2020 COTTON INSECT LOSSES 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 –Ron Smith and Scott Graham
Arizona – Peter Ellsworth
Arkansas – Gus Lorenz, Glenn Studebaker, Ben Thrash, and Nick Bateman
California – Bob Hutmacher and Ian Grettenberger
Florida –Ethan Carter and Libbie Johnson
Georgia – Phillip Roberts
Kansas – Stu Duncan
Louisiana – Sebe Brown
Mississippi – Angus Catchot, Jeff Gore, and Whitney Crow
New Mexico – Jane Pierce
North Carolina – Dominic Reisig
Oklahoma – Jerry Goodson
South Carolina – Jeremy Greene
Tennessee - Scott Stewart
Texas –David Kerns
Virginia – Sally Taylor

Table 1. Cotton insect loss estimates for South Alabama during 2020.

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	28,369	10%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
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	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	$0.00	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	241,137	85%	226,953	80%	1.5	$8.00	0.25%	1.20	$9.60	0.21%	1,645	$2,828,159	$9.97	16.1%
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)	269,506	95%	255,322	90%	2.0	$7.50	2.00%	1.80	$13.50	1.90%	14,677	$8,217,561	$28.97	46.7%
Brown Stink Bug	226,953	80%	113,476	40%	0.5	$8.50	0.50%	0.20	$1.70	0.40%	3,090	$1,349,900	$4.76	7.7%
Clouded Plant Bug	85,107	30%	28,369	10%	1.0	$7.50	0.10%	0.10	$0.75	0.03%	232	$136,214	$0.48	0.8%
Leaf Footed Bugs	198,584	70%	56,738	20%	1.0	$9.50	0.10%	0.20	$1.90	0.07%	541	$546,101	$1.92	3.1%
Spider Mites	56,738	20%	42,554	15%	1.0	$8.50	0.10%	0.15	$1.28	0.02%	154	$120,389	$0.42	0.7%
Thrips	283,691	100%	226,953	80%	1.1	$6.50	1.00%	0.88	$5.72	1.00%	7,725	$4,032,913	$14.22	22.9%
Aphids	85,107	30%	14,185	5%	1.0	$6.00	0.00%	0.05	$0.30	0.00%	0	$25,532	$0.09	0.1%
Grasshoppers	141,846	50%	70,923	25%	1.0	$6.50	0.10%	0.25	$1.63	0.05%	386	$350,931	$1.24	2.0%
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	14,185	5%	7,092	3%	1.0	$14.50	0.00%	0.02	$0.29	0.00%	0	$4,114	$0.01	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							4.15%	4.85	$36.66	3.68%	28,450	$17,611,814	$62.08	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Alabama			Total Acres	283,691		Total	Per Acre
Region	Southeast			Total Bales Harvested	502,369	Foliar Insecticide Costs	$10,400,112	$36.66
Year	2020			Total Bales Lost to Insects	28,450	Seed Treatment Costs	$3,574,507	$12.60
Total Acres (Upland)	283,691	In-furrow cost/treated acre	$15.00	Percent Yield Loss	3.7%	In-Furrow Costs	$425,537	$1.50
Yield / Acre (Upland)	850	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	883	Scouting Costs	$2,290,805	$8.08
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	4.85	Eradication Costs	$425,537	$1.50
yield potential (lb/acre)	1,307	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	270,232	Bt Cotton	$9,489,467	$33.45
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	35.0%	Total Costs	$26,605,965	$93.79
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	283,691	Yield Loss to Insects	$8,876,400	$31.29
% Acres Scouted	95%	No. apps by air	2	Boll Weevil Eradication (# acres)	283,691	Total Losses + Costs	$35,482,365	$125.07
Fee / Scouted Acre	$8.50	Cost/app by air	$6.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	269,506			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	255,322			
Cost/treated acre (Bt) Cotton	$33.45	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	28,369			
% acres with seed treatment	90%	% Loss to weather	27.8%	Applications by Air (acres)	42,554			
Seed trt. cost/ treated acre	$14.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	241,137			
% acres with in-furrow	10%	% loss to other (chemical injury, weeds, diseases, etc.)	2.5%	No. acres with no foliar insecticide applications	0			

Table 1. Cotton insect loss estimates for South Alabama during 2020, 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
Bollgard II	55.0%	156,030	$60.00	$35.00	0%	0	0.0
Bollgard III	30.0%	85,107	$63.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$45.00	$0.00	0%	0	0.0
WideStrike 3	10.0%	28,369	$48.00	$18.00	0%	0	0.0
TwinLink	0.0%	0	$0.00	$0.00	0%	0	0.0
TwinLink Plus	5.0%	14,185	$60.00	$38.00	0%	0	0.0
Total Bt	100.0%	283,691	$59.70	$33.45	0.0%	0	0.0
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	283,691	$59.70	$33.45	0.0%	0	0.0
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		283,691	$59.70	-	0.0%	0	0.0

Table 2. Cotton insect loss estimates for North Alabama during 2020.

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	32,251	20%	0	0%	0.0	$0.00	0.05%	0.00	$0.00	0.01%	46	$14,352	$0.09	0.2%
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	3,225	2%	0	0%	0.0	$0.00	0.01%	0.00	$0.00	0.00%	0	$0	$0.00	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	161,257	100%	145,131	90%	2.0	$12.75	0.75%	1.80	$22.95	0.75%	3,467	$4,782,552	$29.66	53.0%
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)	80,629	50%	32,251	20%	1.0	$7.50	1.75%	0.20	$1.50	0.88%	4,045	$1,382,983	$8.58	15.3%
Brown Stink Bug	80,629	50%	16,126	10%	1.0	$8.50	0.50%	0.10	$0.85	0.25%	1,156	$429,206	$2.66	4.8%
Clouded Plant Bug	32,251	20%	8,063	5%	1.0	$9.50	0.10%	0.05	$0.48	0.02%	92	$44,023	$0.27	0.5%
Leaf Footed Bugs	48,377	30%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	40,314	25%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	161,257	100%	129,006	80%	1.1	$6.50	1.00%	0.88	$5.72	1.00%	4,623	$2,364,766	$14.66	26.2%
Aphids	16,126	10%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Grasshoppers	24,189	15%	12,901	8%	1.0	$6.50	0.00%	0.08	$0.52	0.00%	0	$12,578	$0.08	0.1%
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	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							4.16%	3.11	$32.02	2.91%	13,429	$9,030,460	$56.00	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Alabama			Total Acres	161,257		Total	Per Acre
Region	Southeast			Total Bales Harvested	285,559	Foliar Insecticide Costs	$5,162,643	$32.02
Year	2020			Total Bales Lost to Insects	13,429	Seed Treatment Costs	$2,144,718	$13.30
Total Acres (Upland)	161,257	In-furrow cost/treated acre	$15.00	Percent Yield Loss	2.9%	In-Furrow Costs	$120,943	$0.75
Yield / Acre (Upland)	850	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	875	Scouting Costs	$1,370,685	$8.50
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	3.11	Eradication Costs	$241,886	$1.50
yield potential (lb/acre)	1,376	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	176,610	Bt Cotton	$5,394,042	$33.45
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	38.2%	Total Costs	$14,434,917	$89.51
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	161,257	Yield Loss to Insects	$4,189,848	$25.98
% Acres Scouted	100%	No. apps by air	2	Boll Weevil Eradication (# acres)	161,257	Total Losses + Costs	$18,624,765	$115.50
Fee / Scouted Acre	$8.50	Cost/app by air	$6.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.1	% insect apps by ground	85%	# Scouted Acres	161,257			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	153,194			
Cost/treated acre (Bt) Cotton	$33.45	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	8,063			
% acres with seed treatment	95%	% Loss to weather	31.8%	Applications by Air (acres)	24,189			
Seed trt. cost/ treated acre	$14.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	137,068			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	2.5%	No. acres with no foliar insecticide applications	0			

Table 2. Cotton insect loss estimates for North Alabama during 2020, 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
Bollgard II	55.0%	88,691	$60.00	$35.00	0%	0	0.0
Bollgard III	30.0%	48,377	$63.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$45.00	$0.00	0%	0	0.0
WideStrike 3	10.0%	16,126	$48.00	$18.00	0%	0	0.0
TwinLink	0.0%	0	$0.00	$0.00	0%	0	0.0
TwinLink Plus	5.0%	8,063	$60.00	$38.00	0%	0	0.0
Total Bt	100.0%	161,257	$59.70	$33.45	0.0%	0	0.0
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	161,257	$59.70	$33.45	0.0%	0	0.0
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		161,257	$59.70	-	0.0%	0	0.0

Table 3. Cotton insect loss estimates for Alabama during 2020.

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	60,621	14%	0	0.0%	0.0	$0.00	0.03%	0.00	$0.00	0.00%	45	$13,951	$0.03	0.1%
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	3,225	1%	0	0.0%	0.0	$0.00	0.01%	0.00	$0.00	0.00%	1	$279	$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	402,394	90%	372,084	83.6%	1.7	$9.72	0.45%	1.41	$13.67	0.41%	5,025	$7,067,573	$15.88	28.4%
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)	350,135	79%	287,573	64.6%	1.6	$7.50	1.94%	1.06	$7.94	1.53%	18,859	$8,663,320	$19.47	34.8%
Brown Stink Bug	307,581	69%	129,602	29.1%	0.7	$8.50	0.50%	0.20	$1.69	0.35%	4,264	$1,849,274	$4.16	7.4%
Clouded Plant Bug	117,359	26%	36,432	8.2%	1.0	$8.22	0.10%	0.08	$0.67	0.03%	325	$180,567	$0.41	0.7%
Leaf Footed Bugs	246,961	56%	56,738	12.8%	0.6	$6.06	0.08%	0.08	$0.49	0.04%	551	$293,421	$0.66	1.2%
Spider Mites	97,052	22%	42,554	9.6%	0.6	$5.42	0.06%	0.06	$0.33	0.01%	157	$81,159	$0.18	0.3%
Thrips	444,948	100%	355,958	80.0%	1.1	$6.50	1.00%	0.88	$5.72	1.00%	12,338	$6,394,570	$14.37	25.7%
Aphids	101,233	23%	14,185	3.2%	0.6	$3.83	0.00%	0.02	$0.08	0.00%	0	$7,871	$0.02	0.0%
Grasshoppers	166,034	37%	83,823	18.8%	1.0	$6.50	0.09%	0.19	$1.22	0.03%	393	$326,031	$0.73	1.3%
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	14,185	3%	7,092	1.6%	0.6	$9.24	0.00%	0.01	$0.09	0.00%	0	$1,333	$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								3.99	$31.90	3.40%	41,959	$24,879,349	$55.92	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Alabama			Total Acres	444,948		Total	Per Acre
Region	Southeast			Total Bales Harvested	787,929	Foliar Insecticide Costs	$14,195,809	$31.90
Year	2020			Total Bales Lost to Insects	41,959	Seed Treatment Costs	$5,719,225	$12.85
Total Acres (Upland)	444,948	In-furrow cost/treated acre	$15.00	Percent Yield Loss	3.4%	In-Furrow Costs	$546,479	$1.23
Yield / Acre (Upland)	850	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	880	Scouting Costs	$3,661,489	$8.23
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	4.0	Eradication Costs	$667,422	$1.50
yield potential (lb/acre)	1,331	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	446,842	Bt Cotton	$14,883,511	$33.45
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	36.2%	Total Costs	$39,673,935	$89.17
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	444,948	Yield Loss to Insects	$13,091,242	$29.42
% Acres Scouted	97%	No. apps by air	2.0	Boll Weevil Eradication (# acres)	444,948	Total Losses + Costs	$52,765,176	$118.59
Fee / Scouted Acre	$8.50	Cost/app by air	$6.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.0	% insect apps by ground	85%	# Scouted Acres	430,763			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	408,516			
Cost/treated acre (Bt) Cotton	$33.45	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	36,432			
% acres with seed treatment	92%	% Loss to weather	29.2%	Applications by Air (acres)	66,742			
Seed trt. cost/ treated acre	$14.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	378,206			
% acres with in-furrow	8%	% loss to other (chemical injury, weeds, diseases, etc.)	2.5%	No. acres with no foliar insecticide applications	0			

Table 3. Cotton insect loss estimates for Alabama during 2020, 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
Bollgard II	55.0%	244,721	$60.00	$35.00	0%	0	0.0
Bollgard III	30.0%	133,484	$63.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$45.00	$0.00	0%	0	0.0
WideStrike 3	10.0%	44,495	$48.00	$18.00	0%	0	0.0
TwinLink	0.0%	0	$0.00	$0.00	0%	0	0.0
TwinLink Plus	5.0%	22,247	$60.00	$38.00	0%	0	0.0
Total Bt	100.0%	444,948	$59.70	$33.45	0.0%	0	0.0
Herbicide Traits Only	0.0%	0	$0.00	-	0	0	0.0
Conventional	0.0%	0	$0.00	-	0	0	0.0
Organic	0.0%	0	$0.00	-	0	0	0.0
Total Upland Cotton	100.0%	444,948	$59.70	$33.45	0.0%	0	0.0
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		444,948	$59.70	-	0.0%	0	0.0

Table 4. Cotton insect loss estimates for Southeast Arkansas during 2020.

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	210,000	100%	139,650	67%	1.3	$31.46	3.5%	0.86	$27.06	3.50%	32,845	$15,456,348	$73.60	29.7%
Beet Armyworm	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	16,800	8%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	2,100	1%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	52,500	25%	6,300	3%	1.0	$11.00	0.0%	0.03	$0.33	0.00%	0	$17,325	$0.08	0.0%
Cotton Leaf Perforator	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	210,000	100%	210,000	100%	4.5	$20.00	4.1%	4.50	$90.00	4.10%	38,476	$30,350,458	$144.53	58.4%
Cotton Fleahopper	136,500	65%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	147,000	70%	5,250	3%	1.0	$20.00	0.3%	0.03	$0.60	0.18%	1,642	$576,859	$2.75	1.1%
Brown Stink Bug	147,000	70%	5,250	3%	1.0	$20.00	0.3%	0.03	$0.60	0.18%	1,642	$576,859	$2.75	1.1%
Clouded Plant Bug	136,500	65%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	10,500	5%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	84,000	40%	42,000	20%	1.0	$20.00	1.5%	0.20	$4.00	0.60%	5,631	$2,011,786	$9.58	3.9%
Thrips	210,000	100%	42,000	20%	1.0	$13.00	0.5%	0.20	$2.60	0.50%	4,692	$1,942,339	$9.25	3.7%
Aphids	210,000	100%	52,500	25%	1.0	$20.00	0.0%	0.25	$5.00	0.00%	0	$1,050,000	$5.00	2.0%
Grasshoppers	21,000	10%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	42,000	20%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								6.10	$130.19	9.05%	84,928	$51,981,974	$247.53	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arkansas			Total Acres	210,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	525,000	Foliar Insecticide Costs	$27,338,976	$130.19
Year	2020			Total Bales Lost to Insects	84,928	Seed Treatment Costs	$2,493,750	$11.88
Total Acres (Upland)	210,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	9.1%	In-Furrow Costs	$378,000	$1.80
Yield / Acre (Upland)	1,200	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,319	Scouting Costs	$2,100,000	$10.00
Price / lb	$0.62	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	6.1	Eradication Costs	$630,000	$3.00
yield potential (lb/acre)	2,145	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	413,382	Bt Cotton	$7,276,500	$34.65
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	44.1%	Total Costs	$40,217,226	$191.51
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	207,900	Yield Loss to Insects	$25,274,573	$120.36
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	210,000	Total Losses + Costs	$65,491,799	$311.87
Fee / Scouted Acre	$10.00	Cost/app by air	$10.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	210,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	199,500			
Cost/treated acre (Bt) Cotton	$35.00	Cost/app by ground	$7.00	In-Furrow Applications (# acres)	25,200			
% acres with seed treatment	95%	% Loss to weather	21.0%	Applications by Air (acres)	168,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	6.0%	Applications by Ground (acres)	210,000			
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	8.0%	No. acres with no foliar insecticide applications	0			

Table 4. Cotton insect loss estimates for Southeast Arkansas during 2020, 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
Bollgard II	71.0%	149,100	$112.00	$35.00	90%	134,190	1.5
Bollgard III	14.0%	29,400	$112.00	$35.00	5%	1,470	1.0
WideStrike	0.0%	0	$97.00	$35.00	0%	0	0.0
WideStrike 3	9.0%	18,900	$112.00	$35.00	10%	1,890	1.0
TwinLink	0.0%	0	$112.00	$35.00	0%	0	0.0
TwinLink Plus	5.0%	10,500	$112.00	$35.00	0%	0	0.0
Total Bt	99.0%	207,900	$112.00	$35.00	66.2%	137,550	1.0
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	1.0%	2,100	$26.00	-	100%	2,100	2.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	210,000	$111.14	$35.00	66.5%	139,650	1.0
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		210,000	$111.14	-	66.5%	139,650	1.0

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2020.

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	315,000	100%	220,500	70%	1.1	$25.00	3.0%	0.77	$19.25	3.00%	36,225	$16,844,310	$53.47	25.3%
Beet Armyworm	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	15,750	5%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,150	1%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	63,000	20%	25,200	8%	1.0	$11.00	0.0%	0.08	$0.88	0.00%	0	$55,440	$0.18	0.1%
Cotton Leaf Perforator	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	315,000	100%	315,000	100%	4.0	$20.00	3.9%	4.00	$80.00	3.90%	47,093	$39,214,877	$124.49	58.9%
Cotton Fleahopper	236,250	75%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Stink Bugs (other than brown stink bug)	220,500	70%	9,450	3%	1.0	$20.00	0.3%	0.03	$0.60	0.21%	2,536	$887,014	$2.82	1.3%
Brown Stink Bug	220,500	70%	9,450	3%	1.0	$20.00	0.3%	0.03	$0.60	0.21%	2,536	$887,014	$2.82	1.3%
Clouded Plant Bug	220,500	70%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	3,150	1%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	252,000	80%	110,250	35%	1.1	$20.00	1.6%	0.39	$7.80	1.28%	15,456	$6,565,306	$20.84	9.9%
Thrips	315,000	100%	63,000	20%	1.0	$13.00	0.2%	0.20	$2.60	0.20%	2,415	$1,537,704	$4.88	2.3%
Aphids	315,000	100%	31,500	10%	1.0	$20.00	0.0%	0.10	$2.00	0.00%	0	$630,000	$2.00	0.9%
Grasshoppers	31,500	10%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	15,750	5%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	$0.00	0.0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								5.60	$113.73	8.80%	106,261	$66,621,665	$211.50	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Arkansas			Total Acres	315,000			
Region	MidSouth			Total Bales Harvested	787,500	Foliar Insecticide Costs	$35,824,950	$113.73
Year	2020			Total Bales Lost to Insects	106,261	Seed Treatment Costs	$3,740,625	$11.88
Total Acres (Upland)	315,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	8.8%	In-Furrow Costs	$567,000	$1.80
Yield / Acre (Upland)	1,200	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,316	Scouting Costs	$3,150,000	$10.00
Price / lb	$0.62	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	5.6	Eradication Costs	$945,000	$3.00
yield potential (lb/acre)	1,840	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	420,210	Bt Cotton	$10,914,750	$34.65
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	34.8%	Total Costs	$55,142,325	$175.06
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	311,850	Yield Loss to Insects	$31,623,274	$100.39
% Acres Scouted	100%	No. apps by air	3.5	Boll Weevil Eradication (# acres)	315,000	Total Losses + Costs	$86,765,599	$275.45
Fee / Scouted Acre	$10.00	Cost/app by air	$10.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	315,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	299,250			
Cost/treated acre (Bt) Cotton	$35.00	Cost/app by ground	$7.00	In-Furrow Applications (# acres)	37,800			
% acres with seed treatment	95%	% Loss to weather	16.0%	Applications by Air (acres)	252,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	315,000			
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	0			

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2020, 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
Bollgard II	71.0%	223,650	$112.00	$35.00	70%	156,555	1.5
Bollgard III	14.0%	44,100	$112.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$97.00	$35.00	0%	0	0.0
WideStrike 3	9.0%	28,350	$112.00	$35.00	2%	567	0.5
TwinLink	0.0%	0	$112.00	$35.00	0%	0	0.0
TwinLink Plus	5.0%	15,750	$112.00	$35.00	0%	0	0.0
Total Bt	99.0%	311,850	$112.00	$35.00	50.4%	157,122	0.8
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	1.0%	3,150	$26.00	-	100%	3,150	2.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	315,000	$111.14	$35.00	50.9%	160,272	0.8
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		315,000	$111.14	-	50.9%	160,272	0.8

Table 6. Cotton insect loss estimates for Arkansas during 2020.

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	525,000	100%	360,150	68.6%	1.2	$27.58	3.20%	0.81	$22.33	3.20%	68,285	$32,044,182	$61.04	27.2%
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	32,550	6%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	5,250	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	115,500	22%	31,500	6.0%	1.0	$11.00	0.00%	0.06	$0.66	0.00%	0	$76,230	$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	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	525,000	100%	525,000	100.0%	4.2	$20.00	3.98%	4.20	$84.00	3.98%	84,929	$69,375,010	$132.14	58.8%
Cotton Fleahopper	372,750	71%	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)	367,500	70%	14,700	2.8%	1.0	$20.00	0.28%	0.03	$0.56	0.20%	4,182	$1,450,499	$2.76	1.2%
Brown Stink Bug	367,500	70%	14,700	2.8%	1.0	$20.00	0.28%	0.03	$0.56	0.20%	4,182	$1,450,499	$2.76	1.2%
Clouded Plant Bug	357,000	68%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	13,650	3%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	336,000	64%	152,250	29.0%	1.1	$20.00	1.58%	0.31	$6.15	1.01%	21,510	$8,467,037	$16.13	7.2%
Thrips	525,000	100%	105,000	20.0%	1.0	$13.00	0.32%	0.20	$2.60	0.32%	6,829	$3,397,162	$6.47	2.9%
Aphids	525,000	100%	84,000	16.0%	1.0	$20.00	0.00%	0.16	$3.20	0.00%	0	$1,680,000	$3.20	1.4%
Grasshoppers	52,500	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	57,750	11%	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								5.79	$120.06	8.90%	189,918	$117,940,618	$224.65	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arkansas			Total Acres	525,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	1,312,500	Foliar Insecticide Costs	$63,029,766	$120.06
Year	2020			Total Bales Lost to Insects	189,918	Seed Treatment Costs	$6,234,375	$11.88
Total Acres (Upland)	525,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	8.9%	In-Furrow Costs	$945,000	$1.80
Yield / Acre (Upland)	1,200	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,317	Scouting Costs	$5,250,000	$10.00
Price / lb	$0.62	Cost/acre Boll Weevil Eradication	$3.00	Av. # Applications	5.79	Eradication Costs	$1,575,000	$3.00
yield potential (lb/acre)	1,951	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	833,592	Bt Cotton	$18,191,250	$34.65
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	38.5%	Total Costs	$95,225,391	$181.38
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	519,750	Yield Loss to Insects	$56,519,495	$107.66
% Acres Scouted	100%	No. apps by air	3.7	Boll Weevil Eradication (# acres)	525,000	Total Losses + Costs	$151,744,885	$289.04
Fee / Scouted Acre	$10.00	Cost/app by air	$10.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	525,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4.0	Seed Treatments (arthropods) (# acres)	498,750			
Cost/treated acre (Bt) Cotton	$35.00	Cost/app by ground	$7.00	In-Furrow Applications (# acres)	63,000			
% acres with seed treatment	95%	% Loss to weather	18.0%	Applications by Air (acres)	420,000			
Seed trt. cost/ treated acre	$12.50	% loss to non-arthropods	5.4%	Applications by Ground (acres)	525,000			
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	6.2%	No. acres with no foliar insecticide applications	0			

Table 6. Cotton insect loss estimates for Arkansas during 2020, 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
Bollgard II	71.0%	372,750	$112.00	$35.00	78%	290,745	1.5
Bollgard III	14.0%	73,500	$112.00	$35.00	2%	1,470	0.4
WideStrike	0.0%	0	$97.00	$35.00	0%	0	0.0
WideStrike 3	9.0%	47,250	$112.00	$35.00	5%	2,457	0.7
TwinLink	0.0%	0	$112.00	$35.00	0%	0	0.0
TwinLink Plus	5.0%	26,250	$112.00	$35.00	0%	0	0.0
Total Bt	99.0%	519,750	$112.00	$35.00	56.7%	294,672	0.8
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	1.0%	5,250	$26.00	-	100%	5,250	2.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	525,000	$111.14	$35.00	57.1%	299,922	0.9
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		525,000	$111.14	-	57.1%	299,922	0.9

Table 7. Insect loss estimates for Arizona Bt cotton during 2020.

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	6,394	5.34%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Beet Armyworm	11,207	9.36%	0	0.0%	0.0	$0.00	0.06%	0.00	$0.00	0.01%	29	$10,440	$0.09	0.1%
Fall Armyworm	2,911	2.43%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	16,689	13.94%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	0.00%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	2,814	2.35%	2,329	1.9%	0.5	$14.00	0.00%	0.01	$0.14	0.00%	0	$394	$0.00	0.0%
Saltmarsh Caterpillar	175	0.15%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	114,706	95.81%	86,524	72.3%	1.6	$24.55	3.29%	1.17	$28.72	3.15%	15,465	$8,861,850	$74.02	69.6%
Cotton Fleahopper	71,819	59.99%	19,585	16.4%	0.3	$18.75	0.19%	0.05	$0.94	0.12%	570	$272,530	$2.28	2.1%
Stink Bugs (other than brown stink bug)	19,872	16.60%	2,329	1.9%	0.5	$11.00	0.01%	0.01	$0.11	0.00%	10	$5,786	$0.05	0.0%
Brown Stink Bug	26,020	21.73%	3,105	2.6%	0.2	$13.33	0.56%	0.01	$0.13	0.12%	594	$217,309	$1.82	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	0	0.00%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	19,509	16.30%	11,586	9.7%	1.3	$27.17	0.23%	0.12	$3.26	0.04%	182	$129,120	$1.08	1.0%
Thrips	112,668	94.11%	18,315	15.3%	0.7	$16.43	0.01%	0.10	$1.64	0.01%	69	$209,937	$1.75	1.6%
Aphids	17,149	14.32%	4,386	3.7%	0.8	$19.33	0.19%	0.03	$0.58	0.03%	133	$57,827	$0.48	0.5%
Grasshoppers	7,452	6.22%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	1,630	1.36%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	91,380	76.33%	35,363	29.5%	1.6	$28.64	1.30%	0.46	$13.17	0.99%	4,882	$2,961,424	$24.74	23.3%
Colaspis beetles	5,104	4.26%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton stainers	2,911	2.43%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Crickets	3,493	2.92%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Darkling Beetles	3,881	3.24%	97	0.08%	1.0	$10.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
False Chinch Bug	4,017	3.36%	2,329	1.9%	0.5	$4.00	0.00%	0.01	$0.04	0.00%	0	$161	$0.00	0.0%
Pale-Striped Flea Beetle	10,644	8.89%	1,164	1.0%	1.0	$10.00	0.04%	0.01	$0.10	0.00%	15	$6,464	$0.05	0.1%
Potato leafhopper	10,268	8.58%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips, Bean	582	0.49%	505	0.42%	1.0	$0.00	0.01%	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								1.98	$48.84	4.47%	21,949	$12,733,242	$106.36	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Arizona			Total Acres	119,721		Total	Per Acre
Region	West			Total Bales Harvested	386,368	Foliar Insecticide Costs	$5,847,063	$48.84
Year	2020			Total Bales Lost to Insects	21,949	Seed Treatment Costs	$625,461	$5.22
Total Acres (Upland)	119,721	In-furrow cost/treated acre	$11.38	Percent Yield Loss	4.5%	In-Furrow Costs	$57,173	$0.48
Yield / Acre (Upland)	1,549	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,622	Scouting Costs	$1,544,484	$12.90
Price / lb	$0.75	Cost/acre Boll Weevil Eradication	$2.69	Av. # Applications	1.98	Eradication Costs	$681,212	$5.69
yield potential (lb/acre)	1,969	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	104,795	Bt Cotton	$4,190,234	$35.00
Acres (Pima)	6,152	Cost/acre Pink Bollworm Eradication	$3.00	Total % yield Loss	21.3%	Total Costs	$12,945,627	$108.13
Yield / Acre (Pima)	987	% Insect apps by air	49%	Transgenic Cotton (arthropods) (# acres)	119,721	Yield Loss to Insects	$7,901,640	$66.00
% Acres Scouted	96%	No. apps by air	2.1	Boll Weevil Eradication (# acres)	119,721	Total Losses + Costs	$20,847,267	$174.13
Fee / Scouted Acre	$13.46	Cost/app by air	$17.03	Pink Bollworm Eradication (# acres)	119,721			
No. times scouted/week	1.9	% insect apps by ground	61%	# Scouted Acres	114,721			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	1.8	Seed Treatments (arthropods) (# acres)	34,508			
Cost/treated acre (Bt) Cotton	$35.00	Cost/app by ground	$12.17	In-Furrow Applications (# acres)	5,026			
% acres with seed treatment	29%	% Loss to weather	12.0%	Applications by Air (acres)	58,491			
Seed trt. cost/ treated acre	$18.13	% loss to non-arthropods	0.1%	Applications by Ground (acres)	73,030			
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	4.8%	No. acres with no foliar insecticide applications	25,267			

Table 7. Insect loss estimates for Arizona Bt cotton during 2019, 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
Bollgard II	36.5%	43,753	-	$35.00	0%	0	0.0
Bollgard III	51.3%	61,409	-	$35.00	0%	0	0.0
WideStrike	5.8%	6,986	-	$35.00	0%	0	0.0
WideStrike 3	2.4%	2,915	-	$35.00	0%	0	0.0
TwinLink	1.6%	1,941	-	$35.00	0%	0	0.0
TwinLink Plus	2.3%	2,717	-	$35.00	0%	0	0.0
Total Bt	100.0%	119,721	-	$35.00	0.0%	0	0.0
Herbicide Traits Only	0.0%	0	-	-	-	-	-
Conventional	1.9%	2,222	-	-	-	-	-
Organic	0%	0	-	-	-	-	-
Total Upland Cotton	101.9%	121,943	-	-	-	-	-
Non Upland Cotton							
Pima	5%	6,152	-	-	-	-	-
Other	-	-	-	-	-	-	-
Organic	-	-	-	-	-	-	-
Total (all Cotton)	-	128,095	-	-	-	-	-

Table 8. Cotton insect loss estimates for California upland cotton during 2020.

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	832	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	2,080	5.0%	832	2.0%	1.0	$11.53	0.25%	0.02	$0.23	0.01%	21	$8,544	$0.21	0.2%
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	1,248	3.0%	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	$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	$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	35,360	85.0%	29,120	70.0%	1.5	$22.03	4.00%	1.05	$23.13	3.40%	5,543	$2,946,442	$70.83	74.1%
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)	2,496	6.0%	832	2.0%	1.0	$16.32	0.50%	0.02	$0.33	0.03%	49	$19,631	$0.47	0.5%
Brown Stink Bug	416	1.0%	416	1.0%	0.0	$0.00	0.50%	0.00	$0.00	0.01%	8	$3,072	$0.07	0.1%
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	14,560	35.0%	10,400	25.0%	1.0	$17.85	2.00%	0.25	$4.46	0.70%	1,141	$503,118	$12.09	12.7%
Thrips	20,800	50.0%	4,160	10.0%	1.0	$9.18	0.50%	0.10	$0.92	0.25%	408	$175,766	$4.23	4.4%
Aphids	8,320	20.0%	6,240	15.0%	1.0	$20.40	1.00%	0.15	$3.06	0.20%	326	$150,643	$3.62	3.8%
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	16,640	40.0%	10,400	25.0%	1.2	$33.66	0.00%	0.30	$10.10	0.00%	0	$168,031	$4.04	4.2%
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								1.89	$42.23	4.60%	7,496	$3,975,247	$95.56	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	California			Total Acres	41,600		Total	Per Acre
Region	West			Total Bales Harvested	140,400	Foliar Insecticide Costs	$1,756,643	$42.23
Year	2020			Total Bales Lost to Insects	7,496	Seed Treatment Costs	$285,376	$6.86
Total Acres (Upland)	41,600	In-furrow cost/treated acre	$22.00	Percent Yield Loss	4.6%	In-Furrow Costs	$45,760	$1.10
Yield / Acre (Upland)	1,620	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,698	Scouting Costs	$474,240	$11.40
Price / lb	$0.80	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	1.89	Eradication Costs	$83,200	$2.00
yield potential (lb/acre)	1,881	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	22,657	Bt Cotton	-	
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	$2.00	Total % yield Loss	13.9%	Total Costs	$2,645,219	$63.59
Yield / Acre (Pima)	-	% Insect apps by air	70%	Transgenic Cotton (arthropods) (# acres)	37,852	Yield Loss to Insects	$2,878,464	$69.19
% Acres Scouted	95%	No. apps by air	1.2	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$5,523,683	$132.78
Fee / Scouted Acre	$12.00	Cost/app by air	$16.00	Pink Bollworm Eradication (# acres)	41,600			
No. times scouted/week	1.5	% insect apps by ground	60%	# Scouted Acres	39,520			
% acres Transgenic (Bt) Cotton	91%	No. apps by ground	1.5	Seed Treatments (arthropods) (# acres)	40,768			
Cost/treated acre (Bt) Cotton	$0.00	Cost/app by ground	$13.00	In-Furrow Applications (# acres)	2,080			
% acres with seed treatment	98%	% Loss to weather	4.5%	Applications by Air (acres)	29,120			
Seed trt. cost/ treated acre	$7.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	24,960			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	4.8%	No. acres with no foliar insecticide applications	0			

Table 8. Cotton insect loss estimates for California upland cotton during 2020, 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
Bollgard II	13.1%	5,445	-	-	-	-	-
Bollgard III	7.9%	3,270	-	-	-	-	-
WideStrike	48.5%	20,172	-	-	-	-	-
WideStrike 3	7.0%	2,904	-	-	-	-	-
TwinLink	4.4%	1,814	-	-	-	-	-
TwinLink Plus	10.2%	4,247	-	-	-	-	-
Total Bt	91.0%	37,852	-	-	-	-	-
Herbicide Traits Only	5.0%	2,080	-	-	-	-	-
Conventional	4.0%	1,664	-	-	-	-	-
Organic	0.0%	0	-	-	-	-	-
Total Upland Cotton	100.0%	41,596	-	-	-	-	-
Non Upland Cotton							
Pima	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Organic	-	-	-	-	-	-	-
Total (all Cotton)		-	-	-	-	-	-

Table 9. Cotton insect loss estimates for California pima cotton during 2020.

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	2,940	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	7,350	5.0%	4,410	3.0%	1.0	$11.53	0.30%	0.03	$0.35	0.02%	81	$51,142	$0.35	0.2%
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	7,350	5.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	1,470	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	0	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	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	132,300	90.0%	110,250	75.0%	2.0	$22.03	6.00%	1.50	$33.05	5.40%	29,023	$21,785,654	$148.20	89.4%
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)	4,410	3.0%	2,940	2.0%	1.0	$20.40	0.20%	0.02	$0.41	0.01%	32	$20,999	$0.14	0.1%
Brown Stink 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%
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	36,750	25.0%	14,700	10.0%	1.0	$17.85	0.50%	0.10	$1.79	0.13%	672	$468,799	$3.19	1.9%
Thrips	14,700	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Aphids	44,100	30.0%	22,050	15.0%	1.0	$20.40	1.00%	0.15	$3.06	0.30%	1,612	$1,102,146	$7.50	4.5%
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	66,150	45.0%	51,450	35.0%	1.2	$33.60	0.00%	0.42	$14.11	0.00%	0	$933,509	$6.35	3.8%
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								2.22	$52.76	5.85%	31,420	$24,362,249	$165.73	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	California			Total Acres	147,000		Total	Per Acre
Region	West			Total Bales Harvested	448,044	Foliar Insecticide Costs	$7,755,117	$52.76
Year	2020			Total Bales Lost to Insects	31,420	Seed Treatment Costs	$1,008,420	$6.86
Total Acres (Pima)	147,000	In-furrow cost/treated acre	$21.00	Percent Yield Loss	5.8%	In-Furrow Costs	$154,350	$1.05
Yield / Acre (Pima)	1,463	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,554	Scouting Costs	$1,675,800	$11.40
Price / lb	$1.25	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	2.22	Eradication Costs	$294,000	$2.00
yield potential (lb/acre)	1,755	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	89,467	Bt Cotton	-	
Acres (Upland)	-	Cost/acre Pink Bollworm Eradication	$2.00	Total % yield Loss	16.6%	Total Costs	$10,887,687	$74.07
Yield / Acre (Upland)	-	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	-	Yield Loss to Insects	$18,852,000	$128.24
% Acres Scouted	95%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$29,739,687	$202.31
Fee / Scouted Acre	$12.00	Cost/app by air	$16.00	Pink Bollworm Eradication (# acres)	147,000			
No. times scouted/week	1.5	% insect apps by ground	60%	# Scouted Acres	139,650			
% acres Transgenic (Bt) Cotton	0%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	144,060			
Cost/treated acre (Bt) Cotton	$0.00	Cost/app by ground	$13.00	In-Furrow Applications (# acres)	7,350			
% acres with seed treatment	98%	% Loss to weather	6.0%	Applications by Air (acres)	117,600			
Seed trt. cost/ treated acre	$7.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	88,200			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	4.8%	No. acres with no foliar insecticide applications	0			

Table 10. Cotton insect loss estimates for Florida during 2020.

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	95,000	100%	28,500	30.0%	1.0	$10.00	0.80%	0.30	$3.00	0.80%	1,742	$811,781	$8.55	6.5%
Beet Armyworm	19,000	20%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	19,000	20%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	1,900	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	1,900	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	9,500	10%	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	95,000	100%	80,750	85.0%	1.5	$10.00	3.00%	1.28	$12.80	3.00%	6,531	$3,190,974	$33.59	25.5%
Cotton Fleahopper	9,500	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)	95,000	100%	85,500	90.0%	2.0	$10.00	2.00%	1.80	$18.00	2.00%	4,354	$3,026,650	$31.86	24.2%
Brown Stink Bug	95,000	100%	85,500	90.0%	1.5	$10.00	1.00%	1.35	$13.50	1.00%	2,177	$1,940,825	$20.43	15.5%
Clouded Plant Bug	23,750	25%	14,250	15.0%	1.0	$10.00	0.08%	0.15	$1.50	0.02%	44	$48,931	$0.52	0.4%
Leaf Footed Bugs	85,500	90%	57,000	60.0%	1.0	$10.00	1.00%	0.60	$6.00	0.90%	1,959	$1,105,402	$11.64	8.8%
Spider Mites	61,750	65%	23,750	25.0%	1.2	$12.00	0.00%	0.30	$3.60	0.00%	0	$222,300	$2.34	1.8%
Thrips	95,000	100%	66,500	70.0%	1.0	$8.00	0.00%	0.70	$5.60	0.00%	0	$532,000	$5.60	4.3%
Aphids	95,000	100%	61,750	65.0%	1.0	$10.00	0.00%	0.65	$6.50	0.00%	0	$617,500	$6.50	4.9%
Grasshoppers	47,500	50%	14,250	15.0%	1.0	$10.00	0.00%	0.15	$1.50	0.00%	0	$71,250	$0.75	0.6%
Banded Winged Whitefly	9,500	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	76,000	80%	47,500	50.0%	1.0	$25.00	0.00%	0.50	$12.50	0.00%	0	$950,000	$10.00	7.6%
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								7.78	$84.50	7.72%	16,807	$12,517,613	$131.76	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Florida			Total Acres	95,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	148,438	Foliar Insecticide Costs	$8,027,500	$84.50
Year	2020			Total Bales Lost to Insects	16,807	Seed Treatment Costs	$1,368,000	$14.40
Total Acres (Upland)	95,000	In-furrow cost/treated acre	$27.00	Percent Yield Loss	7.7%	In-Furrow Costs	$769,500	$8.10
Yield / Acre (Upland)	750	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	813	Scouting Costs	$475,000	$5.00
Price / lb	$0.63	Cost/acre Boll Weevil Eradication	$2.00	Av. # Applications	7.78	Eradication Costs	$190,000	$2.00
yield potential (lb/acre)	1,100	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	131,104	Bt Cotton	$3,325,000	$35.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	60.2%	Total Costs	$14,155,000	$149.00
Yield / Acre (Pima)	0	% Insect apps by air	30%	Transgenic Cotton (arthropods) (# acres)	95,000	Yield Loss to Insects	$5,082,437	$53.50
% Acres Scouted	50%	No. apps by air	1.2	Boll Weevil Eradication (# acres)	95,000	Total Losses + Costs	$19,237,437	$202.50
Fee / Scouted Acre	$10.00	Cost/app by air	$8.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	100%	# Scouted Acres	47,500			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	76,000			
Cost/treated acre (Bt) Cotton	$35.00	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	28,500			
% acres with seed treatment	80%	% Loss to weather	50.0%	Applications by Air (acres)	28,500			
Seed trt. cost/ treated acre	$18.00	% loss to non-arthropods	0.5%	Applications by Ground (acres)	95,000			
% acres with in-furrow	30%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	0			

Table 10. Cotton insect loss estimates for Florida during 2020, 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
Bollgard II	85.0%	80,750	$96.00	$35.00	7%	5,653	1.0
Bollgard III	10.0%	9,500	$90.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$0.00	$0.00	0%	0	0.0
WideStrike 3	5.0%	4,750	$90.00	$35.00	0%	0	0.0
TwinLink	0.0%	0	$0.00	$0.00	0%	0	0.0
TwinLink Plus	0.0%	0	$0.00	$0.00	0%	0	0.0
Total Bt	100.0%	95,000	$95.10	$35.00	6.0%	5,653	0.06
Herbicide Traits Only	0.0%	0	$85.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	95,000	$95.10	$35.00	6.0%	5,653	0.06
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		95,000	$95.10	-	6.0%	5,653	0.06

Table 11. Cotton insect loss estimates for Georgia during 2020.

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	595,000	50%	23,800	2.0%	1.0	$8.00	0.20%	0.02	$0.16	0.10%	3,687	$1,334,032	$1.12	2.6%
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	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	714,000	60%	130,900	11.0%	1.0	$8.00	0.10%	0.11	$0.88	0.06%	2,212	$1,371,552	$1.15	2.6%
Cotton Fleahopper	11,900	1%	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)	1,071,000	90%	952,000	80.0%	1.0	$8.00	1.00%	0.80	$6.40	0.90%	33,179	$18,002,544	$15.13	34.6%
Brown Stink Bug	1,071,000	90%	892,500	75.0%	1.0	$9.00	1.00%	0.75	$6.75	0.90%	33,179	$18,377,394	$15.44	35.4%
Clouded Plant Bug	178,500	15%	1,190	0.1%	0.0	$8.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	11,900	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	416,500	35%	23,800	2.0%	1.0	$8.00	0.10%	0.02	$0.16	0.04%	1,290	$500,080	$0.42	1.0%
Thrips	1,178,100	99%	297,500	25.0%	1.0	$6.00	0.20%	0.25	$1.50	0.20%	7,299	$4,219,614	$3.55	8.1%
Aphids	1,130,500	95%	142,800	12.0%	1.0	$8.00	0.00%	0.12	$0.96	0.00%	0	$1,085,280	$0.91	2.1%
Grasshoppers	11,900	1%	5,950	0.5%	1.0	$8.00	0.00%	0.01	$0.08	0.00%	0	$952	$0.00	0.0%
Banded Winged Whitefly	23,800	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	476,000	40%	261,800	22.0%	1.7	$12.00	1.00%	0.37	$4.44	0.40%	14,746	$7,068,096	$5.94	13.6%
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								2.45	$21.33	2.59%	95,592	$51,959,544	$43.66	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Georgia			Total Acres	1,190,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	2,300,667	Foliar Insecticide Costs	$25,382,700	$21.33
Year	2020			Total Bales Lost to Insects	95,592	Seed Treatment Costs	$6,426,000	$5.40
Total Acres (Upland)	1,190,000	In-furrow cost/treated acre	$10.00	Percent Yield Loss	2.6%	In-Furrow Costs	$1,785,000	$1.50
Yield / Acre (Upland)	928	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	953	Scouting Costs	$6,664,000	$5.60
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.44	Av. # Applications	2.45	Eradication Costs	$1,713,600	$1.44
yield potential (lb/acre)	1,487	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,385,874	Bt Cotton	$17,832,150	$14.99
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	37.6%	Total Costs	$59,803,450	$50.26
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	1,188,810	Yield Loss to Insects	$32,118,912	$26.99
% Acres Scouted	70%	No. apps by air	2	Boll Weevil Eradication (# acres)	1,190,000	Total Losses + Costs	$91,922,362	$77.25
Fee / Scouted Acre	$8.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.1	% insect apps by ground	85%	# Scouted Acres	833,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	1,071,000			
Cost/treated acre (Bt) Cotton	$15.00	Cost/app by ground	$4.00	In-Furrow Applications (# acres)	178,500			
% acres with seed treatment	90%	% Loss to weather	25.0%	Applications by Air (acres)	178,500			
Seed trt. cost/ treated acre	$6.00	% loss to non-arthropods	5.0%	Applications by Ground (acres)	1,011,500			
% acres with in-furrow	15%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	178,500			

Table 11. Cotton insect loss estimates for Georgia during 2020, 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
Bollgard II	41.0%	487,900	$85.00	$15.00	5%	24,395	1.0
Bollgard III	55.0%	654,500	$90.00	$15.00	0%	0	0.0
WideStrike	0.4%	4,760	$82.00	$15.00	30%	1,428	1.0
WideStrike 3	3.0%	35,700	$83.00	$15.00	0%	0	0.0
TwinLink	0.4%	4,760	$85.00	$15.00	5%	238	1.0
TwinLink Plus	0.1%	1,190	$90.00	$15.00	0%	0	0.0
Total Bt	99.9%	1,188,810	$87.69	$15.00	2.2%	26,061	0.02
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.1%	1,190	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	1,190,000	$87.60	$15.00	2.2%	26,061	0.02
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		1,190,000	$87.60	-	2.2%	26,061	0.02

Table 12. Cotton insect loss estimates for Kansas during 2020.

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	39,000	20%	9,750	5.0%	1.0	$11.00	2.00%	0.05	$0.55	0.40%	1,742	$523,146	$2.68	10.8%
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	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	68,250	35%	9,750	5.0%	1.5	$9.00	1.00%	0.08	$0.72	0.35%	1,524	$488,052	$2.50	10.1%
Cotton Fleahopper	146,250	75%	58,500	30.0%	2.0	$7.50	2.00%	0.60	$4.50	1.50%	6,533	$2,539,629	$13.02	52.5%
Stink Bugs (other than brown stink bug)	5,850	3%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.00%	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	1,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	97,500	50%	13,650	7.0%	1.0	$5.00	2.00%	0.07	$0.35	1.00%	4,355	$1,288,365	$6.61	26.6%
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								0.80	$6.12	3.25%	14,154	$4,839,192	$24.82	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Kansas			Total Acres	195,000		Total	Per Acre
Region	Central			Total Bales Harvested	316,875	Foliar Insecticide Costs	$1,193,400	$6.12
Year	2020			Total Bales Lost to Insects	14,154	Seed Treatment Costs	$1,560,000	$8.00
Total Acres (Upland)	195,000	In-furrow cost/treated acre	$6.50	Percent Yield Loss	3.3%	In-Furrow Costs	$25,350	$0.13
Yield / Acre (Upland)	780	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	806	Scouting Costs	$1,170,000	$6.00
Price / lb	$0.60	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	0.8	Eradication Costs	$0	$0.00
yield potential (lb/acre)	1,072	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	118,674	Bt Cotton	$1,950,000	$10.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	27.3%	Total Costs	$5,898,750	$30.25
Yield / Acre (Pima)	0	% Insect apps by air	70%	Transgenic Cotton (arthropods) (# acres)	195,000	Yield Loss to Insects	$4,076,352	$20.90
% Acres Scouted	75%	No. apps by air	1.5	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$9,975,102	$51.15
Fee / Scouted Acre	$8.00	Cost/app by air	$11.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	30%	# Scouted Acres	146,250			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	1.5	Seed Treatments (arthropods) (# acres)	195,000			
Cost/treated acre (Bt) Cotton	$10.00	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	3,900			
% acres with seed treatment	100%	% Loss to weather	20.0%	Applications by Air (acres)	136,500			
Seed trt. cost/ treated acre	$8.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	58,500			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%	No. acres with no foliar insecticide applications	107,250			

Table 12. Cotton insect loss estimates for Kansas during 2020, 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
Bollgard II	20.0%	39,000	$65.00	$10.00	10%	3,900	1.0
Bollgard III	25.0%	48,750	$65.00	$10.00	0%	0	0.0
WideStrike	0.0%	0	$0.00	$0.00	0%	0	0.0
WideStrike 3	55.0%	107,250	$75.00	$10.00	10%	10,725	1.0
TwinLink	0.0%	0	$0.00	$0.00	0%	0	0.0
TwinLink Plus	0.0%	0	$0.00	$0.00	0%	0	0.0
Total Bt	100.0%	195,000	$70.50	$10.00	7.5%	14,625	0.08
Herbicide Traits Only	0.0%	0	$0.00		0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	195,000	$70.50	$10.00	7.5%	14,625	0.08
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		195,000	$70.50	-	7.5%	14,625	0.08

Table 13. Cotton insect loss estimates for Louisiana during 2020.

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%	160,000	80.0%	1.5	$22.00	2.50%	1.20	$26.40	2.50%	20,198	$11,581,776	$57.91	30.0%
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	2,000	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	2,000	1%	1,000	0.5%	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%	4.5	$12.00	4.00%	4.50	$54.00	4.00%	32,317	$20,882,904	$104.41	54.0%
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)	40,000	20%	10,000	5.0%	1.0	$12.00	0.00%	0.05	$0.60	0.00%	0	$24,000	$0.12	0.1%
Brown Stink Bug	160,000	80%	10,000	5.0%	1.0	$12.00	0.00%	0.05	$0.60	0.00%	0	$96,000	$0.48	0.2%
Clouded Plant Bug	2,000	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	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	40,000	20%	50,000	25.0%	1.0	$15.00	0.50%	0.25	$3.75	0.10%	808	$402,096	$2.01	1.0%
Thrips	200,000	100%	100,000	50.0%	1.0	$6.25	1.00%	0.50	$3.13	1.00%	8,079	$3,145,648	$15.73	8.1%
Aphids	200,000	100%	150,000	75.0%	1.0	$10.00	0.40%	0.75	$7.50	0.40%	3,232	$2,508,384	$12.54	6.5%
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%
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								7.41	$96.95	8.00%	64,634	$38,658,948	$193.29	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Louisiana			Total Acres	200,000		Total	Per Acre
Region	Midsouth			Total Bales Harvested	424,167	Foliar Insecticide Costs	$19,389,000	$96.95
Year	2020			Total Bales Lost to Insects	64,634	Seed Treatment Costs	$1,980,000	$9.90
Total Acres (Upland)	200,000	In-furrow cost/treated acre	$7.50	Percent Yield Loss	8.0%	In-Furrow Costs	$15,000	$0.08
Yield / Acre (Upland)	1,018	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,107	Scouting Costs	$2,000,000	$10.00
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$5.00	Av. # Applications	7.41	Eradication Costs	$1,000,000	$5.00
yield potential (lb/acre)	1,939	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	383,760	Bt Cotton	$3,640,600	$18.20
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	47.5%	Total Costs	$28,024,600	$140.12
Yield / Acre (Pima)	0	% Insect apps by air	45%	Transgenic Cotton (arthropods) (# acres)	200,000	Yield Loss to Insects	$20,165,808	$100.83
% Acres Scouted	100%	No. apps by air	2.5	Boll Weevil Eradication (# acres)	200,000	Total Losses + Costs	$48,190,408	$240.95
Fee / Scouted Acre	$10.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	55%	# Scouted Acres	200,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	198,000			
Cost/treated acre (Bt) Cotton	$18.20	Cost/app by ground	$6.00	In-Furrow Applications (# acres)	2,000			
% acres with seed treatment	99%	% Loss to weather	33.0%	Applications by Air (acres)	90,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	2.5%	Applications by Ground (acres)	110,000			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0			

Table 13. Cotton insect loss estimates for Louisiana during 2020, 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
Bollgard II	62.9%	125,800	$85.00	$16.00	70%	88,060	1.2
Bollgard III	16.4%	32,800	$91.00	$23.00	1%	328	0.1
WideStrike	0.0%	0	$70.00	$0.00	100%	0	1.0
WideStrike 3	19.7%	39,400	$91.00	$21.00	10%	3,940	0.1
TwinLink	0.0%	0	$77.00	$19.00	51%	0	1.0
TwinLink Plus	1.0%	2,000	$84.00	$23.00	0%	0	0.1
Total Bt	100.0%	200,000	$87.16	$18.20	46.2%	92,328	0.5
Herbicide Traits Only	0.0%	600	$0.00	-	0%	0	0.0
Conventional	0.0%	1,400	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	202,000	$86.29	$18.20	45.7%	92,328	0.5
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		202,000	$86.29	-	45.7%	92,328	0.5

Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2020.

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	140,000	70%	120,000	60.0%	1.1	$20.00	1.50%	0.66	$13.20	1.05%	7,446	$3,992,448	$19.96	14.4%
Beet Armyworm	0	0%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	24,000	12%	4,000	2.0%	1.0	$11.50	1.00%	0.02	$0.23	0.12%	851	$250,608	$1.25	0.9%
Loopers	1,000	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	30,000	15%	40,000	20.0%	1.0	$6.00	0.10%	0.20	$1.20	0.02%	106	$66,528	$0.33	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	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%	160,000	80.0%	2.5	$11.00	4.00%	2.00	$22.00	4.00%	28,367	$12,569,696	$62.85	45.2%
Cotton Fleahopper	20,000	10%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.01%	71	$20,448	$0.10	0.1%
Stink Bugs (other than brown stink bug)	60,000	30%	10,000	5.0%	1.0	$9.00	1.00%	0.05	$0.45	0.30%	2,128	$639,864	$3.20	2.3%
Brown Stink Bug	90,000	45%	40,000	20.0%	1.0	$9.00	1.50%	0.20	$1.80	0.68%	4,787	$1,540,656	$7.70	5.5%
Clouded Plant Bug	40,000	20%	10,000	5.0%	1.0	$9.00	3.00%	0.05	$0.45	0.60%	4,255	$1,243,440	$6.22	4.5%
Leaf Footed Bugs	10,000	5%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	130,000	65%	90,000	45.0%	1.3	$12.00	2.25%	0.59	$7.08	1.46%	10,375	$3,908,400	$19.54	14.1%
Thrips	200,000	100%	60,000	30.0%	1.0	$9.00	1.00%	0.30	$2.70	1.00%	7,092	$2,582,496	$12.91	9.3%
Aphids	110,000	55%	80,000	40.0%	1.0	$10.00	0.50%	0.40	$4.00	0.28%	1,950	$1,001,600	$5.01	3.6%
Grasshoppers	10,000	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	2,000	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	2,000	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								4.47	$53.11	9.51%	67,428	$27,816,184	$139.08	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Mississippi			Total Acres	200,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	500,000	Foliar Insecticide Costs	$10,622,000	$53.11
Year	2020			Total Bales Lost to Insects	67,428	Seed Treatment Costs	$1,843,000	$9.22
Total Acres (Upland)	200,000	In-furrow cost/treated acre	$12.50	Percent Yield Loss	9.5%	In-Furrow Costs	$75,000	$0.38
Yield / Acre (Upland)	1,200	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,326	Scouting Costs	$1,372,000	$6.86
Price / lb	$0.60	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	4.47	Eradication Costs	$800,000	$4.00
yield potential (lb/acre)	1,702	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	209,261	Bt Cotton	$6,400,000	$32.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	29.5%	Total Costs	$21,112,000	$105.56
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	200,000	Yield Loss to Insects	$19,419,264	$97.10
% Acres Scouted	98%	No. apps by air	1	Boll Weevil Eradication (# acres)	200,000	Total Losses + Costs	$40,531,264	$202.66
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	196,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	194,000			
Cost/treated acre (Bt) Cotton	$32.00	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	6,000			
% acres with seed treatment	97%	% Loss to weather	10.0%	Applications by Air (acres)	40,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	160,000			
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	2,000			

Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2020, 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
Bollgard II	70.0%	140,000	$140.00	$32.00	86%	119,700	1.1
Bollgard III	18.0%	0	$140.00	$32.00	0%	0	0.0
WideStrike	0.0%	0	$140.00	$32.00	0%	0	0.0
WideStrike 3	10.0%	20,000	$140.00	$32.00	0%	0	0.0
TwinLink	0.0%	0	$140.00	$32.00	0%	0	0.0
TwinLink Plus	2.0%	4,000	$140.00	$32.00	0%	0	0.0
Total Bt	100%	164,000	$140.00	$32.00	73.0%	119,700	0.8
Herbicide Traits Only	0.00%	0	$108.00		0%	0	0.0
Conventional	0.00%	0	$22.00	-	0%	0	0.0
Organic	0.00%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	164,000	$140.00	$32.00	73.0%	119,700	0.8
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		164,000	$140.00	-	73.0%	119,700	0.8

Table 15. Cotton insect loss estimates for the Delta region of Mississippi during 2020.

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	308,750	95%	243,750	75.0%	1.5	$20.00	2.50%	1.13	$22.60	2.38%	31,197	$15,962,486	$49.12	24.3%
Beet Armyworm	325	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	16,250	5%	3,250	1.0%	1.0	$11.50	1.00%	0.01	$0.12	0.05%	657	$191,085	$0.59	0.3%
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	65,000	20%	48,750	15.0%	1.0	$6.00	0.10%	0.15	$0.90	0.02%	263	$134,244	$0.41	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	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	325,000	100%	321,750	99.0%	4.0	$11.00	4.00%	3.96	$43.56	4.00%	52,542	$29,289,096	$90.12	44.5%
Cotton Fleahopper	16,250	5%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.01%	66	$19,008	$0.06	0.0%
Stink Bugs (other than brown stink bug)	16,250	5%	6,500	2.0%	1.0	$9.00	1.00%	0.02	$0.18	0.05%	657	$192,141	$0.59	0.3%
Brown Stink Bug	178,750	55%	48,750	15.0%	1.0	$9.00	1.50%	0.15	$1.35	0.83%	10,837	$3,362,369	$10.35	5.1%
Clouded Plant Bug	81,250	25%	3,250	1.0%	1.0	$11.00	1.00%	0.01	$0.11	0.25%	3,284	$954,730	$2.94	1.5%
Leaf Footed Bugs	9,750	3%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	243,750	75%	227,500	70.0%	1.5	$12.00	2.25%	1.05	$12.60	1.69%	22,173	$9,457,074	$29.10	14.4%
Thrips	325,000	100%	81,250	25.0%	1.0	$9.00	1.00%	0.25	$2.25	1.00%	13,135	$4,514,130	$13.89	6.9%
Aphids	195,000	60%	97,500	30.0%	1.0	$10.00	0.50%	0.30	$3.00	0.30%	3,941	$1,720,008	$5.29	2.6%
Grasshoppers	16,250	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	3,250	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	3,250	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								7.03	$86.67	10.56%	138,752	$65,796,371	$202.45	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Mississippi			Total Acres	325,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	846,354	Foliar Insecticide Costs	$28,166,125	$86.67
Year	2020			Total Bales Lost to Insects	138,752	Seed Treatment Costs	$2,964,000	$9.12
Total Acres (Upland)	325,000	In-furrow cost/treated acre	$12.50	Percent Yield Loss	10.6%	In-Furrow Costs	$162,500	$0.50
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,398	Scouting Costs	$2,574,000	$7.92
Price / lb	$0.60	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	7.03	Eradication Costs	$1,300,000	$4.00
yield potential (lb/acre)	1,940	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	467,135	Bt Cotton	$10,400,000	$32.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	35.6%	Total Costs	$45,566,625	$140.21
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	325,000	Yield Loss to Insects	$39,960,576	$122.96
% Acres Scouted	99%	No. apps by air	6	Boll Weevil Eradication (# acres)	325,000	Total Losses + Costs	$85,527,201	$263.16
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	321,750			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	312,000			
Cost/treated acre (Bt) Cotton	$32.00	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	13,000			
% acres with seed treatment	96%	% Loss to weather	10.0%	Applications by Air (acres)	260,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	162,500			
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	0			

Table 15. Cotton insect loss estimates for the Delta region of Mississippi during 2020, 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
Bollgard II	74.0%	240,500	$140.00	$32.00	90%	216,450	1.5
Bollgard III	15.0%	48,750	$140.00	$32.00	2%	975	1.0
WideStrike	0.0%	0	$140.00	$32.00	0%	0	0.0
WideStrike 3	10.0%	32,500	$140.00	$32.00	2%	650	1.0
TwinLink	0.0%	0	$140.00	$32.00	0%	0	0.0
TwinLink Plus	1.0%	3,250	$140.00	$32.00	2%	65	1.0
Total Bt	100.0%	325,000	$140.00	$32.00	67.1%	218,140	1.0
Herbicide Traits Only	0.00%	0	$108.00	-	0%	0	0.0
Conventional	0.00%	0	$22.00	-	0%	0	0.0
Organic	0.00%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	325,000	$140.00	$32.00	67.1%	218,140	1.0
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		325,000	$140.00	-	67.1%	218,140	1.0

Table 16. Cotton insect loss estimates for Mississippi during 2020.

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	448,750	85%	363,750	69.3%	1.3	$20.00	2.19%	0.93	$18.67	1.87%	37,720	$19,243,490	$36.65	20.8%
Beet Armyworm	325	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	40,250	8%	7,250	1.4%	1.0	$11.50	1.00%	0.01	$0.16	0.08%	1,546	$451,718	$0.86	0.5%
Loopers	1,000	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	95,000	18%	88,750	16.9%	1.0	$6.00	0.10%	0.17	$1.01	0.02%	365	$201,465	$0.38	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	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	525,000	100%	481,750	91.8%	3.4	$11.00	4.00%	3.15	$34.61	4.00%	80,675	$41,403,257	$78.86	44.9%
Cotton Fleahopper	36,250	7%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.01%	139	$40,107	$0.08	0.0%
Stink Bugs (other than brown stink bug)	76,250	15%	16,500	3.1%	1.0	$9.00	1.00%	0.03	$0.28	0.15%	2,929	$865,198	$1.65	0.9%
Brown Stink Bug	268,750	51%	88,750	16.9%	1.0	$9.00	1.50%	0.17	$1.52	0.77%	15,487	$4,869,059	$9.27	5.3%
Clouded Plant Bug	121,250	23%	13,250	2.5%	1.0	$10.24	1.66%	0.03	$0.26	0.38%	7,731	$2,257,960	$4.30	2.4%
Leaf Footed Bugs	19,750	4%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	373,750	71%	317,500	60.5%	1.4	$12.00	2.25%	0.86	$10.33	1.60%	32,306	$13,166,012	$25.08	14.3%
Thrips	525,000	100%	141,250	26.9%	1.0	$9.00	1.00%	0.27	$2.42	1.00%	20,169	$7,079,850	$13.49	7.7%
Aphids	305,000	58%	177,500	33.8%	1.0	$10.00	0.50%	0.34	$3.38	0.29%	5,859	$2,718,450	$5.18	2.9%
Grasshoppers	26,250	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	5,250	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	5,250	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								5.96	$72.65	10.16%	204,927	$92,296,567	$175.80	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Mississippi			Total Acres	525,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	1,346,354	Foliar Insecticide Costs	$38,142,530	$72.65
Year	2020			Total Bales Lost to Insects	204,927	Seed Treatment Costs	$4,807,000	$9.16
Total Acres (Upland)	525,000	In-furrow cost/treated acre	$12.50	Percent Yield Loss	10.2%	In-Furrow Costs	$237,500	$0.45
Yield / Acre (Upland)	1,231	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,370	Scouting Costs	$3,944,762	$7.51
Price / lb	$0.60	Cost/acre Boll Weevil Eradication	$4.00	Av. # Applications	6.0	Eradication Costs	$2,100,000	$4.00
yield potential (lb/acre)	1,844	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	676,396	Bt Cotton	$16,800,000	$32.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	33.3%	Total Costs	$66,031,792	$125.77
Yield / Acre (Pima)	0	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	525,000	Yield Loss to Insects	$59,018,834	$112.42
% Acres Scouted	99%	No. apps by air	4.1	Boll Weevil Eradication (# acres)	525,000	Total Losses + Costs	$125,050,625	$238.19
Fee / Scouted Acre	$7.62	Cost/app by air	$6.57	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.7	% insect apps by ground	61%	# Scouted Acres	517,750			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.6	Seed Treatments (arthropods) (# acres)	506,000			
Cost/treated acre (Bt) Cotton	$32.00	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	19,000			
% acres with seed treatment	96%	% Loss to weather	10.0%	Applications by Air (acres)	300,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	322,500			
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	8.1%	No. acres with no foliar insecticide applications	2,000			

Table 16. Cotton insect loss estimates for Mississippi during 2020, 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
Bollgard II	72.5%	380,500	$140.00	$32.00	88%	335,927	1.3
Bollgard III	16.1%	84,750	$140.00	$32.00	1%	1,049	0.6
WideStrike	0.0%	0	$140.00	$32.00	0%	0	0.0
WideStrike 3	10.0%	52,500	$140.00	$32.00	1%	650	0.6
TwinLink	0.0%	0	$140.00	$32.00	0%	0	0.0
TwinLink Plus	1.4%	7,250	$140.00	$32.00	1%	90	0.6
Total Bt	100.0%	525,000	$140.00	$32.00	64.3%	337,716	0.9
Herbicide Traits Only	0.0%	0	$108.00	-	0%	0	0.0
Conventional	0.0%	0	$22.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	525,000	$140.00	$32.00	64.3%	337,716	0.9
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		525,000	$140.00	-	64.3%	337,716	0.9

Table 17. Cotton insect loss estimates for New Mexico during 2020.

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	6,091	9%	3,993	5.9%	1.0	$10.88	1.10%	0.06	$0.65	0.10%	128	$48,213	$0.71	3.2%
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	2,707	4%	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	40,608	60%	4,738	7.0%	1.0	$12.80	0.80%	0.07	$0.90	0.48%	619	$250,311	$3.70	16.6%
Cotton Fleahopper	16,243	24%	677	1.0%	1.0	$10.85	1.00%	0.01	$0.11	0.24%	310	$108,898	$1.61	7.2%
Stink Bugs (other than brown stink bug)	6,091	9%	541	0.8%	1.0	$9.91	1.00%	0.01	$0.10	0.09%	116	$40,693	$0.60	2.7%
Brown Stink Bug	677	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	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	2,030	3%	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	60,912	90%	54,821	81.0%	1.2	$10.50	1.10%	0.97	$10.19	0.99%	1,277	$1,061,720	$15.69	70.3%
Aphids	1,218	2%	812	1.2%	1.0	$10.57	0.00%	0.01	$0.11	0.00%	0	$129	$0.00	0.0%
Grasshoppers	1,354	2%	0	0.0%	0.0	$10.74	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	1,083	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								1.13	$12.05	1.90%	2,450	$1,509,964	$22.31	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	New Mexico			Total Acres	72,960		Total	Per Acre
Region	West			Total Bales Harvested	116,184	Foliar Insecticide Costs	$815,348	$12.05
Year	2020			Total Bales Lost to Insects	2,450	Seed Treatment Costs	$438,857	$6.48
Total Acres (Upland)	67,680	In-furrow cost/treated acre	$1.99	Percent Yield Loss	1.9%	In-Furrow Costs	$8,081	$0.12
Yield / Acre (Upland)	824	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	840	Scouting Costs	$356,071	$5.26
Price / lb	$0.72	Cost/acre Boll Weevil Eradication	$5.95	Av. # Applications	1.13	Eradication Costs	$402,696	$5.95
yield potential (lb/acre)	915	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	12,771	Bt Cotton	$840,640	$12.42
Acres (Pima)	5,280	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	9.9%	Total Costs	$2,861,693	$42.28
Yield / Acre (Pima)	868	% Insect apps by air	24%	Transgenic Cotton (arthropods) (# acres)	54,821	Yield Loss to Insects	$846,720	$12.51
% Acres Scouted	71%	No. apps by air	1	Boll Weevil Eradication (# acres)	67,680	Total Losses + Costs	$3,708,413	$54.79
Fee / Scouted Acre	$7.41	Cost/app by air	$6.46	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	16%	# Scouted Acres	48,053			
% acres Transgenic (Bt) Cotton	81%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	41,285			
Cost/treated acre (Bt) Cotton	$15.33	Cost/app by ground	$4.72	In-Furrow Applications (# acres)	4,061			
% acres with seed treatment	61%	% Loss to weather	4.0%	Applications by Air (acres)	16,243			
Seed trt. cost/ treated acre	$10.63	% loss to non-arthropods	2.1%	Applications by Ground (acres)	10,829			
% acres with in-furrow	6%	% loss to other (chemical injury, weeds, diseases, etc.)	1.9%	No. acres with no foliar insecticide applications	46,669			

Table 17. Cotton insect loss estimates for New Mexico during 2020, 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
Bollgard II	12.0%	8,122	$40.25	$14.24	4%	325	1.0
Bollgard III	42.0%	28,426	$42.10	$16.22	0%	0	0.0
WideStrike	4.0%	2,707	$35.03	$12.11	3%	81	1.0
WideStrike 3	19.0%	12,859	$37.24	$14.21	0%	0	0.0
TwinLink	1.0%	677	$45.25	$16.51	0%	0	0.0
TwinLink Plus	3.0%	2,030	$48.77	$18.34	0%	0	0.0
Total Bt	81.0%	54,821	$40.62	$15.33	0.7%	406	0.007
Herbicide Traits Only	11.0%	7,445	$26.44	-	34%	2,531	1.0
Conventional	7.0%	4,738	$12.22	-	22%	1,042	1.0
Organic	1.0%	677	$12.22	-	0%	0	0.0
Total Upland Cotton	100.0%	67,681	$36.79	$15.33	5.9%	3,979	0.059
Non Upland Cotton							
Pima	9.0%	6,091	$38.47	-	33%	2,010	1.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		73,772	$36.93	-	8.1%	5,989	0.081

Table 18. Cotton insect loss estimates for North Carolina during 2020.

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	272,000	80%	54,400	16.0%	1.1	$22.00	3.00%	0.18	$3.96	2.40%	17,561	$6,556,152	$19.28	22.7%
Beet Armyworm	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	3,400	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	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	306,000	90%	238,000	70.0%	2.4	$15.00	0.20%	1.68	$25.20	0.18%	1,317	$8,122,104	$23.89	28.2%
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)	217,600	64%	108,800	32.0%	2.0	$12.00	1.90%	0.64	$7.68	1.22%	8,898	$4,447,344	$13.08	15.4%
Brown Stink Bug	122,400	36%	61,200	18.0%	2.0	$12.00	1.90%	0.36	$4.32	0.68%	5,005	$2,090,328	$6.15	7.3%
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	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	340,000	100%	6,800	2.0%	1.0	$18.00	0.04%	0.02	$0.36	0.04%	293	$213,816	$0.63	0.7%
Thrips	340,000	100%	278,800	82.0%	1.0	$15.00	1.00%	0.82	$12.30	1.00%	7,317	$6,464,904	$19.01	22.4%
Aphids	340,000	100%	57,800	17.0%	1.0	$16.00	0.00%	0.17	$2.72	0.00%	0	$924,800	$2.72	3.2%
Grasshoppers	17,000	5%	0	0.0%	0.0	$12.00	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								3.87	$56.54	5.52%	40,391	$28,819,448	$84.76	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	340,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	566,667	Foliar Insecticide Costs	$19,223,600	$56.54
Year	2020			Total Bales Lost to Insects	40,391	Seed Treatment Costs	$4,544,100	$13.37
Total Acres (Upland)	340,000	In-furrow cost/treated acre	$13.00	Percent Yield Loss	5.5%	In-Furrow Costs	$3,845,400	$11.31
Yield / Acre (Upland)	800	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	847	Scouting Costs	$1,632,000	$4.80
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$0.75	Av. # Applications	3.87	Eradication Costs	$255,000	$0.75
yield potential (lb/acre)	1,033	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	164,781	Bt Cotton	$11,186,000	$32.90
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	22.5%	Total Costs	$40,686,100	$119.67
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	333,200	Yield Loss to Insects	$12,601,992	$37.06
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	340,000	Total Losses + Costs	$53,288,092	$156.73
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	204,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	275,400			
Cost/treated acre (Bt) Cotton	$33.57	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	295,800			
% acres with seed treatment	81%	% Loss to weather	15.0%	Applications by Air (acres)	68,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	272,000			
% acres with in-furrow	87%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	2,000			

Table 18. Cotton insect loss estimates for North Carolina during 2020, 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
Bollgard II	26.0%	88,400	$90.00	$30.00	54%	47,736	1.1
Bollgard III	26.0%	88,400	$100.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$85.00	$30.00	0%	0	0.0
WideStrike 3	31.0%	105,400	$100.00	$35.00	1%	1,054	1.0
TwinLink	2.0%	6,800	$90.00	$30.00	59%	4,012	1.1
TwinLink Plus	13.0%	44,200	$100.00	$35.00	0%	0	1.2
Total Bt	98.0%	333,200	$97.14	$33.57	15.8%	52,802	0.2
Herbicide Traits Only	0.0%	0	$80.00	-	0%	0	0.0
Conventional	1.0%	3,400	$25.00	-	25%	850	2.0
Organic	1.0%	3,400	$25.00	-	25%	850	2.0
Total Upland Cotton	100.0%	340,000	$95.70	$33.57	16.0%	54,502	0.2
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		340,000	$95.70	-	16.0%	54,502	0.2

Table 19. Cotton insect loss estimates for Oklahoma during 2020.

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	103,297	18%	86,081	15.0%	1.5	$20.00	15.00%	0.23	$4.60	2.70%	25,017	$8,640,716	$15.06	49.5%
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	5,739	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	86,081	15%	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	430,405	75%	459,098	80.0%	1.5	$12.00	1.00%	1.20	$14.40	0.75%	6,949	$8,465,982	$14.75	48.5%
Stink Bugs (other than brown stink bug)	68,865	12%	40,171	7.0%	1.0	$9.00	0.05%	0.07	$0.63	0.01%	56	$61,663	$0.11	0.4%
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	5,739	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	5,739	1%	2,869	0.5%	1.0	$12.50	0.01%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	172,162	30%	86,081	15.0%	1.0	$5.00	0.01%	0.15	$0.75	0.00%	28	$138,261	$0.24	0.8%
Aphids	86,081	15%	57,387	10.0%	1.0	$15.00	0.01%	0.10	$1.50	0.00%	19	$135,323	$0.24	0.8%
Grasshoppers	114,775	20%	8,608	1.5%	1.0	$18.00	0.01%	0.01	$0.18	0.00%	19	$26,861	$0.05	0.2%
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								1.76	$22.06	3.46%	32,088	$17,468,806	$30.44	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Oklahoma			Total Acres	573,873		Total	Per Acre
Region	Central			Total Bales Harvested	911,023	Foliar Insecticide Costs	$12,659,638	$22.06
Year	2020			Total Bales Lost to Insects	32,088	Seed Treatment Costs	$860,810	$1.50
Total Acres (Upland)	573,873	In-furrow cost/treated acre	$6.00	Percent Yield Loss	3.5%	In-Furrow Costs	$0	$0.00
Yield / Acre (Upland)	762	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	789	Scouting Costs	$2,152,024	$3.75
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$2.50	Av. # Applications	1.76	Eradication Costs	$1,434,683	$2.50
yield potential (lb/acre)	775	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	272,994	Bt Cotton	$10,487,345	$18.27
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	29.5%	Total Costs	$27,594,500	$48.08
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	573,873	Yield Loss to Insects	$10,473,523	$18.25
% Acres Scouted	50%	No. apps by air	1	Boll Weevil Eradication (# acres)	573,873	Total Losses + Costs	$38,068,023	$66.34
Fee / Scouted Acre	$7.50	Cost/app by air	$8.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	286,937			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	86,081			
Cost/treated acre (Bt) Cotton	$18.27	Cost/app by ground	$6.00	In-Furrow Applications (# acres)	0			
% acres with seed treatment	15%	% Loss to weather	23.0%	Applications by Air (acres)	114,775			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	487,792			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	160,684			

Table 19. Cotton insect loss estimates for Oklahoma during 2020, 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
Bollgard II	34.6%	198,560	$68.00	$18.00	15%	29,784	1.5
Bollgard III	40.2%	230,697	$68.42	$18.42	0%	0	0.0
WideStrike	0.0%	0	$0.00	$0.00	0%	0	0.0
WideStrike 3	25.2%	144,616	$64.00	$18.42	0%	0	0.0
TwinLink	0.0%	0	$68.00	$18.00	0%	0	0.0
TwinLink Plus	0.0%	0	$0.00	$0.00	0%	0	0.0
Total Bt	100.0%	573,873	$67.16	$18.27	5.2%	29,784	0.1
Herbicide Traits Only	0.01%	34	$50.97	-	0%	0	0.0
Conventional	0.00%	0	$0.00	-	0%	0	0.0
Organic	0.00%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	573,907	$67.16	$18.27	5.2%	29,784	0.1
Non Upland Cotton							
Pima	0%	0	$0.00	-	0%	0	0.0
Other	0%	0	$0.00	-	0%	0	0.0
Organic	0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		573,907	$67.16	-	5.2%	29,784	0.1

Table 20. Cotton insect loss estimates for South Carolina during 2020.

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	190,000	100%	95,000	50.0%	1.0	$15.00	1.25%	0.50	$7.50	1.25%	6,314	$3,667,733	$19.30	22.4%
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	1,900	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	47,500	25%	1,900	1.0%	1.0	$8.00	0.01%	0.01	$0.08	0.00%	15	$9,128	$0.05	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	190,000	100%	19,000	10.0%	1.0	$10.00	0.10%	0.10	$1.00	0.10%	505	$369,376	$1.94	2.3%
Cotton Fleahopper	142,500	75%	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)	190,000	100%	171,000	90.0%	2.0	$10.00	2.25%	1.80	$18.00	2.25%	11,364	$7,456,493	$39.24	45.5%
Brown Stink Bug	190,000	100%	95,000	50.0%	1.0	$10.00	0.25%	0.50	$5.00	0.25%	1,263	$1,398,618	$7.36	8.5%
Clouded Plant Bug	19,000	10%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	142,500	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	190,000	100%	9,500	5.0%	1.0	$15.00	0.10%	0.05	$0.75	0.10%	505	$321,876	$1.69	2.0%
Thrips	190,000	100%	142,500	75.0%	1.0	$8.00	1.00%	0.75	$6.00	1.00%	5,051	$2,934,115	$15.44	17.9%
Aphids	190,000	100%	19,000	10.0%	1.0	$10.00	0.00%	0.10	$1.00	0.00%	0	$190,000	$1.00	1.2%
Grasshoppers	190,000	100%	1,900	1.0%	1.0	$10.00	0.01%	0.01	$0.10	0.01%	51	$37,115	$0.20	0.2%
Banded Winged Whitefly	95,000	50%	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	50%	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								3.82	$39.43	4.96%	25,068	$16,384,454	$86.23	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	South Carolina			Total Acres	190,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	323,396	Foliar Insecticide Costs	$7,491,700	$39.43
Year	2020			Total Bales Lost to Insects	25,068	Seed Treatment Costs	$2,223,000	$11.70
Total Acres (Upland)	190,000	In-furrow cost/treated acre	$18.00	Percent Yield Loss	5.0%	In-Furrow Costs	$342,000	$1.80
Yield / Acre (Upland)	817	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	860	Scouting Costs	$665,000	$3.50
Price / lb	$0.74	Cost/acre Boll Weevil Eradication	$1.25	Av. # Applications	3.82	Eradication Costs	$237,500	$1.25
yield potential (lb/acre)	1,276	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	181,643	Bt Cotton	$5,468,200	$28.78
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	36.0%	Total Costs	$16,427,400	$86.46
Yield / Acre (Pima)	0	% Insect apps by air	5%	Transgenic Cotton (arthropods) (# acres)	189,905	Yield Loss to Insects	$8,904,154	$46.86
% Acres Scouted	50%	No. apps by air	1	Boll Weevil Eradication (# acres)	190,000	Total Losses + Costs	$25,331,554	$133.32
Fee / Scouted Acre	$7.00	Cost/app by air	$10.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	95%	# Scouted Acres	95,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	171,000			
Cost/treated acre (Bt) Cotton	$28.79	Cost/app by ground	$6.00	In-Furrow Applications (# acres)	19,000			
% acres with seed treatment	90%	% Loss to weather	20.0%	Applications by Air (acres)	9,500			
Seed trt. cost/ treated acre	$13.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	180,500			
% acres with in-furrow	10%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	190			

Table 20. Cotton insect loss estimates for South Carolina during 2020, 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
Bollgard II	53.8%	102,220	$108.00	$30.00	50%	51,110	1.0
Bollgard III	39.6%	75,240	$106.00	$30.00	5%	3,762	1.0
WideStrike	0.0%	0	$92.00	$10.00	100%	0	1.0
WideStrike 3	6.0%	11,419	$105.00	$10.00	10%	1,142	1.0
TwinLink	0.1%	114	$99.00	$25.00	50%	57	1.0
TwinLink Plus	0.5%	912	$102.00	$30.00	5%	46	1.0
Total Bt	100.0%	189,905	$106.99	$28.79	29.5%	56,117	0.3
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	189,905	$106.99	$28.79	29.5%	56,117	0.3
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		189,905	$106.99	-	29.5%	56,117	0.3

Table 21. Cotton insect loss estimates for Tennessee during 2020.

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	220,000	80%	143,000	52.0%	1.1	$19.50	1.30%	0.57	$11.12	1.04%	7,674	$4,950,094	$18.00	15.3%
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	13,750	5%	2,750	1.0%	1.0	$13.50	0.30%	0.01	$0.14	0.02%	111	$38,087	$0.14	0.1%
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	13,750	5%	165,000	60.0%	1.0	$4.00	0.00%	0.60	$2.40	0.00%	0	$33,000	$0.12	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	5,500	2%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	275,000	100%	275,000	100.0%	3.0	$14.00	2.30%	3.00	$42.00	2.30%	16,972	$17,089,661	$62.14	53.0%
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)	275,000	100%	165,000	60.0%	1.0	$10.50	0.60%	0.60	$6.30	0.60%	4,428	$3,177,799	$11.56	9.8%
Brown Stink Bug	275,000	100%	27,500	10.0%	1.0	$11.00	0.10%	0.10	$1.10	0.10%	738	$543,383	$1.98	1.7%
Clouded Plant Bug	261,250	95%	27,500	10.0%	1.0	$10.00	0.10%	0.10	$1.00	0.10%	701	$490,056	$1.78	1.5%
Leaf Footed Bugs	8,250	3%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	220,000	80%	52,250	19.0%	1.2	$11.00	0.30%	0.23	$2.53	0.24%	1,771	$1,134,654	$4.13	3.5%
Thrips	275,000	100%	220,000	80.0%	1.2	$7.50	1.10%	0.96	$7.20	1.10%	8,117	$4,629,389	$16.83	14.3%
Aphids	275,000	100%	5,500	2.0%	1.0	$12.00	0.05%	0.02	$0.24	0.05%	369	$186,442	$0.68	0.6%
Grasshoppers	5,500	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	13,750	5%	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	$74.02	5.54%	40,881	$32,272,565	$117.35	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Tennessee			Total Acres	275,000		Total	Per Acre
Region	Midsouth			Total Bales Harvested	615,885	Foliar Insecticide Costs	$20,355,500	$74.02
Year	2020			Total Bales Lost to Insects	40,881	Seed Treatment Costs	$2,915,000	$10.60
Total Acres (Upland)	275,000	In-furrow cost/treated acre	$8.75	Percent Yield Loss	5.5%	In-Furrow Costs	$48,125	$0.18
Yield / Acre (Upland)	1,075	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,138	Scouting Costs	$2,691,563	$9.79
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	6.19	Eradication Costs	$412,500	$1.50
yield potential (lb/acre)	1,288	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	122,051	Bt Cotton	$6,647,300	$24.17
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	16.5%	Total Costs	$33,069,988	$120.25
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	274,175	Yield Loss to Insects	$13,343,558	$48.52
% Acres Scouted	87%	No. apps by air	2	Boll Weevil Eradication (# acres)	275,000	Total Losses + Costs	$46,413,546	$168.78
Fee / Scouted Acre	$11.25	Cost/app by air	$9.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	90%	# Scouted Acres	239,250			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5	Seed Treatments (arthropods) (# acres)	275,000			
Cost/treated acre (Bt) Cotton	$24.24	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	5,500			
% acres with seed treatment	100%	% Loss to weather	9.0%	Applications by Air (acres)	68,750			
Seed trt. cost/ treated acre	$10.60	% loss to non-arthropods	1.0%	Applications by Ground (acres)	247,500			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	0			

Table 21. Cotton insect loss estimates for Tennessee during 2020, 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
Bollgard II	80.0%	220,000	$110.00	$24.00	65%	143,000	1.1
Bollgard III	12.2%	33,550	$115.00	$26.00	0%	0	0.0
WideStrike	0.0%	0	$0.00	$0.00	0%	0	0.0
WideStrike 3	6.5%	17,875	$105.00	$24.00	0%	0	0.0
TwinLink	0.0%	0	$0.00	$16.00	0%	0	0.0
TwinLink Plus	1.0%	2,750	$110.00	$24.00	0%	0	0.0
Total Bt	99.7%	274,175	$110.29	$24.24	52.2%	143,000	0.6
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.3%	825	$25.00	-	100%	825	2.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	275,000	$110.03	$24.24	52.3%	143,825	0.6
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		275,000	$110.03	-	52.3%	143,825	0.6

Table 22. Cotton insect loss estimates for South Texas during 2020.

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	837,072	100%	123,301	14.7%	1.0	$20.00	1.60%	0.15	$3.00	1.60%	55,749	$20,707,690	$24.74	16.1%
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	11,049	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	637,263	76%	77,262	9.2%	0.5	$12.00	0.72%	0.05	$0.60	0.55%	19,094	$6,614,639	$7.90	5.2%
Cotton Fleahopper	837,072	100%	824,767	98.5%	1.0	$10.00	4.37%	0.99	$9.90	4.37%	152,264	$57,985,985	$69.27	45.2%
Stink Bugs (other than brown stink bug)	433,771	52%	160,802	19.2%	0.5	$10.00	2.50%	0.10	$1.00	1.30%	45,157	$15,173,016	$18.13	11.8%
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	22,099	3%	17,662	2.1%	1.0	$8.00	0.26%	0.02	$0.16	0.01%	244	$83,177	$0.10	0.1%
Thrips	837,072	100%	110,326	13.2%	1.0	$12.00	0.79%	0.13	$1.56	0.79%	27,526	$10,290,319	$12.29	8.0%
Aphids	636,761	76%	473,699	56.6%	1.0	$10.00	1.10%	0.57	$5.70	0.84%	29,164	$13,148,667	$15.71	10.2%
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	162,057	19%	121,375	14.5%	0.5	$12.00	0.39%	0.07	$0.84	0.08%	2,648	$1,000,435	$1.20	0.8%
Verde Plant Bug	190,099	23%	61,609	7.4%	0.0	$0.00	1.10%	0.00	$0.00	0.25%	8,711	$2,843,270	$3.40	2.2%
Boll Weevil	163,313	20%	220,652	26.4%	4.0	$0.00	0.26%	1.05	$0.00	0.05%	1,777	$580,013	$0.69	0.5%
TOTAL								3.13	$22.76	9.83%	342,334	$128,427,211	$153.42	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Texas			Total Acres	837,072			
Region	Central			Total Bales Harvested	2,051,612	Foliar Insecticide Costs	$19,051,765	$22.76
Year	2020			Total Bales Lost to Insects	342,334	Seed Treatment Costs	$7,952,186	$9.50
Total Acres (Upland)	837,072	In-furrow cost/treated acre	$12.00	Percent Yield Loss	9.8%	In-Furrow Costs	$100,449	$0.12
Yield / Acre (Upland)	1,176	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,305	Scouting Costs	$5,357,262	$6.40
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$4.74	Av. # Applications	3.13	Eradication Costs	$3,967,721	$4.74
yield potential (lb/acre)	1,998	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,432,924	Bt Cotton	$15,123,802	$18.07
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	41.1%	Total Costs	$51,553,185	$61.59
Yield / Acre (Pima)	0	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	837,072	Yield Loss to Insects	$111,737,818	$133.49
% Acres Scouted	80%	No. apps by air	1.3	Boll Weevil Eradication (# acres)	837,072	Total Losses + Costs	$163,291,003	$195.07
Fee / Scouted Acre	$8.00	Cost/app by air	$6.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	82%	# Scouted Acres	669,658			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.35	Seed Treatments (arthropods) (# acres)	837,072			
Cost/treated acre (Bt) Cotton	$18.07	Cost/app by ground	$5.42	In-Furrow Applications (# acres)	8,371			
% acres with seed treatment	100%	% Loss to weather	26.3%	Applications by Air (acres)	474,285			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	682,632			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%	No. acres with no foliar insecticide applications	0			

Table 22. Cotton insect loss estimates for South Texas during 2020, 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
Bollgard II	16.0%	133,932	$83.00	$16.00	20%	26,786	1.0
Bollgard III	26.0%	217,639	$91.00	$23.00	0%	0	0.0
WideStrike	11.0%	92,078	$70.00	$0.00	100%	92,078	1.0
WideStrike 3	39.0%	326,458	$91.00	$20.00	0%	816	1.0
TwinLink	2.5%	20,927	$78.00	$18.50	20%	4,185	1.0
TwinLink Plus	5.5%	46,039	$82.00	$23.00	0%	0	0.0
Total Bt	100.0%	837,073	$86.59	$18.07	14.8%	123,866	0.15
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	837,073	$86.59	$18.07	14.8%	123,866	0.15
Non Upland Cotton							
Pima	0%	0	$0.00	-	0%	0	0.0
Other	0%	0	$0.00	-	0%	0	0.0
Organic	0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		837,073	$86.59	-	14.8%	123,866	0.15

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2020.

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	242,876	100%	43,718	18.0%	1.0	$21.00	2.00%	0.18	$3.78	2.00%	20,199	$7,511,025	$30.93	22.3%
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	12,144	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	7,286	3%	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	206,445	85%	12,144	5.0%	1.0	$12.00	0.02%	0.05	$0.60	0.02%	172	$180,008	$0.74	0.5%
Cotton Fleahopper	242,876	100%	218,588	90.0%	1.5	$12.00	2.00%	1.35	$16.20	2.00%	20,199	$10,527,545	$43.35	31.2%
Stink Bugs (other than brown stink bug)	233,161	96%	7,286	3.0%	1.0	$11.00	1.00%	0.03	$0.33	0.96%	9,696	$3,241,718	$13.35	9.6%
Brown Stink Bug	242,876	100%	145,726	60.0%	1.0	$11.00	3.00%	0.60	$6.60	3.00%	30,299	$11,492,575	$47.32	34.1%
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	182,157	75%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	170,013	70%	7,286	3.0%	1.0	$13.00	0.00%	0.03	$0.39	0.00%	0	$66,305	$0.27	0.2%
Thrips	242,876	100%	48,575	20.0%	1.0	$11.00	0.00%	0.20	$2.20	0.00%	0	$534,327	$2.20	1.6%
Aphids	230,732	95%	12,144	5.0%	1.0	$13.00	0.00%	0.05	$0.65	0.00%	0	$149,976	$0.62	0.4%
Grasshoppers	242,876	100%	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	48,575	20%	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								2.49	$30.75	7.98%	80,565	$33,703,479	$138.77	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	242,876		Total	Per Acre
Region	Central			Total Bales Harvested	565,699	Foliar Insecticide Costs	$7,468,437	$30.75
Year	2020			Total Bales Lost to Insects	80,565	Seed Treatment Costs	$2,307,322	$9.50
Total Acres (Upland)	242,876	In-furrow cost/treated acre	$12.00	Percent Yield Loss	8.0%	In-Furrow Costs	$29,145	$0.12
Yield / Acre (Upland)	1,118	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,215	Scouting Costs	$1,943,008	$8.00
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$4.66	Av. # Applications	2.49	Eradication Costs	$1,131,802	$4.66
yield potential (lb/acre)	1,996	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	444,150	Bt Cotton	$4,762,792	$19.61
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	44.0%	Total Costs	$17,642,506	$72.64
Yield / Acre (Pima)	0	% Insect apps by air	60%	Transgenic Cotton (arthropods) (# acres)	242,876	Yield Loss to Insects	$26,296,416	$108.27
% Acres Scouted	80%	No. apps by air	2	Boll Weevil Eradication (# acres)	242,876	Total Losses + Costs	$43,938,922	$180.91
Fee / Scouted Acre	$10.00	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	40%	# Scouted Acres	194,301			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	242,876			
Cost/treated acre (Bt) Cotton	$19.61	Cost/app by ground	$5.50	In-Furrow Applications (# acres)	2,429			
% acres with seed treatment	100%	% Loss to weather	31.0%	Applications by Air (acres)	145,726			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	3.0%	Applications by Ground (acres)	97,150			
% acres with in-furrow	1.0%	% loss to other (chemical injury, weeds, diseases, etc.)	2.0%	No. acres with no foliar insecticide applications	0			

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2020, 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
Bollgard II	37.0%	89,864	$83.00	$16.00	42%	37,294	1.0
Bollgard III	40.0%	97,150	$91.00	$23.00	0%	0	0.0
WideStrike	1.0%	2,429	$70.00	$0.00	100%	2,429	1.0
WideStrike 3	16.0%	38,860	$91.00	$20.00	5%	1,943	1.0
TwinLink	2.0%	4,858	$78.00	$18.50	43%	2,065	1.0
TwinLink Plus	4.0%	9,715	$82.00	$23.00	0%	0	0.0
Total Bt	100.0%	242,876	$87.21	$19.61	18.0%	43,730	0.18
Herbicide Traits Only	0%	0	$0.00	-	0%	0	0.0
Conventional	0%	0	$0.00	-	0%	0	0.0
Organic	0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	242,876	$87.21	$19.61	18.0%	43,730	0.18
Non Upland Cotton							
Pima	0%	0	$0.00	-	0%	0	0.0
Other	0%	0	$0.00	-	0%	0	0.0
Organic	0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		242,876	$87.21	-	18.0%	43,730	0.18

Table 24. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2020.

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	60,000	15%	8,000	2.0%	1.0	$17.00	0.60%	0.02	$0.34	0.09%	1,499	$509,674	$1.27	17.0%
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	1,600	0.4%	800	0.2%	1.0	$17.00	0.25%	0.00	$0.00	0.00%	17	$5,549	$0.01	0.2%
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	4,000	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	0	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	20,000	5%	2,800	0.7%	1.0	$13.00	0.50%	0.01	$0.13	0.03%	416	$138,382	$0.35	4.6%
Cotton Fleahopper	76,000	19%	24,000	6.0%	1.0	$12.00	1.50%	0.06	$0.72	0.29%	4,748	$1,604,467	$4.01	53.4%
Stink Bugs (other than brown stink bug)	44,000	11%	12,000	3.0%	1.0	$11.00	0.25%	0.03	$0.33	0.03%	466	$166,622	$0.42	5.5%
Brown Stink Bug	4,000	1%	3,600	0.9%	1.0	$11.00	0.00%	0.01	$0.11	0.00%	0	$440	$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	36,000	9%	800	0.2%	1.0	$10.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	20,000	5%	4,000	1.0%	1.0	$9.00	0.00%	0.01	$0.09	0.00%	0	$1,800	$0.00	0.1%
Thrips	400,000	100%	20,000	5.0%	1.0	$9.00	0.00%	0.05	$0.45	0.00%	0	$180,000	$0.45	6.0%
Aphids	92,000	23%	4,000	1.0%	1.0	$14.00	0.00%	0.01	$0.14	0.00%	0	$12,880	$0.03	0.4%
Grasshoppers	40,000	10%	16,000	4.0%	1.0	$15.00	0.50%	0.04	$0.60	0.05%	833	$295,891	$0.74	9.8%
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	4,000	1%	4,000	1.0%	4.0	$15.00	1.50%	0.04	$0.60	0.02%	250	$84,000	$0.21	2.8%
Pillbugs	2,000	0.5%	1,000	0.25%	1.5	$8.00	0.25%	0.00	$0.00	0.00%	17	$5,549	$0.01	0.2%
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								0.28	$3.51	0.50%	8,246	$3,005,254	$7.51	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
							Total	Per Acre
State	Texas			Total Acres	400,000			
Region	Central			Total Bales Harvested	266,667	Foliar Insecticide Costs	$1,404,000	$3.51
Year	2020			Total Bales Lost to Insects	8,246	Seed Treatment Costs	$3,133,440	$7.83
Total Acres (Upland)	400,000	In-furrow cost/treated acre	$50.00	Percent Yield Loss	0.5%	In-Furrow Costs	$200	$0.00
Yield / Acre (Upland)	320	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	322	Scouting Costs	$544,000	$1.36
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$0.67	Av. # Applications	0.28	Eradication Costs	$268,000	$0.67
yield potential (lb/acre)	1,999	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,399,217	Bt Cotton	$6,854,400	$17.14
Acres (Pima)	17,290	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	84.0%	Total Costs	$12,204,040	$30.51
Yield / Acre (Pima)	1,000	% Insect apps by air	10%	Transgenic Cotton (arthropods) (# acres)	378,800	Yield Loss to Insects	$2,691,494	$6.73
% Acres Scouted	16%	No. apps by air	1	Boll Weevil Eradication (# acres)	400,000	Total Losses + Costs	$14,895,534	$37.24
Fee / Scouted Acre	$8.50	Cost/app by air	$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	82%	# Scouted Acres	64,000			
% acres Transgenic (Bt) Cotton	95%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	384,000			
Cost/treated acre (Bt) Cotton	$18.10	Cost/app by ground	$5.80	In-Furrow Applications (# acres)	4			
% acres with seed treatment	96%	% Loss to weather	80.0%	Applications by Air (acres)	40,000			
Seed trt. cost/ treated acre	$8.16	% loss to non-arthropods	2.0%	Applications by Ground (acres)	328,000			
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	1.5%	No. acres with no foliar insecticide applications	340,000			

Table 24. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2020, 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
Bollgard II	45.9%	183,600	$75.00	$16.00	3.5%	6,426	1.0
Bollgard III	37.6%	150,400	$81.00	$21.00	0.0%	0	0.0
WideStrike	2.4%	9,600	$61.00	$8.00	5.0%	480	1.0
WideStrike 3	4.8%	19,200	$81.00	$20.00	0.0%	0	0.0
TwinLink	3.2%	12,800	$72.00	$18.00	4.0%	512	1.0
TwinLink Plus	0.8%	3,200	$75.00	$21.00	0.0%	0	0.0
Total Bt	94.7%	378,800	$77.23	$18.10	2.0%	7,418	0.02
Herbicide Traits Only	2.8%	11,200	$65.00	-	1.0%	112	1.0
Conventional	1.0%	4,000	$0.00	-	1.0%	40	1.0
Organic	0.0%	0	$0.00	-	1.0%	0	0.0
Total Upland Cotton	98.5%	394,000	$76.10	$18.10	1.9%	7,570	0.02
Non Upland Cotton							
Pima	1.5%	6,000	$65.00	-	6.5%	390	1.5
Other	0.0%	0	$0.00	-	0.0%	0	0.0
Organic	0.0%	0	$0.00	-	0.0%	0	0.0
Total (all Cotton)		400,000	$75.93	-	2.0%	7,960	0.02

Table 25. Cotton insect loss estimates for the High Plains area of Texas during 2020.

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	10%	14,000	0.7%	1.0	$20.00	0.250%	0.01	$0.20	0.03%	2,173	$749,267	$0.37	1.8%
Beet Armyworm	40,000	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	60,000	3%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	40,000	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	0	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	10,000	1%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	400,000	20%	20,000	1.0%	1.0	$15.00	0.800%	0.01	$0.15	0.16%	13,907	$4,599,245	$2.30	11.2%
Cotton Fleahopper	1,000,000	50%	80,000	4.0%	1.0	$12.00	1.000%	0.04	$0.48	0.50%	43,458	$14,664,691	$7.33	35.9%
Stink Bugs (other than brown stink bug)	400,000	20%	10,000	0.5%	1.0	$11.00	0.500%	0.01	$0.11	0.10%	8,692	$2,881,069	$1.44	7.0%
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	10,000	1%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	60,000	3%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	2,000,000	100%	300,000	15.0%	1.0	$9.00	0.500%	0.15	$1.35	0.50%	43,458	$16,884,691	$8.44	41.3%
Aphids	100,000	5%	10,000	0.5%	1.0	$15.00	0.100%	0.01	$0.15	0.01%	435	$156,984	$0.08	0.4%
Grasshoppers	400,000	20%	14,000	0.7%	1.0	$15.00	0.010%	0.01	$0.15	0.00%	174	$116,794	$0.06	0.3%
Banded Winged Whitefly	40,000	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%
Wireworms	60,000	3%	0	0.0%	0.0	$0.00	1.000%	0.00	$0.00	0.03%	2,608	$851,251	$0.43	2.1%
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								0.24	$2.59	1.32%	114,905	$40,903,992	$20.45	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	2,000,000		Total	Per Acre
Region	Central			Total Bales Harvested	2,666,667	Foliar Insecticide Costs	$5,180,000	$2.59
Year	2020			Total Bales Lost to Insects	114,905	Seed Treatment Costs	$16,000,000	$8.00
Total Acres (Upland)	2,000,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	1.3%	In-Furrow Costs	$900,000	$0.45
Yield / Acre (Upland)	640	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	649	Scouting Costs	$9,000,000	$4.50
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$1.33	Av. # Applications	0.24	Eradication Costs	$2,660,000	$1.33
yield potential (lb/acre)	2,086	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	6,025,237	Bt Cotton	$29,500,000	$14.75
Acres (Pima)	35,000	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	69.3%	Total Costs	$63,240,000	$31.62
Yield / Acre (Pima)	900	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	1,522,000	Yield Loss to Insects	$37,504,992	$18.75
% Acres Scouted	50%	No. apps by air	0.25	Boll Weevil Eradication (# acres)	2,000,000	Total Losses + Costs	$100,744,992	$50.37
Fee / Scouted Acre	$9.00	Cost/app by air	$6.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	75%	# Scouted Acres	1,000,000			
% acres Transgenic (Bt) Cotton	76%	No. apps by ground	0.75	Seed Treatments (arthropods) (# acres)	1,600,000			
Cost/treated acre (Bt) Cotton	$19.38	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	60,000			
% acres with seed treatment	80%	% Loss to weather	61.0%	Applications by Air (acres)	500,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	2.0%	Applications by Ground (acres)	1,500,000			
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	1,660,000			

Table 25. Cotton insect loss estimates for the High Plains area of Texas during 2020, 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
Bollgard II	30.0%	600,000	$83.00	$16.00	0%	0	0.0
Bollgard III	24.0%	480,000	$91.00	$23.00	0%	0	0.0
WideStrike	0.1%	2,000	$70.00	$0.00	0%	0	0.0
WideStrike 3	15.0%	300,000	$91.00	$20.00	0%	0	0.0
TwinLink	4.0%	80,000	$78.00	$18.50	0%	0	0.0
TwinLink Plus	3.0%	60,000	$82.00	$23.00	0%	0	0.0
Total Bt	76.1%	1,522,000	$86.78	$19.38	0.0%	0	0.000
Herbicide Traits Only	17.0%	340,000	$64.00	-	3%	10,200	1.0
Conventional	6.0%	120,000	$23.00	-	3%	3,600	1.0
Organic	0.9%	18,000	$23.00	-	0%	0	0.0
Total Upland Cotton	100.0%	2,000,000	$78.51	$19.38	0.7%	13,800	0.007
Non Upland Cotton							
Pima	0.9%	17,800	$58.00	-	15%	2,670	1.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		2,017,800	$78.33	-	0.8%	16,470	0.008

Table 26. Cotton insect loss estimates for Texas during 2020.

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	1,339,948	39%	189,018	5%	1.0	$19.72	1.40%	0.05	$1.07	0.54%	79,534	$27,395,543	$7.87	14.0%
Beet Armyworm	40,000	1%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	84,793	2%	800	0%	0.1	$1.95	0.00%	0.00	$0.00	0.00%	0	$4	$0.00	0.0%
Loopers	40,000	1%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	11,286	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	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	10,000	0%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	1,263,708	36%	112,206	3%	0.9	$13.84	0.62%	0.03	$0.39	0.22%	33,210	$11,335,974	$3.26	5.8%
Cotton Fleahopper	2,155,948	62%	1,147,356	33%	1.0	$11.52	2.39%	0.34	$3.93	1.48%	218,181	$79,687,980	$22.90	40.8%
Stink Bugs (other than brown stink bug)	1,110,932	32%	190,088	5%	0.9	$10.76	1.37%	0.05	$0.52	0.44%	64,371	$21,585,095	$6.20	11.1%
Brown Stink Bug	246,876	7%	149,326	4%	0.2	$2.03	2.95%	0.01	$0.02	0.21%	30,906	$10,091,686	$2.90	5.2%
Clouded Plant Bug	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	228,157	7%	800	0%	0.1	$1.15	0.00%	0.00	$0.00	0.00%	0	$7	$0.00	0.0%
Spider Mites	272,112	8%	28,949	1%	0.4	$3.87	0.02%	0.00	$0.01	0.00%	244	$83,269	$0.02	0.0%
Thrips	3,479,948	100%	478,901	14%	1.0	$9.86	0.48%	0.14	$1.36	0.48%	70,466	$27,722,734	$7.97	14.2%
Aphids	1,059,493	30%	499,843	14%	1.0	$13.54	0.67%	0.14	$1.95	0.20%	30,134	$11,896,802	$3.42	6.1%
Grasshoppers	682,876	20%	30,000	1%	0.7	$10.34	0.01%	0.01	$0.06	0.00%	170	$97,380	$0.03	0.0%
Banded Winged Whitefly	40,000	1%	0	0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	214,632	6%	125,375	4%	0.6	$4.61	0.29%	0.02	$0.10	0.02%	2,681	$895,704	$0.26	0.5%
Other Insect Pests	252,099	7%	62,609	2%	0.2	$0.92	1.07%	0.00	$0.00	0.08%	11,415	$3,726,480	$1.07	1.9%
Boll Weevil	163,313	5%	220,652	6%	1.0	$0.00	0.26%	0.06	$0.00	0.01%	1,801	$587,869	$0.17	0.3%
TOTAL								0.86	$9.40	3.68%	543,113	$195,106,527	$56.07	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	3,479,948		Total	Per Acre
Region	Central			Total Bales Harvested	5,550,644	Foliar Insecticide Costs	$32,726,213	$9.40
Year	2020			Total Bales Lost to Insects	543,113	Seed Treatment Costs	$29,516,041	$8.48
Total Acres (Upland)	3,479,948	In-furrow cost/treated acre	$18.09	Percent Yield Loss	3.7%	In-Furrow Costs	$1,280,980	$0.37
Yield / Acre (Upland)	766	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	795	Scouting Costs	$16,911,627	$4.86
Price / lb	$0.68	Cost/acre Boll Weevil Eradication	$2.31	Av. # Applications	0.9	Eradication Costs	$8,027,525	$2.31
yield potential (lb/acre)	2,036	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	9,301,528	Bt Cotton	$56,323,923	$16.19
Acres (Pima)	52,290	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	62.4%	Total Costs	$144,786,308	$41.61
Yield / Acre (Pima)	933	% Insect apps by air	33%	Transgenic Cotton (arthropods) (# acres)	2,980,748	Yield Loss to Insects	$177,272,172	$50.94
% Acres Scouted	55%	No. apps by air	0.7	Boll Weevil Eradication (# acres)	3,479,948	Total Losses + Costs	$322,058,480	$92.55
Fee / Scouted Acre	$8.77	Cost/app by air	$6.31	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.2	% insect apps by ground	75%	# Scouted Acres	1,927,959			
% acres Transgenic (Bt) Cotton	86%	No. apps by ground	1.7	Seed Treatments (arthropods) (# acres)	3,063,948			
Cost/treated acre (Bt) Cotton	$18.90	Cost/app by ground	$5.23	In-Furrow Applications (# acres)	70,803			
% acres with seed treatment	88%	% Loss to weather	52.7%	Applications by Air (acres)	1,160,011			
Seed trt. cost/ treated acre	$9.63	% loss to non-arthropods	2.1%	Applications by Ground (acres)	2,607,783			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	3.9%	No. acres with no foliar insecticide applications	2,000,000			

Table 26. Cotton insect loss estimates for Texas during 2020, 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
Bollgard II	28.95%	1,007,396	$82.08	$16.00	8.1%	81,695	0.4
Bollgard III	27.16%	945,189	$89.85	$22.77	0.0%	0	0.0
WideStrike	3.05%	106,107	$68.97	$0.92	31.6%	33,538	0.4
WideStrike 3	19.67%	684,518	$89.85	$20.00	0.4%	2,800	0.3
TwinLink	3.41%	118,584	$77.31	$18.44	8.2%	9,768	0.4
TwinLink Plus	3.42%	118,954	$81.20	$22.77	0.0%	0	0.0
Total Bt	85.65%	2,980,748	$85.64	$18.90	4.3%	127,802	0.018
Herbicide Traits Only	10.09%	351,200	$44.25	-	1.8%	6,459	0.7
Conventional	3.56%	124,000	$13.22	-	1.8%	2,280	0.7
Organic	0.52%	18,000	$13.22	-	0.1%	21	0.0
Total Upland Cotton	99.83%	3,473,948	$78.49	$18.90	3.9%	136,562	0.017
Non Upland Cotton							
Pima	0.7%	23,800	$40.81	-	9%	2,230	0.7
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		3,497,748	$78.24	-	4.0%	138,791	0.018

Table 27. Cotton insect loss estimates for Virginia during 2020.

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	27,475	35%	31,400	40.0%	1.0	$18.00	3.00%	0.40	$7.20	1.05%	2,926	$1,180,956	$15.04	8.2%
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	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	78,500	100%	58,875	75.0%	2.0	$10.00	5.00%	1.50	$15.00	5.00%	13,934	$5,859,324	$74.64	40.8%
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)	62,800	80%	7,850	10.0%	1.0	$10.00	3.00%	0.10	$1.00	2.40%	6,688	$2,309,968	$29.43	16.1%
Brown Stink Bug	62,800	80%	7,850	10.0%	1.0	$10.00	3.00%	0.10	$1.00	2.40%	6,688	$2,309,968	$29.43	16.1%
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	15,700	20%	3,925	5.0%	1.0	$15.00	5.00%	0.05	$0.75	1.00%	2,787	$948,207	$12.08	6.6%
Thrips	78,500	100%	78,500	100.0%	1.0	$8.00	1.00%	1.00	$8.00	1.00%	2,787	$1,564,432	$19.93	10.9%
Aphids	15,700	20%	3,925	5.0%	1.0	$10.00	1.00%	0.05	$0.50	0.20%	557	$195,002	$2.48	1.4%
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								3.20	$33.45	13.05%	36,367	$14,367,857	$183.03	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Virginia			Total Acres	78,500		Total	Per Acre
Region	Southeast			Total Bales Harvested	130,833	Foliar Insecticide Costs	$2,625,825	$33.45
Year	2020			Total Bales Lost to Insects	36,367	Seed Treatment Costs	$942,000	$12.00
Total Acres (Upland)	78,500	In-furrow cost/treated acre	$6.00	Percent Yield Loss	13.1%	In-Furrow Costs	$141,300	$1.80
Yield / Acre (Upland)	800	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	920	Scouting Costs	$235,500	$3.00
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.00	Av. # Applications	3.2	Eradication Costs	$78,500	$1.00
yield potential (lb/acre)	1,704	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	147,837	Bt Cotton	$1,354,125	$17.25
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	53.1%	Total Costs	$5,377,250	$68.50
Yield / Acre (Pima)	0	% Insect apps by air	5%	Transgenic Cotton (arthropods) (# acres)	78,500	Yield Loss to Insects	$12,219,312	$155.66
% Acres Scouted	25%	No. apps by air	1	Boll Weevil Eradication (# acres)	78,500	Total Losses + Costs	$17,596,562	$224.16
Fee / Scouted Acre	$12.00	Cost/app by air	$15.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	95%	# Scouted Acres	19,625			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	78,500			
Cost/treated acre (Bt) Cotton	$17.25	Cost/app by ground	$7.50	In-Furrow Applications (# acres)	23,550			
% acres with seed treatment	100%	% Loss to weather	40.0%	Applications by Air (acres)	3,925			
Seed trt. cost/ treated acre	$12.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	74,575			
% acres with in-furrow	30%	% loss to other (chemical injury, weeds, diseases, etc.)	0.0%	No. acres with no foliar insecticide applications	0			

Table 27. Cotton insect loss estimates for Virginia during 2020, 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
Bollgard II	50.0%	39,250	$130.00	$15.00	75%	29,438	1.0
Bollgard III	10.0%	7,850	$130.00	$20.00	5%	393	1.0
WideStrike	5.0%	3,925	$130.00	$15.00	75%	2,944	1.0
WideStrike 3	15.0%	11,775	$130.00	$20.00	5%	589	1.0
TwinLink	0.0%	0	$130.00	$15.00	75%	0	0.0
TwinLink Plus	20.0%	15,700	$130.00	$20.00	5%	785	1.0
Total Bt	100.0%	78,500	$130.00	$17.25	43.5%	34,148	0.4
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	78,500	$130.00	$17.25	43.5%	34,148	0.4
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0.0
Other	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total (all Cotton)		78,500	$130.00	-	43.5%	34,148	0.4

Table 28. Cotton insect loss estimates for the United States during 2020.

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	4,129,408	50%	1,548,842	18.6%	1.2	$21.16	2.01%	0.23	$4.79	0.99%	272,573	$107,629,194	$12.90	18.5%
Beet Armyworm	76,012	1%	832	0.0%	1.0	$11.53	0.02%	0.00	$0.00	0.00%	50	$16,141	$0.00	0.0%
Fall Armyworm	209,000	3%	10,800	0.1%	0.9	$11.30	0.21%	0.00	$0.01	0.01%	1,657	$537,063	$0.06	0.1%
Loopers	69,487	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	293,561	4%	288,150	3.5%	1.0	$5.42	0.03%	0.03	$0.19	0.00%	381	$177,899	$0.02	0.0%
Cotton Leaf Perforator	98,395	1%	2,329	0.0%	0.5	$14.00	0.00%	0.00	$0.00	0.00%	0	$339	$0.00	0.0%
Saltmarsh Caterpillar	19,075	0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	4,833,526	58%	2,623,697	31.5%	2.8	$13.85	1.66%	0.90	$12.40	0.96%	300,779	$156,906,879	$18.81	26.9%
Cotton Fleahopper	3,413,565	41%	1,705,215	20.4%	1.2	$11.56	1.73%	0.24	$2.80	0.71%	232,681	$84,562,330	$10.14	14.5%
Stink Bugs (other than brown stink bug)	3,959,391	47%	2,052,884	24.6%	1.3	$9.00	1.22%	0.31	$2.78	0.58%	159,481	$62,414,571	$7.48	10.7%
Brown Stink Bug	3,194,020	38%	1,565,449	18.8%	1.0	$8.70	0.96%	0.18	$1.57	0.37%	104,492	$38,688,215	$4.64	6.6%
Clouded Plant Bug	1,080,109	13%	92,622	1.1%	1.0	$9.31	0.22%	0.01	$0.10	0.03%	8,802	$2,947,395	$0.35	0.5%
Leaf Footed Bugs	767,837	9%	114,538	1.4%	0.8	$7.98	0.14%	0.01	$0.09	0.01%	2,510	$877,518	$0.11	0.2%
Spider Mites	2,404,622	29%	736,132	8.8%	1.2	$13.39	0.69%	0.10	$1.39	0.20%	62,995	$23,640,190	$2.83	4.1%
Thrips	7,795,538	93%	2,441,936	29.3%	1.0	$8.86	0.57%	0.30	$2.68	0.53%	154,586	$70,739,431	$8.48	12.1%
Aphids	4,349,695	52%	1,285,127	15.4%	1.0	$12.33	0.23%	0.15	$1.89	0.12%	40,627	$21,317,101	$2.56	3.7%
Grasshoppers	1,323,140	16%	144,531	1.7%	0.9	$8.44	0.02%	0.02	$0.14	0.00%	633	$389,107	$0.05	0.1%
Banded Winged Whitefly	247,763	3%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	989,087	12%	487,531	5.8%	1.3	$13.00	0.67%	0.08	$0.99	0.08%	22,309	$8,166,185	$0.98	1.4%
Other insect pests*	293,000	4%	66,703	0.8%	0.2	$1.19	0.92%	0.00	$0.00	0.03%	11,432	$3,685,610	$0.44	0.6%
Boll Weevil	167,330	2%	222,981	2.7%	1.0	$0.04	0.25%	0.03	$0.00	0.01%	1,801	$580,735	$0.07	0.1%
TOTAL								2.59	$31.82	4.63%	1,377,789	$583,275,905	$69.93	

SUMMARY DATA

Data Input

Year	2020		
Total Acres (Upland)	8,341,270	In-furrow cost/treated acre	$12.99
Yield / Acre (Upland)	885	% acres in Boll Weevil Eradication	97%
Price / lb	$0.67	Cost/acre Boll Weevil Eradication	$2.27
yield potential (lb/acre)	1,684	% acres in Pink Bollworm Eradication	2%
Acres (Pima)	63,722	Cost/acre Pink Bollworm Eradication	$2.74
Yield / Acre (Pima)	933	% Insect apps by air	33%
% Acres Scouted	68%	No. apps by air	1.5
Fee / Scouted Acre	$8.78	Cost/app by air	$7.82
No. times scouted/week	1.2	% insect apps by ground	78%
% acres Transgenic (Bt) Cotton	94%	No. apps by ground	2.3
Cost/treated acre (Bt) Cotton	$21.61	Cost/app by ground	$5.48
% acres with seed treatment	84%	% Loss to weather	34.3%
Seed trt. cost/ treated acre	$10.04	% loss to non-arthropods	2.6%
% acres with in-furrow	9%	% loss to other (chemical injury, weeds, diseases, etc.)	4.1%

Yield and Management Results

Total Acres	8,341,270
Total Bales Harvested	15,502,169
Total Bales Lost to Insects	1,377,789
Percent Yield Loss	4.6%
Yield w/o Insects (lb/acre)	928
Av. # Applications	2.590811529
Total Bales lost (all factors)	14,307,299
Total % yield Loss	45.6%
Transgenic Cotton (arthropods) (# acres)	7,811,303
Boll Weevil Eradication (# acres)	8,104,670
Pink Bollworm Eradication (# acres)	161,321
# Scouted Acres	5,675,328
Seed Treatments (arthropods) (# acres)	7,019,756
In-Furrow Applications (# acres)	757,153
Applications by Air (acres)	2,749,057
Applications by Ground (acres)	6,479,674
No. acres with no foliar insecticide applications	2,527,391

Economic Results

	Total	Per Acre
Foliar Insecticide Costs	$265,441,234	$31.82
Seed Treatment Costs	$70,445,247	$8.45
In-Furrow Costs	$9,836,149	$1.18
Scouting Costs	$49,827,765	$5.97
Eradication Costs	$18,858,837	$2.26
Bt Cotton	$168,814,535	$20.24
Total Costs	$583,223,768	$69.92
Yield Loss to Insects	$444,116,889	$53.24
Total Losses + Costs	$1,027,340,657	$123.16

* See individual states for details on “other insect pests”.

Table 28. Cotton insect loss estimates for the United States during 2020, 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
Bollgard II	41.3%	3,444,567	$86.07	$20.61	23.8%	820,075	0.8
Bollgard III	30.1%	2,511,315	$90.83	$23.96	0.4%	9,762	0.1
WideStrike	1.7%	144,657	$66.53	$8.93	22.9%	33,087	0.4
WideStrike 3	15.9%	1,325,626	$88.57	$21.32	1.4%	18,095	0.3
TwinLink	1.6%	134,690	$74.28	$18.84	9.6%	12,960	0.4
TwinLink Plus	3.0%	250,448	$79.43	$22.18	0.2%	598	0.1
Total Bt	94%	7,811,303	$87.24	$21.61	11.5%	894,577	0.1
Herbicide Traits Only	4.3%	360,759	$33.21	-	1.0%	3,763	0.3
Conventional	1.7%	143,289	$10.48	-	11.6%	16,558	0.6
Organic	0.3%	22,077	$6.63	-	1.1%	236	0.1
Total Upland Cotton	100.0%	8,337,427	$83.37	$21.61	11.0%	915,134	0.1

See individual states for Pima cotton data.