	2017			Total Bales Lost to Insects	66,000	Seed Treatment Costs	$3,000,000	$15.00
Total Acres (Upland)	200,000	In-furrow cost/treated acre	$9.00	Percent Yield Loss	8.3%	In-Furrow Costs	$36,000	$0.18
Yield / Acre (Upland)	1,000	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,090	Scouting Costs	$1,400,000	$7.00
Price / lb	$0.72	Cost/acre Boll Weevil Eradication	$6.00	Av. # Applications	6.76	Eradication Costs	$1,200,000	$6.00
yield potential (lb/acre)	1,920	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	442,000	Bt Cotton	$2,368,000	$11.84
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	55.3%	Total Costs	$28,058,000	$140.29
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	198,000	Yield Loss to Insects	$22,809,600	$114.05
% Acres Scouted	100%	No. apps by air	5	Boll Weevil Eradication (# acres)	200,000	Total Losses + Costs	$50,867,600	$254.34
Fee / Scouted Acre	$7.00	Cost/app by air	$6.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	20%	# Scouted Acres	200,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	5	Seed Treatments (arthropods) (# acres)	200,000			
Cost/treated acre (Bt) Cotton	$11.96	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	4,000			
% acres with seed treatment	100%	% Loss to weather	43.0%	Applications by Air (acres)	160,000			
Seed trt. cost/ treated acre	$15.00	% loss to non-arthropods	3.0%	Applications by Ground (acres)	40,000			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	0			

Table 15. Cotton insect loss estimates for Louisiana during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	55.0%	110,000	$60.00	$12.00	70%	77,000	1.2	100%
Bollgard III	1.0%	2,000	$70.00	$15.00	5%	100	0.0	100%
WideStrike	10.0%	20,000	$40.00	$10.00	100%	20,000	2.0	100%
WideStrike 3	5.0%	10,000	$66.00	$14.00	75%	7,500	0.5	100%
TwinLink	27.0%	54,000	$64.00	$12.00	70%	37,800	1.2	100%
TwinLink Plus	1.0%	2,000	$75.00	$15.00	5%	100	0.0	100%
Total Bt	99%	198,000	$59.63	$11.96	72.0%	142,500	1.2	100.0%
Herbicide Traits Only	0.3%	600	$60.00	-	100%	600	3.0	100%
Conventional	0.7%	1,400	$25.00	-	100%	1,400	3.0	100%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	200,000	$58.69	$11.96	72.3%	144,500	1.3	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		200,000	$58.69		72.3%	144,500	1.3	

Table 16. Cotton insect loss estimates for the Hills area of Mississippi during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	133,000	70%	138,700	73.0%	1.4	$16.50	1.50%	1.02	$16.83	1.05%	6,234	$4,333,014	$22.81	18.8%
Beet Armyworm	1,900	1%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.00%	6	$2,016	$0.01	0.0%
Fall Armyworm	57,000	30%	5,700	3.0%	1.0	$11.50	1.00%	0.03	$0.35	0.30%	1,781	$618,081	$3.25	2.7%
Loopers	1,900	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	47,500	25%	28,500	15.0%	1.0	$6.00	0.10%	0.15	$0.90	0.03%	148	$92,478	$0.49	0.4%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	190,000	100%	114,000	60.0%	1.2	$11.00	4.00%	0.72	$7.92	4.00%	23,750	$9,484,800	$49.92	41.1%
Cotton Fleahopper	28,500	15%	0	0.0%	1.0	$0.00	0.10%	0.00	$0.00	0.02%	89	$29,904	$0.16	0.1%
Stink Bugs (other than brown stink bug)	38,000	20%	3,800	2.0%	1.0	$9.00	1.00%	0.02	$0.18	0.20%	1,188	$406,008	$2.14	1.8%
Brown Stink Bug	57,000	30%	9,500	5.0%	1.0	$9.00	1.50%	0.05	$0.45	0.45%	2,672	$923,442	$4.86	4.0%
Clouded Plant Bug	19,000	10%	1,900	1.0%	1.0	$9.00	3.00%	0.01	$0.09	0.30%	1,781	$600,126	$3.16	2.6%
Leaf Footed Bugs	9,500	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	95,000	50%	76,000	40.0%	1.1	$12.00	2.25%	0.44	$5.28	1.13%	6,680	$2,746,080	$14.45	11.9%
Thrips	190,000	100%	76,000	40.0%	1.0	$9.00	1.00%	0.40	$3.60	1.00%	5,938	$2,679,168	$14.10	11.6%
Aphids	133,000	70%	57,000	30.0%	1.1	$10.00	0.50%	0.33	$3.30	0.35%	2,078	$1,137,108	$5.98	4.9%
Grasshoppers	9,500	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	9,500	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	1,900	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.17	$38.90	8.82%	52,345	$23,052,225	$121.33	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Mississippi			Total Acres	190,000			
Region	MidSouth			Total Bales Harvested	389,896	Foliar Insecticide Costs	$7,390,050	$38.90
Year	2017			Total Bales Lost to Insects	52,345	Seed Treatment Costs	$1,786,950	$9.41
Total Acres (Upland)	190,000	In-furrow cost/treated acre	$12.00	Percent Yield Loss	8.8%	In-Furrow Costs	$22,800	$0.12
Yield / Acre (Upland)	985	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,080	Scouting Costs	$1,316,700	$6.93
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	3.17	Eradication Costs	$760,000	$4.00
yield potential (lb/acre)	1,500	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	230,470	Bt Cotton	$6,031,360	$31.74
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	38.8%	Total Costs	$17,307,860	$91.09
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	188,480	Yield Loss to Insects	$17,587,920	$92.57
% Acres Scouted	99%	No. apps by air	1	Boll Weevil Eradication (# acres)	190,000	Total Losses + Costs	$34,895,780	$183.66
Fee / Scouted Acre	$7.00	Cost/app by air	$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	80%	# Scouted Acres	188,100			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	188,100			
Cost/treated acre (Bt) Cotton	$32.00	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	1,900			
% acres with seed treatment	99%	% Loss to weather	20.0%	Applications by Air (acres)	38,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	152,000			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	0			

Table 16. Cotton insect loss estimates for the Hills area of Mississippi during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	85.0%	161,500	$130.00	$32.00	70%	113,050	1.4	100%
Bollgard III	0.1%	190	$130.00	$32.00	0%	0	0.0	100%
WideStrike	12.0%	22,800	$130.00	$32.00	99%	22,572	1.8	100%
WideStrike 3	1.0%	1,900	$130.00	$32.00	0%	0	0.0	100%
TwinLink	1.0%	1,900	$130.00	$32.00	90%	1,710	1.0	100%
TwinLink Plus	0.1%	190	$130.00	$32.00	0%	0	0.0	100%
Total Bt	99%	188,480	$130.00	$32.00	72.9%	137,332	1.4	100%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	1.0%	1,900	$22.00		100%	1,900	2.0	70%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.2%	190,380	$128.79	$32.00	73.1%	139,232	1.4	99.7%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		190,380	$128.79		73.1%	139,232	1.4	

Table 17. Cotton insect loss estimates for the Delta area of Mississippi during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	418,000	95%	396,000	90.0%	1.8	$16.50	1.50%	1.62	$26.73	1.43%	23,513	$19,073,508	$43.35	20.7%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	88,000	20%	8,800	2.0%	1.0	$11.50	1.00%	0.02	$0.23	0.20%	3,300	$1,129,040	$2.57	1.2%
Loopers	4,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	132,000	30%	88,000	20.0%	1.0	$6.00	0.10%	0.20	$1.20	0.03%	495	$324,720	$0.74	0.4%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	440,000	100%	396,000	90.0%	3.5	$11.00	4.00%	3.15	$34.65	4.00%	66,000	$37,422,000	$85.05	40.6%
Cotton Fleahopper	66,000	15%	0	0.0%	1.0	$0.00	0.10%	0.00	$0.00	0.02%	248	$83,328	$0.19	0.1%
Stink Bugs (other than brown stink bug)	44,000	10%	4,400	1.0%	1.0	$9.00	1.00%	0.01	$0.09	0.10%	1,650	$558,360	$1.27	0.6%
Brown Stink Bug	220,000	50%	44,000	10.0%	1.0	$9.00	1.50%	0.10	$0.90	0.75%	12,375	$4,356,000	$9.90	4.7%
Clouded Plant Bug	4,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	44,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	396,000	90%	286,000	65.0%	2.0	$12.00	2.25%	1.30	$15.60	2.03%	33,413	$17,404,368	$39.56	18.9%
Thrips	440,000	100%	264,000	60.0%	1.0	$9.00	1.00%	0.60	$5.40	1.00%	16,500	$7,920,000	$18.00	8.6%
Aphids	352,000	80%	220,000	50.0%	1.0	$10.00	0.50%	0.50	$5.00	0.40%	6,600	$3,977,600	$9.04	4.3%
Grasshoppers	22,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	22,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	4,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								7.50	$89.80	9.95%	164,094	$92,248,924	$209.66	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Mississippi			Total Acres	440,000			
Region	MidSouth			Total Bales Harvested	1,031,250	Foliar Insecticide Costs	$39,512,000	$89.80
Year	2017			Total Bales Lost to Insects	164,094	Seed Treatment Costs	$4,138,200	$9.41
Total Acres (Upland)	440,000	In-furrow cost/treated acre	$12.50	Percent Yield Loss	9.9%	In-Furrow Costs	$55,000	$0.13
Yield / Acre (Upland)	1,125	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,249	Scouting Costs	$3,484,800	$7.92
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	7.5	Eradication Costs	$1,760,000	$4.00
yield potential (lb/acre)	1,800	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	774,593	Bt Cotton	$13,925,120	$31.65
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	46.9%	Total Costs	$62,875,120	$142.90
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	435,600	Yield Loss to Insects	$55,135,584	$125.31
% Acres Scouted	99%	No. apps by air	5.54	Boll Weevil Eradication (# acres)	440,000	Total Losses + Costs	$118,010,704	$268.21
Fee / Scouted Acre	$8.00	Cost/app by air	$6.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.8	% insect apps by ground	50%	# Scouted Acres	435,600			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	1.38	Seed Treatments (arthropods) (# acres)	435,600			
Cost/treated acre (Bt) Cotton	$31.97	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	4,400			
% acres with seed treatment	99%	% Loss to weather	25.0%	Applications by Air (acres)	352,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	220,000			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	0			

Table 17. Cotton insect loss estimates for the Delta area of Mississippi during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	79.0%	347,600	$130.00	$32.00	90%	312,840	1.5	100%
Bollgard III	0.1%	440	$130.00	$32.00	0%	0	0.0	100%
WideStrike	17.5%	77,000	$130.00	$32.00	99%	76,230	3.0	100%
WideStrike 3	1.3%	5,720	$130.00	$32.00	0%	0	0.0	100%
TwinLink	1.0%	4,400	$130.00	$32.00	90%	3,960	2.0	100%
TwinLink Plus	0.1%	440	$130.00	$32.00	0%	0	0.0	100%
Total Bt	99%	435,600	$129.87	$31.97	90.2%	393,030	1.7	100%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	1%	4,400	$22.00		100%	4,400	3.0	80%
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	440,000	$128.79	$31.97	90.3%	397,430	1.8	99.7%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		440,000	$128.79		90.3%	397,430	1.8	

Table 18. Cotton insect loss estimates for Mississippi during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	551,000	87%	534,700	84.9%	1.7	$16.50	1.50%	1.43	$23.52	1.31%	33,554	$24,232,657	$38.46	19.8%
Beet Armyworm	1,900	0%	0	0.0%	0.0	$0.00	0.03%	0.00	$0.00	0.00%	2	$782	$0.00	0.0%
Fall Armyworm	145,000	23%	14,500	2.3%	1.0	$11.50	1.00%	0.02	$0.26	0.23%	5,887	$2,016,325	$3.20	1.6%
Loopers	6,300	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	179,500	28%	116,500	18.5%	1.0	$6.00	0.10%	0.18	$1.11	0.03%	729	$444,016	$0.70	0.4%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	630,000	100%	510,000	81.0%	2.8	$11.00	4.00%	2.27	$24.99	4.00%	102,308	$50,118,949	$79.55	41.0%
Cotton Fleahopper	94,500	15%	0	0.0%	1.0	$0.00	0.10%	0.00	$0.00	0.02%	384	$128,907	$0.20	0.1%
Stink Bugs (other than brown stink bug)	82,000	13%	8,200	1.3%	1.0	$9.00	1.00%	0.01	$0.12	0.13%	3,329	$1,128,168	$1.79	0.9%
Brown Stink Bug	277,000	44%	53,500	8.5%	1.0	$9.00	1.50%	0.08	$0.76	0.66%	16,869	$5,879,544	$9.33	4.8%
Clouded Plant Bug	23,400	4%	1,900	0.3%	0.3	$2.71	0.90%	0.00	$0.00	0.03%	860	$288,857	$0.46	0.2%
Leaf Footed Bugs	53,500	8%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	491,000	78%	362,000	57.5%	1.7	$12.00	2.25%	0.99	$11.92	1.75%	44,851	$20,922,085	$33.21	17.1%
Thrips	630,000	100%	340,000	54.0%	1.0	$9.00	1.00%	0.54	$4.86	1.00%	25,577	$11,653,833	$18.50	9.5%
Aphids	485,000	77%	277,000	44.0%	1.0	$10.00	0.50%	0.45	$4.53	0.38%	9,845	$5,504,716	$8.74	4.5%
Grasshoppers	31,500	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	31,500	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	6,300	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								5.99	$72.07	9.55%	244,193	$122,318,839	$194.16	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Mississippi			Total Acres	630,000			
Region	MidSouth			Total Bales Harvested	1,421,146	Foliar Insecticide Costs	$45,404,961	$72.07
Year	2017			Total Bales Lost to Insects	244,193	Seed Treatment Costs	$5,925,150	$9.41
Total Acres (Upland)	630,000	In-furrow cost/treated acre	$12.35	Percent Yield Loss	9.5%	In-Furrow Costs	$77,800	$0.12
Yield / Acre (Upland)	1,083	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,197	Scouting Costs	$4,801,500	$7.62
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	6.0	Eradication Costs	$2,520,000	$4.00
yield potential (lb/acre)	1,949	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,005,063	Bt Cotton	$19,970,560	$31.70
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	44.4%	Total Costs	$78,699,971	$124.92
Yield / Acre (Pima)	0	% Insect apps by air	62%	Transgenic Cotton (arthropods) (# acres)	624,080	Yield Loss to Insects	$82,048,985	$130.24
% Acres Scouted	99%	No. apps by air	4.2	Boll Weevil Eradication (# acres)	630,000	Total Losses + Costs	$160,748,956	$255.16
Fee / Scouted Acre	$7.70	Cost/app by air	$6.45	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.7	% insect apps by ground	59%	# Scouted Acres	623,700			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	1.6	Seed Treatments (arthropods) (# acres)	623,700			
Cost/treated acre (Bt) Cotton	$32.00	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	6,300			
% acres with seed treatment	99%	% Loss to weather	23.5%	Applications by Air (acres)	390,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	2.9%	Applications by Ground (acres)	372,000			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	8.5%	No. acres with no foliar insecticide applications	0			

Table 18. Cotton insect loss estimates for Mississippi during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	81%	509,100	$130.00	$32.00	84%	427,482	1.5	100%
Bollgard III	0%	630	$130.00	$32.00	0%	0	0.0	100%
WideStrike	16%	99,800	$130.00	$32.00	99%	98,802	2.6	100%
WideStrike 3	1%	7,620	$130.00	$32.00	0%	0	0.0	100%
TwinLink	1%	6,300	$130.00	$32.00	90%	5,670	1.7	100%
TwinLink Plus	0%	630	$130.00	$32.00	0%	0	0.0	100%
Total Bt	99%	624,080	$130.00	$32.00	85.2%	531,954	1.6	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	1%	6,300	$22.00		100%	6,300	2.7	77%
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.1%	630,380	$128.79	$32.00	85.4%	538,254	1.7	99.8%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		630,380	$128.79		85.4%	538,254	1.7	

Table 19. Cotton insect loss estimates for Missouri during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	228,750	75%	183,000	60.0%	1.1	$16.50	1.60%	0.66	$10.89	1.20%	11,056	$6,418,179	$21.04	16.3%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	61,000	20%	15,250	5.0%	1.0	$14.00	0.20%	0.05	$0.70	0.04%	369	$173,769	$0.57	0.4%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	30,500	10%	183,000	60.0%	1.0	$4.00	0.00%	0.60	$2.40	0.00%	0	$73,200	$0.24	0.2%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	30,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	305,000	100%	305,000	100.0%	3.0	$13.50	2.00%	3.00	$40.50	2.00%	18,427	$18,897,770	$61.96	48.1%
Cotton Fleahopper	183,000	60%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	305,000	100%	30,500	10.0%	1.0	$9.50	0.30%	0.10	$0.95	0.30%	2,764	$1,271,523	$4.17	3.2%
Brown Stink Bug	305,000	100%	18,300	6.0%	1.0	$9.50	0.10%	0.06	$0.57	0.10%	921	$500,989	$1.64	1.3%
Clouded Plant Bug	106,750	35%	6,100	2.0%	1.0	$9.50	0.00%	0.02	$0.19	0.00%	0	$20,283	$0.07	0.1%
Leaf Footed Bugs	30,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	305,000	100%	204,350	67.0%	1.3	$12.00	1.40%	0.87	$10.44	1.40%	12,899	$7,765,925	$25.46	19.8%
Thrips	305,000	100%	259,250	85.0%	1.1	$7.00	0.30%	0.94	$6.58	0.30%	2,764	$2,988,673	$9.80	7.6%
Aphids	305,000	100%	61,000	20.0%	1.0	$13.50	0.10%	0.20	$2.70	0.10%	921	$1,150,639	$3.77	2.9%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	30,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								6.50	$75.92	5.44%	50,121	$39,260,950	$128.72	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Missouri			Total Acres	305,000			
Region	Midsouth			Total Bales Harvested	744,708	Foliar Insecticide Costs	$23,155,600	$75.92
Year	2017			Total Bales Lost to Insects	50,121	Seed Treatment Costs	$3,050,000	$10.00
Total Acres (Upland)	305,000	In-furrow cost/treated acre	$0.00	Percent Yield Loss	5.4%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	1,172	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,239	Scouting Costs	$2,806,000	$9.20
Price / lb	$0.74	Cost/acre Boll Weevil Eradication	$2.00	Av. # Applications	6.5	Eradication Costs	$610,000	$2.00
yield potential (lb/acre)	1,450	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	179,111	Bt Cotton	$7,130,900	$23.38
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	19.4%	Total Costs	$36,752,500	$120.50
Yield / Acre (Pima)	0	% Insect apps by air	40%	Transgenic Cotton (arthropods) (# acres)	301,950	Yield Loss to Insects	$17,802,979	$58.37
% Acres Scouted	80%	No. apps by air	2.58	Boll Weevil Eradication (# acres)	305,000	Total Losses + Costs	$54,555,479	$178.87
Fee / Scouted Acre	$11.50	Cost/app by air	$8.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	60%	# Scouted Acres	244,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	3.87	Seed Treatments (arthropods) (# acres)	305,000			
Cost/treated acre (Bt) Cotton	$23.62	Cost/app by ground	$4.75	In-Furrow Applications (# acres)	0			
% acres with seed treatment	100%	% Loss to weather	5.0%	Applications by Air (acres)	122,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	3.0%	Applications by Ground (acres)	183,000			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	6.0%	No. acres with no foliar insecticide applications	0			

Table 19. Cotton insect loss estimates for Missouri during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	93.0%	283,650	$98.00	$24.00	50%	141,825	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	4.0%	12,200	$80.00	$16.00	75%	9,150	1.5	100%
WideStrike 3	1.0%	3,050	$89.00	$20.00	0%	0	0.0	100%
TwinLink	1.0%	3,050	$87.00	$22.00	50%	1,525	1.0	100%
TwinLink Plus	0.0%	0	$90.00	$24.00	0%	0	0.0	0%
Total Bt	99%	301,950	$97.07	$23.62	50.5%	152,500	1.0	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	1%	3,050	$22.00		100%	3,050	2.0	80%
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	305,000	$96.32	$23.62	51.0%	155,550	1.0	99.8%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		305,000	$96.32		51.0%	155,550	1.0	

Table 20. Cotton insect loss estimates for New Mexico during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	2,907	14%	415	2.0%	1.0	$10.78	1.10%	0.02	$0.22	0.15%	85	$32,451	$1.56	5.1%
Beet Armyworm	21	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	830	4%	208	1.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	7,889	38%	1,246	6.0%	1.0	$12.42	1.60%	0.06	$0.75	0.61%	337	$132,052	$6.36	20.8%
Cotton Fleahopper	5,813	28%	208	1.0%	1.0	$10.85	0.80%	0.01	$0.11	0.22%	124	$47,056	$2.27	7.4%
Stink Bugs (other than brown stink bug)	2,491	12%	208	1.0%	1.0	$9.92	1.70%	0.01	$0.10	0.20%	113	$42,554	$2.05	6.7%
Brown Stink Bug	208	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	208	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	208	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	62	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	17,854	86%	3,737	18.0%	1.0	$6.89	2.00%	0.18	$1.24	1.72%	954	$379,321	$18.27	59.9%
Aphids	208	1%	42	0.2%	1.0	$10.57	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	415	2%	62	0.3%	1.0	$10.72	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	415	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.28	$2.41	2.91%	1,613	$633,434	$30.51	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	New Mexico			Total Acres	22,886			
Region	West			Total Bales Harvested	47,750	Foliar Insecticide Costs	$50,007	$2.41
Year	2017			Total Bales Lost to Insects	1,613	Seed Treatment Costs	$136,014	$6.55
Total Acres (Upland)	20,761	In-furrow cost/treated acre	$1.96	Percent Yield Loss	2.9%	In-Furrow Costs	$2,441	$0.12
Yield / Acre (Upland)	1,104	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,137	Scouting Costs	$111,242	$5.36
Price / lb	$0.78	Cost/acre Boll Weevil Eradication	$5.95	Av. # Applications	0.28	Eradication Costs	$223,087	$10.75
yield potential (lb/acre)	1,282	% acres in Pink Bollworm Eradication	69%	Total Bales lost (all factors)	8,046	Bt Cotton	$237,411	$11.44
Acres (Pima)	2,125	Cost/acre Pink Bollworm Eradication	$6.95	Total % yield Loss	14.5%	Total Costs	$760,202	$36.62
Yield / Acre (Pima)	1,182	% Insect apps by air	31%	Transgenic Cotton (arthropods) (# acres)	15,986	Yield Loss to Insects	$603,907	$29.09
% Acres Scouted	73%	No. apps by air	1.1	Boll Weevil Eradication (# acres)	20,761	Total Losses + Costs	$1,364,109	$65.71
Fee / Scouted Acre	$7.34	Cost/app by air	$6.37	Pink Bollworm Eradication (# acres)	14,325			
No. times scouted/week	1	% insect apps by ground	21%	# Scouted Acres	15,156			
% acres Transgenic (Bt) Cotton	77%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	12,664			
Cost/treated acre (Bt) Cotton	$14.85	Cost/app by ground	$4.69	In-Furrow Applications (# acres)	1,246			
% acres with seed treatment	61%	% Loss to weather	7.0%	Applications by Air (acres)	6,436			
Seed trt. cost/ treated acre	$10.74	% loss to non-arthropods	2.6%	Applications by Ground (acres)	4,360			
% acres with in-furrow	6%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	11,003			

Table 20. Cotton insect loss estimates for New Mexico during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	25.0%	5,190	$40.25	$14.24	2%	93	1.0	92%
Bollgard III	28.0%	5,813	$42.10	$16.22	0%	0	0.0	92%
WideStrike	10.0%	2,076	$35.03	$12.11	3%	52	1.0	92%
WideStrike 3	11.0%	2,284	$37.24	$14.21	0%	0	0.0	92%
TwinLink	1.0%	208	$55.22	$17.51	0%	0	1.0	92%
TwinLink Plus	2.0%	415	$58.31	$19.23	0%	0	0.0	92%
Total Bt	77.0%	15,986	$40.48	$14.85	0.9%	145	0.5	92.0%
Herbicide Traits Only	14.0%	2,907	$26.31	-	43%	1,250	1.0	92%
Conventional	8.0%	1,661	$12.10	-	28%	465	1.0	92%
Organic	1.0%	208	$12.10	-	0%	0	0.0	92%
Total Upland Cotton	100.0%	20,762	$24.15	$14.85	9.0%	1,860	0.7	92.0%
Non Upland Cotton								
Pima	10%	2,124	$38.31	-	2%	42	1.0	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		22,886	$25.47		8.3%	1,902	0.7	

Table 21. Cotton insect loss estimates for North Carolina during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	324,000	90%	135,000	37.5%	1.6	$22.00	7.00%	0.60	$13.20	6.30%	49,613	$20,946,768	$58.19	44.9%
Beet Armyworm	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	342,000	95%	270,000	75.0%	2.0	$15.00	0.20%	1.50	$22.50	0.19%	1,496	$8,197,656	$22.77	17.6%
Cotton Fleahopper	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	252,000	70%	79,200	22.0%	1.0	$12.00	1.90%	0.22	$2.64	1.33%	10,474	$4,184,544	$11.62	9.0%
Brown Stink Bug	306,000	85%	100,800	28.0%	1.0	$12.00	1.90%	0.28	$3.36	1.62%	12,718	$5,301,408	$14.73	11.4%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	360,000	100%	3,600	1.0%	1.0	$18.00	0.04%	0.01	$0.18	0.04%	315	$170,640	$0.47	0.4%
Thrips	360,000	100%	324,720	90.2%	1.0	$15.00	1.00%	0.90	$13.50	1.00%	7,875	$7,506,000	$20.85	16.1%
Aphids	360,000	100%	26,388	7.3%	1.0	$14.75	0.00%	0.07	$1.03	0.00%	0	$371,700	$1.03	0.8%
Grasshoppers	18,000	5%	3,600	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$2,160	$0.01	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.59	$56.53	10.48%	82,491	$46,680,876	$129.67	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	360,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	712,500	Foliar Insecticide Costs	$20,351,700	$56.53
Year	2017			Total Bales Lost to Insects	82,491	Seed Treatment Costs	$5,245,020	$14.57
Total Acres (Upland)	360,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	10.5%	In-Furrow Costs	$2,609,820	$7.25
Yield / Acre (Upland)	950	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,061	Scouting Costs	$1,728,000	$4.80
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$0.90	Av. # Applications	3.59	Eradication Costs	$324,000	$0.90
yield potential (lb/acre)	1,050	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	173,053	Bt Cotton	$11,070,000	$30.75
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	22.0%	Total Costs	$41,328,540	$114.80
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	360,000	Yield Loss to Insects	$27,716,976	$76.99
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	360,000	Total Losses + Costs	$69,045,516	$191.79
Fee / Scouted Acre	$8.00	Cost/app by air	$9.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	80%	# Scouted Acres	216,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	317,880			
Cost/treated acre (Bt) Cotton	$30.75	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	173,988			
% acres with seed treatment	88%	% Loss to weather	10.0%	Applications by Air (acres)	72,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	288,000			
% acres with in-furrow	48%	% loss to other (chemical injury, weeds, diseases, etc.)	0.5%	No. acres with no foliar insecticide applications	18,000			

Table 21. Cotton insect loss estimates for North Carolina during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	63.0%	226,800	$90.00	$30.00	40%	90,720	1.6	85%
Bollgard III	0.5%	1,800	$100.00	$35.00	6%	108	1.0	85%
WideStrike	15.0%	54,000	$85.00	$30.00	54%	28,944	2.0	85%
WideStrike 3	14.0%	50,400	$100.00	$35.00	10%	5,040	1.0	85%
TwinLink	7.0%	25,200	$90.00	$30.00	40%	10,080	1.6	85%
TwinLink Plus	0.5%	1,800	$100.00	$35.00	6%	108	1.0	85%
Total Bt	100%	360,000	$90.75	$30.75	37.5%	135,000	1.6	85.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	0.5%	1,800	$25.00	-	100%	1,800	2.0	85%
Organic	0.3%	900	$25.00	-	100%	900	3.0	85%
Total Upland Cotton	100.8%	362,700	$89.76	$30.75	38.0%	137,700	1.6	85.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		362,700	$89.76		38.0%	137,700	1.6	

Table 22. Cotton insect loss estimates for Oklahoma during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	55,500	10%	27,750	5.0%	1.0	$15.00	0.50%	0.05	$0.75	0.05%	578	$230,284	$0.41	1.8%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	5,550	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Fleahopper	416,250	75%	360,750	65.0%	2.0	$12.00	1.50%	1.30	$15.60	1.13%	13,008	$10,739,311	$19.35	85.0%
Stink Bugs (other than brown stink bug)	83,250	15%	27,750	5.0%	2.0	$8.50	1.00%	0.10	$0.85	0.15%	1,734	$636,740	$1.15	5.0%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	5,550	1%	5,550	1.0%	1.0	$12.50	0.00%	0.01	$0.13	0.00%	0	$694	$0.00	0.0%
Thrips	138,750	25%	138,750	25.0%	1.0	$8.50	0.50%	0.25	$2.13	0.13%	1,445	$766,492	$1.38	6.1%
Aphids	55,500	10%	55,500	10.0%	1.0	$14.00	0.50%	0.10	$1.40	0.05%	578	$266,359	$0.48	2.1%
Grasshoppers	27,750	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								1.81	$20.85	1.50%	17,343	$12,639,880	$22.77	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Oklahoma			Total Acres	555,000		Total	Per Acre
Region	Central			Total Bales Harvested	1,099,594	Foliar Insecticide Costs	$11,571,750	$20.85
Year	2017			Total Bales Lost to Insects	17,343	Seed Treatment Costs	$555,000	$1.00
Total Acres (Upland)	555,000	In-furrow cost/treated acre	$6.00	Percent Yield Loss	1.5%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	951	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	965	Scouting Costs	$2,081,250	$3.75
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$2.50	Av. # Applications	1.81	Eradication Costs	$1,387,500	$2.50
yield potential (lb/acre)	1,000	% acres in Pink Bollworm Eradication		Total Bales lost (all factors)	150,313	Bt Cotton	$2,081,250	$3.75
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	0%	Total % yield Loss	13.0%	Total Costs	$17,676,750	$31.85
Yield / Acre (Pima)	0	% Insect apps by air	$0.00	Transgenic Cotton (arthropods) (# acres)	277,500	Yield Loss to Insects	$5,660,755	$10.20
% Acres Scouted	50%	No. apps by air	20%	Boll Weevil Eradication (# acres)	555,000	Total Losses + Costs	$23,337,505	$42.05
Fee / Scouted Acre	$7.50	Cost/app by air	1	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	$8.50	# Scouted Acres	277,500			
% acres Transgenic (Bt) Cotton	50%	No. apps by ground	80%	Seed Treatments (arthropods) (# acres)	55,500			
Cost/treated acre (Bt) Cotton	$7.50	Cost/app by ground	2.5	In-Furrow Applications (# acres)	0			
% acres with seed treatment	10%	% Loss to weather	$6.00	Applications by Air (acres)	111,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	10.0%	Applications by Ground (acres)	444,000			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	83,250			

Table 22. Cotton insect loss estimates for Oklahoma during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	91.0%	505,050	$68.00	$6.50	5%	25,253	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	1.0%	5,550	$68.00	$6.50	0%	0	0.0	0%
WideStrike 3	7.0%	38,850	$68.00	$6.50	0%	0	0.0	0%
TwinLink	1.0%	5,550	$68.00	$6.50	0%	0	0.0	0%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	555,000	$68.00	$6.50	4.6%	25,253	0.9	91.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	555,000	$68.00	$6.50	4.6%	25,253	0.9	91.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		555,000	$68.00		4.6%	25,253	0.9	

Table 23. Cotton insect loss estimates for South Carolina during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	240,000	100%	72,000	30.0%	1.0	$9.00	1.25%	0.30	$2.70	1.25%	7,500	$3,240,000	$13.50	24.9%
Beet Armyworm	12,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	24,000	10%	1,200	0.5%	1.0	$10.00	0.00%	0.01	$0.10	0.00%	0	$2,400	$0.01	0.0%
Loopers	2,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	24,000	10%	12,000	5.0%	1.0	$6.50	0.05%	0.05	$0.33	0.01%	30	$18,168	$0.08	0.1%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	240,000	100%	24,000	10.0%	1.0	$7.50	0.05%	0.10	$0.75	0.05%	300	$283,680	$1.18	2.2%
Cotton Fleahopper	216,000	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	240,000	100%	216,000	90.0%	1.5	$7.50	1.50%	1.35	$10.13	1.50%	9,000	$5,540,400	$23.09	42.5%
Brown Stink Bug	240,000	100%	48,000	20.0%	1.0	$9.00	0.05%	0.20	$1.80	0.05%	300	$535,680	$2.23	4.1%
Clouded Plant Bug	2,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	216,000	90%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	240,000	100%	24,000	10.0%	1.0	$12.00	0.05%	0.10	$1.20	0.05%	300	$391,680	$1.63	3.0%
Thrips	240,000	100%	192,000	80.0%	1.0	$7.00	0.70%	0.80	$5.60	0.70%	4,200	$2,795,520	$11.65	21.5%
Aphids	240,000	100%	24,000	10.0%	1.0	$8.00	0.00%	0.10	$0.80	0.00%	0	$192,000	$0.80	1.5%
Grasshoppers	240,000	100%	2,400	1.0%	1.0	$9.00	0.00%	0.01	$0.09	0.00%	0	$21,600	$0.09	0.2%
Banded Winged Whitefly	180,000	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	24,000	10%	2,400	1.0%	1.0	$15.00	0.00%	0.01	$0.15	0.00%	0	$3,600	$0.02	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.03	$23.64	3.61%	21,630	$13,024,728	$54.27	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	South Carolina			Total Acres	240,000			
Region	Southeast			Total Bales Harvested	470,000	Foliar Insecticide Costs	$5,673,600	$23.64
Year	2017			Total Bales Lost to Insects	21,630	Seed Treatment Costs	$2,652,000	$11.05
Total Acres (Upland)	240,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	3.6%	In-Furrow Costs	$540,000	$2.25
Yield / Acre (Upland)	940	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	975	Scouting Costs	$1,260,000	$5.25
Price / lb	$0.72	Cost/acre Boll Weevil Eradication	$1.25	Av. # Applications	3.03	Eradication Costs	$300,000	$1.25
yield potential (lb/acre)	1,200	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	177,630	Bt Cotton	$4,614,720	$19.23
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	29.6%	Total Costs	$15,040,320	$62.67
Yield / Acre (Pima)	0	% Insect apps by air	10%	Transgenic Cotton (arthropods) (# acres)	240,096	Yield Loss to Insects	$7,475,328	$31.15
% Acres Scouted	75%	No. apps by air	1	Boll Weevil Eradication (# acres)	240,000	Total Losses + Costs	$22,515,648	$93.82
Fee / Scouted Acre	$7.00	Cost/app by air	$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	95%	# Scouted Acres	180,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	204,000			
Cost/treated acre (Bt) Cotton	$19.22	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	36,000			
% acres with seed treatment	85%	% Loss to weather	15.0%	Applications by Air (acres)	24,000			
Seed trt. cost/ treated acre	$13.00	% loss to non-arthropods	10.0%	Applications by Ground (acres)	228,000			
% acres with in-furrow	15%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	600			

Table 23. Cotton insect loss estimates for South Carolina during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	89.8%	215,520	$90.00	$20.00	10%	21,552	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	1.5%	3,576	$85.00	$10.00	50%	1,788	1.5	100%
WideStrike 3	6.3%	15,144	$91.00	$10.00	10%	1,514	1.0	100%
TwinLink	2.4%	5,856	$91.00	$20.00	10%	586	0.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	240,096	$90.01	$19.22	10.6%	25,440	1.0	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100%	240,096	$90.01	$19.22	10.6%	25,440	1.0	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		240,096	$90.01		10.6%	25,440	1.0	

Table 24. Cotton insect loss estimates for Tennessee during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	310,500	90%	241,500	70.0%	1.3	$16.00	2.10%	0.91	$14.56	1.89%	17,388	$10,697,098	$31.01	27.3%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	138,000	40%	34,500	10.0%	1.0	$13.50	0.40%	0.10	$1.35	0.16%	1,472	$709,154	$2.06	1.8%
Loopers	3,450	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	34,500	10%	207,000	60.0%	1.0	$4.00	0.00%	0.60	$2.40	0.00%	0	$82,800	$0.24	0.2%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	17,250	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	345,000	100%	345,000	100.0%	2.9	$12.50	2.10%	2.90	$36.25	2.10%	19,320	$19,368,714	$56.14	49.4%
Cotton Fleahopper	34,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	345,000	100%	69,000	20.0%	1.0	$9.00	0.40%	0.20	$1.80	0.40%	3,680	$1,928,136	$5.59	4.9%
Brown Stink Bug	345,000	100%	34,500	10.0%	1.0	$9.00	0.10%	0.10	$0.90	0.10%	920	$637,284	$1.85	1.6%
Clouded Plant Bug	276,000	80%	17,250	5.0%	1.0	$9.00	0.05%	0.05	$0.45	0.04%	368	$254,914	$0.74	0.7%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	258,750	75%	103,500	30.0%	1.1	$11.00	0.20%	0.33	$3.63	0.15%	1,380	$1,429,439	$4.14	3.6%
Thrips	345,000	100%	310,500	90.0%	1.1	$7.00	0.30%	0.99	$6.93	0.30%	2,760	$3,371,202	$9.77	8.6%
Aphids	345,000	100%	41,400	12.0%	1.0	$13.00	0.05%	0.12	$1.56	0.05%	460	$701,592	$2.03	1.8%
Grasshoppers	3,450	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	34,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								6.30	$69.83	5.19%	47,748	$39,180,333	$113.57	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Tennessee			Total Acres	345,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	741,031	Foliar Insecticide Costs	$24,091,350	$69.83
Year	2017			Total Bales Lost to Insects	47,748	Seed Treatment Costs	$3,450,000	$10.00
Total Acres (Upland)	345,000	In-furrow cost/treated acre	$0.00	Percent Yield Loss	5.2%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	1,031	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,087	Scouting Costs	$3,036,000	$8.80
Price / lb	$0.74	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	6.3	Eradication Costs	$517,500	$1.50
yield potential (lb/acre)	1,280	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	176,548	Bt Cotton	$7,866,000	$22.80
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	19.2%	Total Costs	$38,960,850	$112.93
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	341,550	Yield Loss to Insects	$16,960,090	$49.16
% Acres Scouted	80%	No. apps by air	1.575	Boll Weevil Eradication (# acres)	345,000	Total Losses + Costs	$55,920,940	$162.09
Fee / Scouted Acre	$11.00	Cost/app by air	$8.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	75%	# Scouted Acres	276,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4.725	Seed Treatments (arthropods) (# acres)	345,000			
Cost/treated acre (Bt) Cotton	$23.03	Cost/app by ground	$4.75	In-Furrow Applications (# acres)	0			
% acres with seed treatment	100%	% Loss to weather	6.0%	Applications by Air (acres)	86,250			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	4.0%	Applications by Ground (acres)	258,750			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0			

Table 24. Cotton insect loss estimates for Tennessee during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	84.0%	289,800	$98.00	$24.00	60%	173,880	1.3	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	10.0%	34,500	$80.00	$16.00	90%	31,050	1.5	100%
WideStrike 3	3.5%	12,075	$89.00	$20.00	0%	0	0.0	100%
TwinLink	1.0%	3,450	$87.00	$22.00	60%	2,070	1.2	100%
TwinLink Plus	0.5%	1,725	$90.00	$24.00	0%	0	0.0	100%
Total Bt	99%	341,550	$95.71	$23.03	60.6%	207,000	1.3	100%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	1.0%	3,450	$22.00			0	2.0	80%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	345,000	$94.98	$23.03	60.0%	207,000	1.3	99.8%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		345,000	$94.98		60.0%	207,000	1.3	

Table 25. Cotton insect loss estimates for the South Texas area of Texas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	828,697	100%	348,053	42.0%	1.0	$11.00	0.50%	0.42	$4.62	0.50%	17,265	$9,463,876	$11.42	14.1%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	41,435	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Fleahopper	828,697	100%	671,245	81.0%	1.7	$8.50	1.00%	1.38	$11.73	1.00%	34,529	$20,990,881	$25.33	31.4%
Stink Bugs (other than brown stink bug)	497,218	60%	497,218	60.0%	1.0	$11.00	2.00%	0.60	$6.60	1.20%	41,435	$16,806,024	$20.28	25.1%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	538,653	65%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	339,766	41%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	828,697	100%	281,757	34.0%	1.0	$9.50	0.75%	0.34	$3.23	0.75%	25,897	$11,129,472	$13.43	16.6%
Aphids	828,697	100%	571,801	69.0%	1.2	$9.50	0.10%	0.83	$7.89	0.10%	3,453	$7,661,335	$9.25	11.5%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Creontiades	381,201	46%	124,305	15.0%	1.0	$10.00	0.05%	0.15	$1.50	0.02%	794	$830,963	$1.00	1.2%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.72	$35.57	3.57%	123,373	$66,882,551	$80.71	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	828,697		Total	Per Acre
Region	Central			Total Bales Harvested	2,170,150	Foliar Insecticide Costs	$29,472,609	$35.57
Year	2017			Total Bales Lost to Insects	123,373	Seed Treatment Costs	$3,857,585	$4.66
Total Acres (Upland)	828,697	In-furrow cost/treated acre	$0.00	Percent Yield Loss	3.6%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	1,257	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,304	Scouting Costs	$8,400,501	$10.14
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$9.15	Av. # Applications	3.72	Eradication Costs	$7,582,578	$9.15
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,400,947	Bt Cotton	$7,342,256	$8.86
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	40.6%	Total Costs	$56,655,529	$68.37
Yield / Acre (Pima)	0	% Insect apps by air	29%	Transgenic Cotton (arthropods) (# acres)	828,697	Yield Loss to Insects	$40,268,947	$48.59
% Acres Scouted	93%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	828,697	Total Losses + Costs	$96,924,476	$116.96
Fee / Scouted Acre	$10.90	Cost/app by air	$8.71	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	71%	# Scouted Acres	770,688			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	812,123			
Cost/treated acre (Bt) Cotton	$8.86	Cost/app by ground	$7.21	In-Furrow Applications (# acres)	0			
% acres with seed treatment	98%	% Loss to weather	30.0%	Applications by Air (acres)	240,322			
Seed trt. cost/ treated acre	$4.75	% loss to non-arthropods	3.0%	Applications by Ground (acres)	588,375			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0			

Table 25. Cotton insect loss estimates for the South Texas area of Texas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	48.0%	397,775	$60.00	$9.00	29%	115,355	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	42.0%	348,053	$40.00	$8.00	61%	212,312	1.0	100%
WideStrike 3	1.0%	8,287	$66.00	$10.00	0%	0	0.0	0%
TwinLink	9.0%	74,583	$64.00	$12.00	25%	18,646	0.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	828,698	$52.02	$8.86	41.8%	346,313	0.9	100.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	0.5%	4143	$6.00		100%	4143	2.0	100%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.5%	832,841	$51.79	$8.86	42.1%	350,456	0.9	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		832,841	$51.79		42.1%	350,456	0.9	

Table 26. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	302,673	90%	201,782	60.0%	1.2	$24.00	6.00%	0.72	$17.28	5.40%	75,668	$31,381,045	$93.31	46.2%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	33,630	10%	16,815	5.0%	1.0	$24.00	0.50%	0.05	$1.20	0.05%	701	$282,622	$0.84	0.4%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	16,815	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	117,706	35%	6,726	2.0%	1.0	$18.00	0.00%	0.02	$0.36	0.00%	0	$42,374	$0.13	0.1%
Cotton Fleahopper	336,303	100%	252,227	75.0%	2.3	$11.00	2.00%	1.72	$18.92	2.00%	28,025	$16,048,293	$47.72	23.6%
Stink Bugs (other than brown stink bug)	269,042	80%	168,152	50.0%	1.0	$14.00	2.00%	0.50	$7.00	1.60%	22,420	$9,631,649	$28.64	14.2%
Brown Stink Bug	201,782	60%	50,445	15.0%	1.0	$14.00	0.50%	0.15	$2.10	0.30%	4,204	$1,876,644	$5.58	2.8%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	67,261	20%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	134,521	40%	16,815	5.0%	1.0	$18.00	1.00%	0.05	$0.90	0.40%	5,605	$2,058,157	$6.12	3.0%
Thrips	336,303	100%	67,261	20.0%	1.0	$11.00	1.00%	0.20	$2.20	1.00%	14,013	$5,582,759	$16.60	8.2%
Aphids	319,488	95%	67,261	20.0%	1.0	$16.00	0.00%	0.20	$3.20	0.00%	0	$1,022,361	$3.04	1.5%
Grasshoppers	201,782	60%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								3.61	$53.16	10.75%	150,636	$67,925,904	$201.98	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	336,303		Total	Per Acre
Region	Central			Total Bales Harvested	805,726	Foliar Insecticide Costs	$17,877,867	$53.16
Year	2017			Total Bales Lost to Insects	150,636	Seed Treatment Costs	$4,035,636	$12.00
Total Acres (Upland)	336,303	In-furrow cost/treated acre	$18.00	Percent Yield Loss	10.8%	In-Furrow Costs	$6,053	$0.02
Yield / Acre (Upland)	1,150	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,289	Scouting Costs	$2,690,424	$8.00
Price / lb	$0.72	Cost/acre Boll Weevil Eradication	$7.19	Av. # Applications	3.61	Eradication Costs	$2,418,019	$7.19
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	564,008	Bt Cotton	$3,985,189	$11.85
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	40.3%	Total Costs	$31,013,188	$92.22
Yield / Acre (Pima)	0	% Insect apps by air	60%	Transgenic Cotton (arthropods) (# acres)	336,303	Yield Loss to Insects	$52,059,802	$154.80
% Acres Scouted	80%	No. apps by air	3	Boll Weevil Eradication (# acres)	336,303	Total Losses + Costs	$83,072,990	$247.02
Fee / Scouted Acre	$10.00	Cost/app by air	$8.80	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	40%	# Scouted Acres	269,042			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	336,303			
Cost/treated acre (Bt) Cotton	$11.85	Cost/app by ground	$7.50	In-Furrow Applications (# acres)	336			
% acres with seed treatment	100%	% Loss to weather	19.5%	Applications by Air (acres)	201,782			
Seed trt. cost/ treated acre	$12.00	% loss to non-arthropods	2.0%	Applications by Ground (acres)	134,521			
% acres with in-furrow	0.1%	% loss to other (chemical injury, weeds, diseases, etc.)	8.0%	No. acres with no foliar insecticide applications	0			

Table 26. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	50.0%	168,152	$60.00	$12.00	50%	84,076	1.2	100%
Bollgard III	0.0%	0	$0.00	$0.00	0%	0	0.0	0%
WideStrike	20.0%	67,261	$40.00	$10.00	90%	60,535	1.5	100%
WideStrike 3	5.0%	16,815	$66.00	$14.00	0%	0	0.0	100%
TwinLink	20.0%	67,261	$64.00	$12.00	75%	50,446	1.2	100%
TwinLink Plus	5.0%	16,815	$75.00	$15.00	0%	0	0.0	100%
Total Bt	100%	336,304	$57.85	$11.85	58.0%	195,057	1.1	100.0%
Herbicide Traits Only	0%	0				0		
Conventional	0%	0				0		
Organic	0%	0				0		
Total Upland Cotton	100.0%	336,304	$57.85	$11.85	58.0%	195,057	1.1	100.0%
Non Upland Cotton								
Pima	0%	0				0		
Other	0%	0				0		
Organic	0%	0				0		
Total (all Cotton)		336,304	$57.85		58.0%	195,057	1.1	

Table 27. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	1,232,100	90%	8,214	0.6%	1.0	$17.00	0.20%	0.01	$0.17	0.18%	10,268	$3,758,078	$2.75	13.5%
Beet Armyworm	68,450	5%	0	0.0%	1.0	$22.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	136,900	10%	0	0.0%	1.0	$13.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	41,070	3%	0	0.0%	1.0	$13.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	13,690	1%	0	0.0%	1.0	$13.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	1.0	$9.50	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	1.0	$13.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	136,900	10%	0	0.0%	1.0	$9.20	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Fleahopper	684,500	50%	136,900	10.0%	1.1	$8.09	1.00%	0.11	$0.89	0.50%	28,521	$10,465,994	$7.64	37.5%
Stink Bugs (other than brown stink bug)	68,450	5%	6,845	0.5%	1.0	$12.00	1.00%	0.01	$0.12	0.05%	2,852	$993,865	$0.73	3.6%
Brown Stink Bug	0	0%	0	0.0%	1.0	$13.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	1.0	$8.09	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	1.0	$8.09	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	109,520	8%	2,738	0.2%	1.0	$17.00	2.00%	0.00	$0.00	0.16%	9,127	$3,154,291	$2.30	11.3%
Thrips	1,369,000	100%	13,690	1.0%	1.0	$10.00	0.10%	0.01	$0.10	0.10%	5,704	$2,108,202	$1.54	7.6%
Aphids	958,300	70%	191,660	14.0%	1.0	$14.00	0.40%	0.14	$1.96	0.28%	15,972	$7,398,191	$5.40	26.5%
Grasshoppers	136,900	10%	6,845	0.5%	1.0	$8.09	0.00%	0.01	$0.08	0.00%	0	$11,075	$0.01	0.0%
Banded Winged Whitefly	68,450	5%	0	0.0%	1.0	$14.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	1.0	$20.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.29	$3.32	1.27%	72,444	$27,889,696	$20.37	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	1,383,000		Total	Per Acre
Region	Central			Total Bales Harvested	2,153,323	Foliar Insecticide Costs	$4,546,175	$3.32
Year	2017			Total Bales Lost to Insects	72,444	Seed Treatment Costs	$9,856,800	$7.20
Total Acres (Upland)	1,369,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	1.3%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	755	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	765	Scouting Costs	$2,190,400	$1.60
Price / lb	$0.72	Cost/acre Boll Weevil Eradication	$1.57	Av. # Applications	0.29	Eradication Costs	$2,149,330	$1.57
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	1%	Total Bales lost (all factors)	3,609,026	Bt Cotton	$8,423,457	$6.15
Acres (Pima)	14,000	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	63.3%	Total Costs	$27,166,162	$19.84
Yield / Acre (Pima)	1,065	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	1,067,820	Yield Loss to Insects	$25,036,646	$18.29
% Acres Scouted	16%	No. apps by air	0.3	Boll Weevil Eradication (# acres)	1,369,000	Total Losses + Costs	$52,202,808	$38.13
Fee / Scouted Acre	$10.00	Cost/app by air	$7.03	Pink Bollworm Eradication (# acres)	16,428			
No. times scouted/week	1	% insect apps by ground	75%	# Scouted Acres	219,040			
% acres Transgenic (Bt) Cotton	78%	No. apps by ground	0.7	Seed Treatments (arthropods) (# acres)	1,314,240			
Cost/treated acre (Bt) Cotton	$7.89	Cost/app by ground	$7.86	In-Furrow Applications (# acres)	0			
% acres with seed treatment	96%	% Loss to weather	40.0%	Applications by Air (acres)	342,250			
Seed trt. cost/ treated acre	$7.50	% loss to non-arthropods	12.0%	Applications by Ground (acres)	1,026,750			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	1,026,750			

Table 27. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	35.9%	491,471	$45.00	$7.00	0.2%	983	1.0	98%
Bollgard III	0.1%	1,369	$50.00	$12.00	0.0%	0	0.0	98%
WideStrike	6.0%	82,140	$45.00	$7.00	0.5%	411	1.0	98%
WideStrike 3	13.0%	177,970	$50.00	$12.00	0.0%	0	0.0	98%
TwinLink	22.0%	301,180	$45.00	$7.00	0.5%	1,506	1.0	98%
TwinLink Plus	1.0%	13,690	$50.00	$12.00	0.0%	0	0.0	98%
Total Bt	78%	1,067,820	$45.84	$7.89	0.3%	2,900	0.8	97.9%
Herbicide Traits Only	20.0%	273,800	$48.00	-	2.0%	5476	1.0	98%
Conventional	2.0%	27,380	$15.00	-	2.0%	548	1.0	98%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	1,369,000	$45.66	$7.89	0.7%	8,924	0.9	97.9%
Non Upland Cotton								
Pima	1.0%	13,690	$60.00	-	0%	0	0	-
Other	0.0%	0	-	-	-	-	-	-
Organic	0.0%	0	-	-	-	-	-	-
Total (all Cotton)		1,382,690	$45.80		0.6%	8,924	0.9	

Table 28. Cotton insect loss estimates for the High Plains area of Texas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	3,504,000	80%	876,000	20.0%	1.0	$15.00	1.000%	0.20	$3.00	0.80%	146,000	$59,568,000	$13.60	73.6%
Beet Armyworm	438,000	10%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	438,000	10%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	87,600	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Fleahopper	219,000	5%	43,800	1.0%	1.0	$10.00	0.005%	0.01	$0.10	0.00%	0	$21,900	$0.01	0.0%
Stink Bugs (other than brown stink bug)	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	43,800	1%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	4,380,000	100%	2,190,000	50.0%	1.0	$9.00	0.005%	0.50	$4.50	0.01%	913	$20,016,768	$4.57	24.7%
Aphids	1,752,000	40%	219,000	5.0%	1.0	$15.00	0.002%	0.05	$0.75	0.00%	183	$1,375,488	$0.31	1.7%
Grasshoppers	43,800	1%	219	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	87,600	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.76	$8.35	0.81%	147,096	$80,982,156	$18.49	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	4,380,000		Total	Per Acre
Region	Central			Total Bales Harvested	6,798,125	Foliar Insecticide Costs	$36,573,000	$8.35
Year	2017			Total Bales Lost to Insects	147,096	Seed Treatment Costs	$35,040,000	$8.00
Total Acres (Upland)	4,380,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	0.8%	In-Furrow Costs	$1,971,000	$0.45
Yield / Acre (Upland)	745	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	751	Scouting Costs	$7,665,000	$1.75
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	0.76	Eradication Costs	$6,570,000	$1.50
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	11,462,095	Bt Cotton	$24,659,400	$5.63
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	62.8%	Total Costs	$112,478,400	$25.68
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	3,241,200	Yield Loss to Insects	$49,424,256	$11.28
% Acres Scouted	25%	No. apps by air	0.25	Boll Weevil Eradication (# acres)	4,380,000	Total Losses + Costs	$161,902,656	$36.96
Fee / Scouted Acre	$7.00	Cost/app by air	$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	75%	# Scouted Acres	1,095,000			
% acres Transgenic (Bt) Cotton	74%	No. apps by ground	0.75	Seed Treatments (arthropods) (# acres)	3,504,000			
Cost/treated acre (Bt) Cotton	$7.61	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	131,400			
% acres with seed treatment	80%	% Loss to weather	40.0%	Applications by Air (acres)	1,095,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	2.0%	Applications by Ground (acres)	3,285,000			
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	20.0%	No. acres with no foliar insecticide applications	3,504,000			

Table 28. Cotton insect loss estimates for the High Plains area of Texas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	32.0%	1,401,600	$60.00	$7.00	1%	14,016	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	5.0%	219,000	$50.00	$7.00	2%	4,380	1.0	100%
WideStrike 3	8.0%	350,400	$65.00	$12.00	0%	0	0.0	100%
TwinLink	28.0%	1,226,400	$60.00	$7.00	1%	12,264	1.0	100%
TwinLink Plus	1.0%	43,800	$65.00	$12.00	0%	0	0.0	100%
Total Bt	74%	3,241,200	$59.93	$7.61	0.9%	30,660	0.9	100%
Herbicide Traits Only	20%	876,000	$25.00	-	50%	438,000	1.0	100%
Conventional	5%	219,000	$20.00	-	50%	109,500	1.0	100%
Organic	1%	43,800	$20.00	-	0%	0	0.0	0%
Total Upland Cotton	100.0%	4,380,000	$50.55	$7.61	13.2%	578,160	0.9	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		4,380,000	$50.55		13.2%	578,160	0.9	

Table 29. Cotton insect loss estimates for Texas during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	5,867,470	85%	1,434,049	21%	1.0	$15.35	1.02%	0.21	$3.22	0.87%	251,408	$103,646,744	$14.99	56.6%
Beet Armyworm	506,450	7%	0	0%	0.2	$4.36	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	212,184	3%	16,815	0%	0.2	$3.74	0.02%	0.00	$0.00	0.00%	216	$73,229	$0.01	0.0%
Loopers	479,070	7%	0	0%	0.2	$2.57	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	30,724	0%	0	0%	0.2	$2.57	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0%	0.2	$1.88	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	219	0%	0	0%	0.2	$2.57	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	342,206	5%	6,726	0%	0.2	$2.70	0.00%	0.00	$0.00	0.00%	0	$221	$0.00	0.0%
Cotton Fleahopper	2,068,500	30%	1,104,172	16%	1.2	$9.49	0.42%	0.19	$1.77	0.13%	36,175	$15,857,472	$2.29	8.7%
Stink Bugs (other than brown stink bug)	834,930	12%	672,215	10%	0.4	$4.38	0.54%	0.04	$0.16	0.06%	18,675	$6,427,735	$0.93	3.5%
Brown Stink Bug	201,782	3%	50,445	1%	0.2	$3.26	0.02%	0.00	$0.01	0.00%	205	$70,368	$0.01	0.0%
Clouded Plant Bug	0	0%	0	0%	0.2	$1.60	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	605,914	9%	0	0%	0.2	$1.60	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	627,607	9%	19,553	0%	0.2	$4.24	0.44%	0.00	$0.00	0.04%	11,667	$3,936,203	$0.57	2.1%
Thrips	6,914,000	100%	2,552,708	37%	1.0	$9.36	0.16%	0.37	$3.45	0.16%	46,684	$39,623,678	$5.73	21.6%
Aphids	3,858,485	56%	1,049,722	15%	1.0	$14.19	0.09%	0.16	$2.21	0.05%	14,914	$13,542,205	$1.96	7.4%
Grasshoppers	382,482	6%	7,064	0%	0.2	$1.60	0.00%	0.00	$0.00	0.00%	0	$124	$0.00	0.0%
Banded Winged Whitefly	156,050	2%	0	0%	0.2	$2.77	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0%	0.2	$3.96	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Creontiades	381,201	6%	124,305	2%	0.1	$1.20	0.01%	0.00	$0.00	0.00%	96	$33,192	$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.96	$10.82	1.31%	380,040	$183,211,172	$26.50	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	6,928,000		Total	Per Acre
Region	Central			Total Bales Harvested	11,927,324	Foliar Insecticide Costs	$74,776,052	$10.82
Year	2017			Total Bales Lost to Insects	380,040	Seed Treatment Costs	$53,539,002	$7.74
Total Acres (Upland)	6,914,000	In-furrow cost/treated acre	$13.35	Percent Yield Loss	1.3%	In-Furrow Costs	$1,758,423	$0.25
Yield / Acre (Upland)	828	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	839	Scouting Costs	$19,318,291	$2.79
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$2.71	Av. # Applications	1.0	Eradication Costs	$18,719,926	$2.71
yield potential (lb/acre)	2,007	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	17,036,076	Bt Cotton	$44,070,637	$6.37
Acres (Pima)	14,000	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	58.7%	Total Costs	$212,182,331	$30.69
Yield / Acre (Pima)	1,065	% Insect apps by air	27%	Transgenic Cotton (arthropods) (# acres)	5,474,020	Yield Loss to Insects	$128,155,853	$18.54
% Acres Scouted	34%	No. apps by air	0.5	Boll Weevil Eradication (# acres)	6,914,000	Total Losses + Costs	$340,338,184	$49.22
Fee / Scouted Acre	$8.21	Cost/app by air	$7.62	Pink Bollworm Eradication (# acres)	16,428			
No. times scouted/week	1	% insect apps by ground	73%	# Scouted Acres	2,353,771			
% acres Transgenic (Bt) Cotton	79%	No. apps by ground	1.0	Seed Treatments (arthropods) (# acres)	5,966,666			
Cost/treated acre (Bt) Cotton	$8.05	Cost/app by ground	$5.95	In-Furrow Applications (# acres)	131,736			
% acres with seed treatment	86%	% Loss to weather	37.8%	Applications by Air (acres)	1,879,354			
Seed trt. cost/ treated acre	$8.97	% loss to non-arthropods	4.1%	Applications by Ground (acres)	5,034,646			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	15.5%	No. acres with no foliar insecticide applications	4,530,750			

Table 29. Cotton insect loss estimates for Texas during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	35.57%	2,458,997	$57.03	$7.48	6.6%	161,827	1.0	100%
Bollgard III	0.02%	1,369	$9.90	$9.98	0.0%	0	0.0	83%
WideStrike	10.36%	716,453	$47.32	$7.27	13.1%	93,533	1.0	100%
WideStrike 3	8.01%	553,472	$62.20	$11.86	0.0%	0	0.0	88%
TwinLink	24.15%	1,669,423	$57.70	$7.84	7.4%	123,154	0.9	100%
TwinLink Plus	1.07%	74,305	$54.73	$10.71	0.0%	0	0.0	88%
Total Bt	79.17%	5,474,020	$56.44	$8.05	6.9%	378,514	0.9	98.2%
Herbicide Traits Only	16.63%	1,149,800	$25.34	-	32.1%	368,751	0.8	83%
Conventional	3.62%	250,523	$16.36	-	44.1%	110,372	1.1	95%
Organic	0.63%	43,800	$15.64	-	0.4%	173	0.2	19%
Total Upland Cotton	100.06%	6,918,143	$49.56	$8.05	12.4%	857,810	0.85795626	95.0%
Non Upland Cotton								
Pima	0.2%	13,690	$11.88	-	0	0	0	0
Other	0.0%	0	$0.00	-	-	-	-	-
Organic	0.0%	0	$0.00	-	-	-	-	-
Total (all Cotton)		6,931,833	$49.49		12.4%	857,810	0.9	

Table 30. Cotton insect loss estimates for Virginia during 2017.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	63,000	75%	42,000	50.0%	1.0	$18.00	5.00%	0.50	$9.00	3.75%	9,844	$4,110,840	$48.94	19.0%
Beet Armyworm	4,200	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	84,000	100%	79,800	95.0%	2.0	$10.00	10.00%	1.90	$19.00	10.00%	26,250	$11,046,000	$131.50	51.2%
Cotton Fleahopper	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	12,600	15%	8,400	10.0%	1.0	$10.00	1.50%	0.10	$1.00	0.23%	591	$225,360	$2.68	1.0%
Brown Stink Bug	12,600	15%	8,400	10.0%	1.0	$10.00	1.50%	0.10	$1.00	0.23%	591	$225,360	$2.68	1.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	84,000	100%	84,000	100.0%	2.0	$7.50	5.00%	2.00	$15.00	5.00%	13,125	$5,985,000	$71.25	27.7%
Aphids	4,200	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								4.60	$45.00	19.20%	50,401	$21,592,560	$257.05	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Virginia			Total Acres	84,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	210,525	Foliar Insecticide Costs	$3,780,000	$45.00
Year	2017			Total Bales Lost to Insects	50,401	Seed Treatment Costs	$537,600	$6.40
Total Acres (Upland)	84,000	In-furrow cost/treated acre	$1.80	Percent Yield Loss	19.2%	In-Furrow Costs	$30,240	$0.36
Yield / Acre (Upland)	1,203	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,489	Scouting Costs	$84,000	$1.00
Price / lb	$0.75	Cost/acre Boll Weevil Eradication	$0.50	Av. # Applications	4.6	Eradication Costs	$42,000	$0.50
yield potential (lb/acre)	1,500	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	116,025	Bt Cotton	$1,680,000	$20.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	44.2%	Total Costs	$6,153,840	$73.26
Yield / Acre (Pima)	0	% Insect apps by air	0%	Transgenic Cotton (arthropods) (# acres)	84,000	Yield Loss to Insects	$18,144,360	$216.00
% Acres Scouted	10%	No. apps by air	0	Boll Weevil Eradication (# acres)	84,000	Total Losses + Costs	$24,298,200	$289.26
Fee / Scouted Acre	$10.00	Cost/app by air	$0.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	2	% insect apps by ground	100%	# Scouted Acres	8,400			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	67,200			
Cost/treated acre (Bt) Cotton	$20.00	Cost/app by ground	$11.00	In-Furrow Applications (# acres)	16,800			
% acres with seed treatment	80%	% Loss to weather	10.0%	Applications by Air (acres)	0			
Seed trt. cost/ treated acre	$8.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	84,000			
% acres with in-furrow	20%	% loss to other (chemical injury, weeds, diseases, etc.)	15.0%	No. acres with no foliar insecticide applications	0			

Table 30. Cotton insect loss estimates for Virginia during 2017, continued.

Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	% acres treated for BW/TBW	# acres treated for BW/TBW	# apps for BW/TBW	% of Population Bollworm
Bollgard II	51.0%	42,840	$100.00	$20.00	40%	17,136	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	30.0%	25,200	$100.00	$20.00	100%	25,200	1.0	100%
WideStrike 3	12.0%	10,080	$100.00	$20.00	0%	0	0.0	100%
TwinLink	7.0%	5,880	$100.00	$20.00	0%	0	0.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	100%	84,000	$100.00	$20.00	50.4%	42,336	0.8	100%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	84,000	$100.00	$20.00	50.4%	42,336	0.8	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		84,000	$100.00		50.4%	42,336	0.8	