

**2021 COTTON INSECT LOSSES ESTIMATES****D. R. Cook****M. Threet****Mississippi State University, DREC  
Stoneville, MS****Background**

Since 1979, 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. Thank you to + 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

Florida – Ethan Carter and Libbie Johnson

Georgia – Phillip Roberts

Louisiana – Sebe Brown and Tyler Towles

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 2021.

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	13,647	5%	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	259,297	95%	245,650	90%	2.0	\$8.00	1.00%	1.80	\$14.40	0.95%	7,098	\$6,459,506	\$23.67	28.1%
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)	272,944	100%	259,297	95%	2.0	\$8.00	1.50%	1.90	\$15.20	1.50%	11,208	\$8,452,621	\$30.97	36.8%
Brown Stink Bug	245,650	90%	136,472	50%	0.5	\$9.50	0.50%	0.25	\$2.38	0.45%	3,362	\$1,874,426	\$6.87	8.2%
Clouded Plant Bug	122,825	45%	81,883	30%	1.0	\$7.50	0.10%	0.30	\$2.25	0.05%	336	\$405,380	\$1.49	1.8%
Leaf Footed Bugs	191,061	70%	54,589	20%	1.0	\$9.50	0.10%	0.20	\$1.90	0.07%	523	\$563,848	\$2.07	2.5%
Spider Mites	177,414	65%	13,647	5%	1.0	\$8.50	0.00%	0.05	\$0.43	0.00%	0	\$75,401	\$0.28	0.3%
Thrips	272,944	100%	191,061	70%	1.0	\$6.50	1.00%	0.70	\$4.55	1.00%	7,472	\$4,111,143	\$15.06	17.9%
Aphids	81,883	30%	2,729	1%	1.0	\$6.50	0.00%	0.01	\$0.07	0.00%	0	\$5,322	\$0.02	0.0%
Grasshoppers	204,708	75%	163,766	60%	1.1	\$7.50	0.00%	0.66	\$4.95	0.00%	0	\$1,013,305	\$3.71	4.4%
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	13,647	5%	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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>							4.20%	5.87	\$46.12	4.02%	29,999	\$22,960,952	\$84.12	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results		
State	Alabama	Total Acres	272,944		Total	Per Acre	
Region	Southeast	Total Bales Harvested	483,338	Foliar Insecticide Costs	\$12,586,813	\$46.12	
Year	2021	Total Bales Lost to Insects	29,999	Seed Treatment Costs	\$3,248,034	\$11.90	
Total Acres (Upland)	272,944	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	4.0%	In-Furrow Costs	\$614,124
Yield / Acre (Upland)	850	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	886	Scouting Costs	\$1,972,020
Price / lb.	\$0.80	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	5.87	Eradication Costs	\$409,416
yield potential (lb./acre)	1,314	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	263,868	Bt Cotton	\$8,897,967
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	35.3%	Total Costs	\$27,728,374
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	272,944	Yield Loss to Insects	\$11,519,616
% Acres Scouted	85%	No. apps by air	2	Boll Weevil Eradication (# acres)	272,944	Total Losses + Costs	\$39,247,990
Fee / Scouted Acre	\$8.50	Cost/app by air	\$7.50	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	232,002		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5	Seed Treatments (arthropods) (# acres)	232,002		
Cost/treated acre (Bt) Cotton	\$32.60	Cost/app by ground	\$5.00	In-Furrow Applications (# acres)	40,942		
% acres with seed treatment	85%	% Loss to weather	27.8%	Applications by Air (acres)	40,942		
Seed trt. cost/ treated acre	\$14.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	232,002		
% acres with in-furrow	15%	% 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 2021, 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	45.0%	122,825	\$60.00	\$35.00	0%	0	0.0
Bollgard III	35.0%	95,530	\$63.00	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$45.00	\$0.00	0%	0	0.0
WideStrike 3	15.0%	40,942	\$48.00	\$18.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	5.0%	13,647	\$60.00	\$38.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>272,944</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>272,944</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>272,944</b>	<b>\$59.25</b>		<b>0.0%</b>	<b>0</b>	<b>0.0</b>

Table 2. Cotton insect loss estimates for North Alabama during 2021.

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	6,276	5%	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	125,515	100%	119,239	95%	2.5	\$12.75	1.25%	2.37	\$30.22	1.25%	4,504	\$5,522,286	\$44.00	49.1%
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)	125,515	100%	62,758	50%	1.5	\$8.00	1.50%	0.75	\$6.00	1.50%	5,405	\$2,828,610	\$22.54	25.1%
Brown Stink Bug	112,964	90%	50,206	40%	0.5	\$9.50	0.50%	0.20	\$1.90	0.45%	1,621	\$837,095	\$6.67	7.4%
Clouded Plant Bug	12,552	10%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	12,552	10%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	62,758	50%	2,510	2%	1.0	\$8.50	0.00%	0.02	\$0.17	0.00%	0	\$10,669	\$0.09	0.1%
Thrips	125,515	100%	100,412	80%	1.0	\$6.50	1.00%	0.80	\$5.20	1.00%	3,603	\$2,036,230	\$16.22	18.1%
Aphids	12,552	10%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	25,103	20%	12,552	10%	1.0	\$7.50	0.00%	0.10	\$0.75	0.00%	0	\$18,827	\$0.15	0.2%
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							4.25%	4.24	\$44.24	4.20%	15,133	\$11,253,717	\$89.66	
TOTAL														

## SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	Alabama	Total Acres	125,515		Total	Per Acre	
Region	Southeast	Total Bales Harvested	235,341	Foliar Insecticide Costs	\$5,552,470	\$44.24	
Year	2021	Total Bales Lost to Insects	15,133	Seed Treatment Costs	\$1,581,489	\$12.60	
Total Acres (Upland)	125,515	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	4.2%	In-Furrow Costs	\$188,273
Yield / Acre (Upland)	900	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	939	Scouting Costs	\$906,846
Price / lb.	\$0.80	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	4.24	Eradication Costs	\$188,273
yield potential (lb./acre)	1,378	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	125,035	Bt Cotton	\$4,091,794
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	34.7%	Total Costs	\$12,509,145
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	125,515	Yield Loss to Insects	\$5,811,072
% Acres Scouted	85%	No. apps by air	2	Boll Weevil Eradication (# acres)	125,515	Total Losses + Costs	\$18,320,217
Fee / Scouted Acre	\$8.50	Cost/app by air	\$7.50	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	106,688		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5	Seed Treatments (arthropods) (# acres)	112,964		
Cost/treated acre (Bt) Cotton	\$32.60	Cost/app by ground	\$5.00	In-Furrow Applications (# acres)	12,552		
% acres with seed treatment	90%	% Loss to weather	27.0%	Applications by Air (acres)	18,827		
Seed trt. cost/ treated acre	\$14.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	106,688		
% acres with in-furrow	10%	% 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 2021, 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	45.0%	56,482	\$60.00	\$35.00	0%	0	0.0
Bollgard III	35.0%	43,930	\$63.00	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$45.00	\$0.00	0%	0	0.0
WideStrike 3	15.0%	18,827	\$48.00	\$18.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	5.0%	6,276	\$60.00	\$38.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>125,515</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>125,515</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>125,515</b>	<b>\$59.25</b>		<b>0.0%</b>	<b>0</b>	<b>0.0</b>

Table 3. Cotton insect loss estimates for Alabama during 2021.

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	19,923	5%	0	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	\$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	384,812	97%	364,889	91.6%	2.2	\$9.50	1.08%	1.98	\$18.76	1.04%	11,567	\$11,661,443	\$29.27	35.2%
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)	398,459	100%	322,054	80.8%	1.8	\$8.00	1.50%	1.49	\$11.91	1.50%	16,611	\$11,125,611	\$27.92	33.6%
Brown Stink Bug	358,613	90%	186,678	46.8%	0.5	\$9.50	0.50%	0.23	\$2.23	0.45%	4,983	\$2,711,608	\$6.81	8.2%
Clouded Plant Bug	135,376	34%	81,883	20.5%	0.7	\$5.14	0.09%	0.14	\$0.72	0.03%	341	\$228,981	\$0.57	0.7%
Leaf Footed Bugs	203,612	51%	54,589	13.7%	0.7	\$6.51	0.09%	0.09	\$0.61	0.05%	531	\$328,245	\$0.82	1.0%
Spider Mites	240,171	60%	16,158	4.1%	1.0	\$8.50	0.00%	0.04	\$0.34	0.00%	0	\$82,781	\$0.21	0.3%
Thrips	398,459	100%	291,473	73.2%	1.0	\$6.50	1.00%	0.73	\$4.75	1.00%	11,074	\$6,146,928	\$15.43	18.6%
Aphids	94,435	24%	2,729	0.7%	0.7	\$4.45	0.00%	0.00	\$0.02	0.00%	0	\$1,973	\$0.00	0.0%
Grasshoppers	229,811	58%	176,318	44.2%	1.1	\$7.50	0.00%	0.47	\$3.55	0.00%	0	\$814,928	\$2.05	2.5%
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	13,647	3%	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%
<b>TOTAL</b>								5.18	\$42.90	4.07%	45,107	\$33,102,497	\$83.08	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Alabama	Total Acres	398,459			Total	Per Acre
Region	Southeast	Total Bales Harvested	718,679			Foliar Insecticide Costs	\$17,094,408
Year	2021	Total Bales Lost to Insects	45,107			Seed Treatment Costs	\$4,829,523
Total Acres (Upland)	398,459	Percent Yield Loss	4.1%			In-Furrow Costs	\$802,397
Yield / Acre (Upland)	866	Yield w/o Insects (lb./acre)	903			Scouting Costs	\$2,878,866
Price / lb.	\$0.80	Av. # Applications	5.2			Eradication Costs	\$597,689
yield potential (lb./acre)	1,334	Total Bales lost (all factors)	388,903			Bt Cotton	\$12,989,763
Acres (Pima)	0	Total % yield Loss	35.1%			Total Costs	\$39,192,645
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	398,459			Yield Loss to Insects	\$17,321,010
% Acres Scouted	85%	Boll Weevil Eradication (# acres)	398,459			Total Losses + Costs	\$56,513,655
Fee / Scouted Acre	\$8.50	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1.0	# Scouted Acres	338,690				
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	344,966				
Cost/treated acre (Bt) Cotton	\$32.60	In-Furrow Applications (# acres)	53,493				
% acres with seed treatment	87%	Applications by Air (acres)	59,769				
Seed trt. cost/ treated acre	\$14.00	Applications by Ground (acres)	338,690				
% acres with in-furrow	13%	No. acres with no foliar insecticide applications	0				

Table 3. Cotton insect loss estimates for Alabama during 2021, 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	45.0%	179,307	\$60.00	\$35.00	0%	0	0.0
Bollgard III	35.0%	139,461	\$63.00	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$45.00	\$0.00	0%	0	0.0
WideStrike 3	15.0%	59,769	\$48.00	\$18.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	5.0%	19,923	\$60.00	\$38.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>398,459</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	0	0	\$0.00
Conventional	0.0%	0	\$0.00	-	0	0	\$0.00
Organic	0.0%	0	\$0.00	-	0	0	\$0.00
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>398,459</b>	<b>\$59.25</b>	<b>\$32.60</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>398,459</b>	<b>\$59.25</b>		<b>0.0%</b>	<b>0</b>	<b>0.0</b>

Table 4. Cotton insect loss estimates for Southeast Arkansas during 2021.

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	188,000	100%	35,720	19%	1.3	\$31.46	2.5%	0.25	\$7.87	2.50%	22,305	\$9,390,650	\$49.95	16.8%
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	20,680	11%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	1,880	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	47,000	25%	5,640	3%	1.0	\$11.00	0.0%	0.03	\$0.33	0.00%	0	\$15,510	\$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	9,400	5%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	188,000	100%	188,000	100%	5.5	\$20.00	5.8%	5.50	\$110.00	5.80%	51,749	\$39,036,405	\$207.64	69.7%
Cotton Fleahopper	122,200	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)	188,000	100%	5,640	3%	1.0	\$20.00	0.3%	0.03	\$0.60	0.30%	2,677	\$1,062,385	\$5.65	1.9%
Brown Stink Bug	188,000	100%	5,640	3%	1.0	\$20.00	0.3%	0.03	\$0.60	0.30%	2,677	\$1,062,385	\$5.65	1.9%
Clouded Plant Bug	141,000	75%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	9,400	5%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	75,200	40%	37,600	20%	1.0	\$20.00	1.5%	0.20	\$4.00	0.60%	5,353	\$2,199,616	\$11.70	3.9%
Thrips	188,000	100%	56,400	30%	1.0	\$13.00	0.5%	0.30	\$3.90	0.50%	4,461	\$2,315,606	\$12.32	4.1%
Aphids	188,000	100%	47,000	25%	1.0	\$20.00	0.0%	0.25	\$5.00	0.00%	0	\$940,000	\$5.00	1.7%
Grasshoppers	18,800	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	37,600	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%
<b>TOTAL</b>					6.59	\$132.30			10.00%		89,222	\$56,022,557	\$297.99	

**SUMMARY DATA**

Data Input				Yield and Management Results				Economic Results		
State	Arkansas			Total Acres	188,000			Total	Per Acre	
Region	MidSouth			Total Bales Harvested	504,075			Foliar Insecticide Costs	\$24,871,460	\$132.30
Year	2021			Total Bales Lost to Insects	89,222			Seed Treatment Costs	\$2,350,000	\$12.50
Total Acres (Upland)	188,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	10.0%			In-Furrow Costs	\$338,400	\$1.80
Yield / Acre (Upland)	1,287	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,430			Scouting Costs	\$1,880,000	\$10.00
Price / lb.	\$0.74	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	6.59			Eradication Costs	\$564,000	\$3.00
yield potential (lb./acre)	2,278	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	388,114			Bt Cotton	\$6,580,000	\$35.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	43.5%			Total Costs	\$36,583,860	\$194.60
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	188,000			Yield Loss to Insects	\$31,648,828	\$168.34
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	188,000			Total Losses + Costs	\$68,232,688	\$362.94
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	188,000					
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	188,000					
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	22,560					
% acres with seed treatment	100%	% Loss to weather	19.5%	Applications by Air (acres)	150,400					
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	6.0%	Applications by Ground (acres)	188,000					
% 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 2021, 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	11.1%	20,868	\$112.00	\$35.00	94%	19,616	1.5
Bollgard III	84.5%	158,860	\$112.00	\$35.00	10%	15,886	1.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	2.9%	5,452	\$112.00	\$35.00	10%	545	1.0
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	1.5%	2,820	\$112.00	\$35.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>188,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>19.2%</b>	<b>36,047</b>	<b>0.2</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	0.0%	0	\$26.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>188,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>19.2%</b>	<b>36,047</b>	<b>0.2</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>188,000</b>	<b>\$112.00</b>		<b>19.2%</b>	<b>36,047</b>	<b>0.2</b>

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2021.

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	282,000	100%	56,400	20%	1.1	\$31.46	2.5%	0.22	\$6.92	2.50%	33,590	\$13,866,823	\$49.17	16.4%
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	28,200	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	1,410	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	70,500	25%	42,300	15%	1.0	\$11.00	0.1%	0.15	\$1.65	0.03%	336	\$235,511	\$0.84	0.3%
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	16,920	6%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	282,000	100%	282,000	100%	5.0	\$20.00	5.7%	5.00	\$100.00	5.70%	76,586	\$55,366,586	\$196.34	65.5%
Cotton Fleahopper	183,300	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)	282,000	100%	5,640	2%	1.0	\$20.00	0.3%	0.02	\$0.40	0.30%	4,031	\$1,542,676	\$5.47	1.8%
Brown Stink Bug	282,000	100%	5,640	2%	1.0	\$20.00	0.3%	0.02	\$0.40	0.30%	4,031	\$1,542,676	\$5.47	1.8%
Clouded Plant Bug	169,200	60%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	2,820	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	169,200	60%	98,700	35%	1.3	\$20.00	1.5%	0.46	\$9.20	0.90%	12,093	\$5,846,269	\$20.73	6.9%
Thrips	282,000	100%	141,000	50%	1.1	\$13.00	0.5%	0.55	\$7.15	0.50%	6,718	\$4,399,309	\$15.60	5.2%
Aphids	282,000	100%	84,600	30%	1.0	\$20.00	0.0%	0.30	\$6.00	0.00%	0	\$1,692,000	\$6.00	2.0%
Grasshoppers	28,200	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	56,400	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%
<b>TOTAL</b>					6.72	\$131.72			10.23%		137,385	\$84,491,850	\$299.62	

## SUMMARY DATA

Data Input				Yield and Management Results				Economic Results		
State	Arkansas			Total Acres	282,000			Total	Per Acre	
Region	MidSouth			Total Bales Harvested	756,113			Foliar Insecticide Costs	\$37,145,378	\$131.72
Year	2021			Total Bales Lost to Insects	137,385			Seed Treatment Costs	\$3,525,000	\$12.50
Total Acres (Upland)	282,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	10.2%			In-Furrow Costs	\$507,600	\$1.80
Yield / Acre (Upland)	1,287	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,434			Scouting Costs	\$2,820,000	\$10.00
Price / lb.	\$0.74	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	6.72			Eradication Costs	\$846,000	\$3.00
yield potential (lb./acre)	2,287	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	587,495			Bt Cotton	\$9,870,000	\$35.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	43.7%			Total Costs	\$54,713,978	\$194.02
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	282,000			Yield Loss to Insects	\$48,733,207	\$172.81
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	282,000			Total Losses + Costs	\$103,447,185	\$366.83
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	282,000					
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	282,000					
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	33,840					
% acres with seed treatment	100%	% Loss to weather	19.5%	Applications by Air (acres)	225,600					
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	6.0%	Applications by Ground (acres)	282,000					
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	8.0%	No. acres with no foliar insecticide applications	0					

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2021, 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	11.1%	31,302	\$112.00	\$35.00	80%	25,042	1.5
Bollgard III	84.5%	238,290	\$112.00	\$35.00	6%	14,297	1.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	2.9%	8,178	\$112.00	\$35.00	7%	572	1.0
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	1.5%	4,230	\$112.00	\$35.00	6%	254	1.0
<b>Total Bt</b>	<b>100.0%</b>	<b>282,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>14.2%</b>	<b>40,165</b>	<b>0.2</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>282,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>14.2%</b>	<b>40,165</b>	<b>0.2</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>282,000</b>	<b>\$112.00</b>		<b>14.2%</b>	<b>40,165</b>	<b>0.2</b>

Table 6. Cotton insect loss estimates for Arkansas during 2021.

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	470,000	100%	92,120	19.6%	1.2	\$31.46	2.50%	0.23	\$7.28	2.50%	55,886	\$23,243,612	\$49.45	16.6%
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	48,880	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	3,290	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	117,500	25%	47,940	10.2%	1.0	\$11.00	0.06%	0.10	\$1.12	0.02%	335	\$250,778	\$0.53	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	26,320	6%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	470,000	100%	470,000	100.0%	5.2	\$20.00	5.74%	5.20	\$104.00	5.74%	128,314	\$94,395,582	\$200.84	67.3%
Cotton Fleahopper	305,500	65%	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)	470,000	100%	11,280	2.4%	1.0	\$20.00	0.30%	0.02	\$0.48	0.30%	6,706	\$2,604,463	\$5.54	1.9%
Brown Stink Bug	470,000	100%	11,280	2.4%	1.0	\$20.00	0.30%	0.02	\$0.48	0.30%	6,706	\$2,604,463	\$5.54	1.9%
Clouded Plant Bug	310,200	66%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	12,220	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	244,400	52%	136,300	29.0%	1.2	\$20.00	1.50%	0.34	\$6.84	0.78%	17,436	\$7,857,718	\$16.72	5.6%
Thrips	470,000	100%	197,400	42.0%	1.1	\$13.00	0.50%	0.45	\$5.79	0.50%	11,177	\$6,684,944	\$14.22	4.8%
Aphids	470,000	100%	131,600	28.0%	1.0	\$20.00	0.00%	0.28	\$5.60	0.00%	0	\$2,632,000	\$5.60	1.9%
Grasshoppers	47,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	94,000	20%	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%
<b>TOTAL</b>					6.65	\$131.59			10.14%		226,562	\$140,273,560	\$298.45	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Arkansas	Total Acres	470,000	Total		Per Acre	
Region	MidSouth	Total Bales Harvested	1,260,188	Foliar Insecticide Costs	\$61,847,144	\$131.59	
Year	2021	Total Bales Lost to Insects	226,562	Seed Treatment Costs	\$5,875,000	\$12.50	
Total Acres (Upland)	470,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	10.1%	In-Furrow Costs	\$846,000
Yield / Acre (Upland)	1,287	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,432	Scouting Costs	\$4,700,000
Price / lb.	\$0.74	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	6.65	Eradication Costs	\$1,410,000
yield potential (lb./acre)	2,283	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	975,609	Bt Cotton	\$16,450,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	43.6%	Total Costs	\$91,128,144
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	470,000	Yield Loss to Insects	\$80,365,927
% Acres Scouted	100%	No. apps by air	4.0	Boll Weevil Eradication (# acres)	470,000	Total Losses + Costs	\$171,494,072
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	470,000		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.0	Seed Treatments (arthropods) (# acres)	470,000		
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	56,400		
% acres with seed treatment	100%	% Loss to weather	19.5%	Applications by Air (acres)	376,000		
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	6.0%	Applications by Ground (acres)	470,000		
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	8.0%	No. acres with no foliar insecticide applications	0		

Table 6. Cotton insect loss estimates for Arkansas during 2021, 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	11.1%	52,170	\$112.00	\$35.00	86%	44,658	1.5
Bollgard III	84.5%	397,150	\$112.00	\$35.00	8%	30,183	1.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	2.9%	13,630	\$112.00	\$35.00	8%	1,118	1.0
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	1.5%	7,050	\$112.00	\$35.00	4%	254	0.6
<b>Total Bt</b>	<b>100.0%</b>	<b>470,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>16.2%</b>	<b>76,212</b>	<b>0.2</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	0.0%	0	\$10.40	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>470,000</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>16.2%</b>	<b>76,212</b>	<b>0.2</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>470,000</b>	<b>\$112.00</b>		<b>16.2%</b>	<b>76,212</b>	<b>0.2</b>

Table 7. Insect loss estimates for Arizona Thryvon cotton during 2021.

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	634	9%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Beet Armyworm	190	3%	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	381	6%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	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%
Lycus	6,195	92%	720	10.7%	1.0	\$26.67	3.12%	0.11	\$2.93	2.89%	746	\$340,443	\$50.75	92.2%
Cotton Fleahopper	6,138	91%	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)	2,648	39%	0	0.0%	0.0	\$0.00	0.02%	0.00	\$0.00	0.01%	2	\$864	\$0.13	0.2%
Brown Stink Bug	4,488	67%	0	0.0%	0.0	\$0.00	0.09%	0.00	\$0.00	0.06%	16	\$6,912	\$1.03	1.9%
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	409	6%	409	6.1%	1.0	\$22.50	0.08%	0.06	\$1.35	0.01%	1	\$984	\$0.15	0.3%
Thrips	6,280	94%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Aphids	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	1,127	17%	493	7.3%	1.0	\$10.00	0.00%	0.07	\$0.70	0.00%	0	\$789	\$0.12	0.2%
Banded Winged Whitefly	428	6%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	3,949	59%	856	12.8%	1.0	\$29.00	0.06%	0.13	\$3.77	0.04%	9	\$18,776	\$2.80	5.1%
Silverleaf Whitefly	634	9%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Colaspis beetles	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton stainers	634	9%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Crickets	634	9%	507	7.6%	1.0	\$10.00	0.00%	0.08	\$0.80	0.00%	0	\$507	\$0.08	0.1%
Darkling Beetles	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
False Chinch Bug	1,459	22%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Pale-Striped Flea Beetle	619	9%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Potato leafhopper	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips, Bean	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cockroaches	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Mealybugs	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips, Citrus	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%

Table 7. Insect loss estimates for Arizona Thryvon cotton during 2021, continued.

SUMMARY DATA								
Data Input				Yield and Management Results			Economic Results	
State	Arizona			Total Acres	6,709		Total	Per Acre
Region	West			Total Bales Harvested	20,304	Foliar Insecticide Costs	\$64,089	\$9.55
Year	2021			Total Bales Lost to Insects	774	Seed Treatment Costs	\$50,314	\$7.50
Total Acres (Upland)	6,709	In-furrow cost/treated acre	\$20.00	Percent Yield Loss	3.0%	In-Furrow Costs	\$2,474	\$0.37
Yield / Acre (Upland)	1,453	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,498	Scouting Costs	\$69,768	\$10.40
Price / lb.	\$0.90	Cost/acre Boll Weevil Eradication	\$3.37	Av. # Applications	0.45	Eradication Costs	\$47,768	\$7.12
yield potential (lb./acre)	1,850	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	5,550	Bt Cotton	\$234,798	\$35.00
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	\$3.75	Total % yield Loss	21.5%	Total Costs	\$469,211	\$69.94
Yield / Acre (Pima)	-	% Insect apps by air	71%	Transgenic Cotton (arthropods) (# acres)	6,709	Yield Loss to Insects	\$334,368	\$49.84
% Acres Scouted	100%	No. apps by air	0.95	Boll Weevil Eradication (# acres)	6,709	Total Losses + Costs	\$803,579	\$119.79
Fee / Scouted Acre	\$10.40	Cost/app by air	\$11.80	Pink Bollworm Eradication (# acres)	6,709			
No. times scouted/week	2	% insect apps by ground	17%	# Scouted Acres	6,709			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	6,709			
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$9.50	In-Furrow Applications (# acres)	124			
% acres with seed treatment	100%	% Loss to weather	12.0%	Applications by Air (acres)	4,785			
Seed trt. cost/ treated acre	\$7.50	% loss to non-arthropods	0.0%	Applications by Ground (acres)	1,154			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	6.5%	No. acres with no foliar insecticide applications	4,181			

Table 7. Insect loss estimates for Arizona Thryvon cotton during 2021, 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	-	-	-	-	-	-	-
Bollgard III	100.0%	6,709	-	\$35.00	0	0	0
WideStrike	-	-	-	-	-	-	-
WideStrike 3	-	-	-	-	-	-	-
TwinLink	-	-	-	-	-	-	-
TwinLink Plus	-	-	-	-	-	-	-
Total Bt	100.0%	6,709	\$0.00	\$35.00	0.0%	0	0.0

Table 8. Insect loss estimates for Arizona Bt cotton during 2021.

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	9,707	8.77%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.00%	13	\$5,616	\$0.05	0.0%
Beet Armyworm	3,726	3.37%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	3,043	2.75%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	4,107	3.71%	163	0.1%	0.3	\$25.00	0.12%	0.00	\$0.00	0.00%	17	\$7,344	\$0.07	0.1%
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	1,546	1.40%	163	0.1%	0.3	\$25.00	0.12%	0.00	\$0.00	0.00%	9	\$3,888	\$0.04	0.0%
Saltmarsh Caterpillar	2,337	2.11%	1,660	1.5%	1.3	\$22.00	0.12%	0.02	\$0.44	0.00%	9	\$4,916	\$0.04	0.0%
Lygus	109,645	99.04%	87,133	78.7%	1.6	\$26.26	4.07%	1.29	\$33.87	4.03%	17,202	\$11,145,326	\$100.68	76.9%
Cotton Fleahopper	42,167	38.09%	1,749	1.6%	0.3	\$31.50	0.29%	0.00	\$0.00	0.11%	465	\$200,880	\$1.81	1.4%
Stink Bugs (other than brown stink bug)	25,937	23.43%	0	0.0%	0.0	\$0.00	0.08%	0.00	\$0.00	0.02%	81	\$34,992	\$0.32	0.2%
Brown Stink Bug	63,670	57.51%	3,499	3.2%	1.0	\$34.00	0.33%	0.03	\$1.02	0.19%	819	\$418,751	\$3.78	2.9%
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	5,858	5.29%	3,433	3.1%	1.0	\$13.50	0.13%	0.03	\$0.41	0.01%	30	\$15,333	\$0.14	0.1%
Spider Mites	36,844	33.28%	11,083	10.0%	0.9	\$21.00	0.06%	0.09	\$1.89	0.02%	94	\$110,243	\$1.00	0.8%
Thrips	105,145	94.98%	13,587	12.3%	0.9	\$13.71	0.17%	0.11	\$1.51	0.16%	670	\$448,059	\$4.05	3.1%
Aphids	9,723	8.78%	3,043	2.7%	0.2	\$20.00	0.00%	0.01	\$0.20	0.00%	0	\$1,945	\$0.02	0.0%
Grasshoppers	19,282	17.42%	4,979	4.5%	0.8	\$11.50	0.13%	0.03	\$0.35	0.02%	94	\$47,260	\$0.43	0.3%
Banded Winged Whitefly	21,100	19.06%	732	0.7%	0.2	\$30.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	80,257	72.50%	33,308	30.1%	1.1	\$33.87	0.73%	0.34	\$11.51	0.53%	2,264	\$1,902,179	\$17.18	13.1%
Colaspis beetles	31,768	28.70%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton stainers	325	0.29%	325	0.3%	0.3	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Crickets	19,355	17.48%	4,068	3.7%	0.5	\$12.00	0.24%	0.02	\$0.24	0.04%	179	\$81,973	\$0.74	0.6%
Darkling Beetles	5,924	5.35%	868	0.78%	1.0	\$10.00	0.00%	0.01	\$0.10	0.00%	0	\$592	\$0.01	0.0%
False Chinch Bug	23,736	21.44%	325	0.3%	0.5	\$13.00	0.09%	0.00	\$0.00	0.02%	81	\$34,992	\$0.32	0.2%
Pale-Striped Flea Beetle	30,482	27.53%	325	0.3%	0.5	\$13.00	0.06%	0.00	\$0.00	0.02%	72	\$31,104	\$0.28	0.2%
Potato leafhopper	28,312	25.58%	3,092	2.8%	0.1	\$18.00	0.00%	0.00	\$0.00	0.00%	4	\$1,728	\$0.02	0.0%
Thrips, Bean	5,044	4.56%	0	0.00%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cockroaches	4,651	4.20%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Mealybugs	1,220	1.10%	1,220	1.1%	0.5	\$24.00	0.00%	0.01	\$0.24	0.00%	0	\$293	\$0.00	0.0%
Thrips, Citrus	3,629	3.28%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
White-marked flea hopper	1,953	1.76%	1,953	1.76%	0.2	\$18.00	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%
<b>TOTAL</b>								1.99	\$51.78	5.18%	22,103	\$14,497,414	\$130.96	



Table 8. Insect loss estimates for Arizona Bt cotton during 2021, continued.

SUMMARY DATA							
Data Input				Yield and Management Results		Economic Results	
State	Arizona			Total Acres	110,702	Total	Per Acre
Region	West			Total Bales Harvested	338,128	Foliar Insecticide Costs	\$5,731,804
Year	2021			Total Bales Lost to Insects	22,103	Seed Treatment Costs	\$1,623,067
Total Acres (Upland)	110,702	In-furrow cost/treated acre	\$16.23	Percent Yield Loss	5.2%	In-Furrow Costs	\$156,542
Yield / Acre (Upland)	1,466	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,546	Scouting Costs	\$1,920,681
Price / lb.	\$0.90	Cost/acre Boll Weevil Eradication	\$3.37	Av. # Applications	1.99	Eradiation Costs	\$788,198
yield potential (lb./acre)	1,849	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	88,259	Bt Cotton	\$5,223,124
Acres (Pima)	8,772	Cost/acre Pink Bollworm Eradication	\$3.75	Total % yield Loss	20.7%	Total Costs	\$15,443,416
Yield / Acre (Pima)	1,004	% Insect apps by air	56%	Transgenic Cotton (arthropods) (# acres)	110,702	Yield Loss to Insects	\$9,548,496
% Acres Scouted	100%	No. apps by air	2.0	Boll Weevil Eradication (# acres)	110,702	Total Losses + Costs	\$24,991,912
Fee / Scouted Acre	\$17.35	Cost/app by air	\$11.69	Pink Bollworm Eradication (# acres)	110,702		
No. times scouted/week	2.1	% insect apps by ground	44%	# Scouted Acres	110,702		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.4	Seed Treatments (arthropods) (# acres)	45,138		
Cost/treated acre (Bt) Cotton	\$47.18	Cost/app by ground	\$11.56	In-Furrow Applications (# acres)	9,646		
% acres with seed treatment	41%	% Loss to weather	11.0%	Applications by Air (acres)	61,569		
Seed trt. cost/ treated acre	\$35.96	% loss to non-arthropods	0.0%	Applications by Ground (acres)	48,823		
% acres with in-furrow	9%	% loss to other (chemical injury, weeds, diseases, etc.)	4.5%	No. acres with no foliar insecticide applications	22,394		

Table 8. Cotton insect loss estimates for Arizona Bt cotton during 2021, 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	46.8%	51,822	-	\$47.18	0%	0	0.0
Bollgard III	41.6%	46,057	-	\$47.18	0%	0	0.0
WideStrike	3.5%	3,857	-	\$47.18	0%	0	0.0
WideStrike 3	5.9%	6,569	-	\$47.18	0%	0	0.0
TwinLink	0.7%	814	-	\$47.18	0%	0	0.0
TwinLink Plus	1.4%	1,583	-	\$47.18	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>110,702</b>	<b>-</b>	<b>\$47.18</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
Herbicide Traits Only	0	0	-	-	0	0	0
Conventional	0	0	-	-	0	0	0
Organic	0	0	-	-	0	0	0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>110,702</b>	<b>-</b>		<b>-</b>	<b>-</b>	<b>-</b>
Non-Upland Cotton							
Pima	-	8,772	-	-	-	-	-
-Other	-	0	-	-	-	-	-
Organic	-	0	-	-	-	-	-
<b>Total (all Cotton)</b>	<b>-</b>	<b>119,474</b>	<b>-</b>				

Table 9. Insect loss estimates for Arizona during 2021.

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	10,342	9%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.00%	15	\$6,266	\$0.05	0.0%
Beet Armyworm	3,917	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	3,043	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	4,488	4%	163	0.1%	0.2	\$23.57	0.11%	0.00	\$0.01	0.00%	19	\$8,037	\$0.07	0.1%
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	1,546	1%	163	0.1%	0.2	\$23.57	0.12%	0.00	\$0.01	0.00%	7	\$3,024	\$0.03	0.0%
Saltmarsh Caterpillar	2,337	2%	1,660	1.4%	1.2	\$20.74	0.12%	0.02	\$0.35	0.00%	11	\$5,361	\$0.05	0.0%
Lygus	115,839	99%	87,853	74.8%	1.6	\$26.28	4.02%	1.20	\$31.58	3.97%	17,948	\$11,411,792	\$97.20	77.3%
Cotton Fleahopper	48,304	41%	1,749	1.5%	0.3	\$29.70	0.25%	0.00	\$0.11	0.10%	464	\$205,984	\$1.75	1.4%
Stink Bugs (other than brown stink bug)	28,585	24%	0	0.0%	0.0	\$0.00	0.07%	0.00	\$0.00	0.02%	82	\$35,366	\$0.30	0.2%
Brown Stink Bug	68,158	58%	3,499	3.0%	0.9	\$32.06	0.32%	0.03	\$0.90	0.18%	835	\$422,075	\$3.59	2.9%
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	5,858	5%	3,433	2.9%	0.9	\$12.73	0.13%	0.03	\$0.35	0.01%	29	\$14,385	\$0.12	0.1%
Spider Mites	37,253	32%	11,492	9.8%	0.9	\$21.09	0.06%	0.09	\$1.87	0.02%	93	\$109,793	\$0.94	0.7%
Thrips	111,426	95%	13,587	11.6%	0.8	\$12.93	0.16%	0.10	\$1.27	0.15%	671	\$431,397	\$3.67	2.9%
Aphids	9,723	8%	3,043	2.6%	0.2	\$18.86	0.00%	0.00	\$0.09	0.00%	0	\$896	\$0.01	0.0%
Grasshoppers	20,409	17%	5,472	4.7%	0.8	\$11.41	0.12%	0.04	\$0.41	0.02%	94	\$48,812	\$0.42	0.3%
Banded Winged Whitefly	21,529	18%	732	0.6%	0.2	\$28.29	0.00%	0.00	\$0.03	0.00%	0	\$716	\$0.01	0.0%
Silverleaf Whitefly	84,206	72%	34,164	29.1%	1.1	\$33.59	0.70%	0.33	\$11.08	0.50%	2,273	\$1,915,031	\$16.31	13.0%
Colaspis beetles	32,402	28%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton stainers	325	0%	325	0.3%	0.3	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Crickets	19,990	17%	4,068	3.5%	0.5	\$11.31	0.24%	0.02	\$0.18	0.04%	181	\$81,964	\$0.70	0.6%
Darkling Beetles	6,558	6%	1,375	1.2%	1.0	\$10.00	0.00%	0.01	\$0.12	0.00%	0	\$768	\$0.01	0.0%
False Chinch Bug	23,736	20%	325	0.3%	0.4	\$12.26	0.09%	0.00	\$0.01	0.02%	80	\$35,030	\$0.30	0.2%
Pale-Striped Flea Beetle	31,941	27%	325	0.3%	0.4	\$12.26	0.06%	0.00	\$0.01	0.02%	72	\$31,529	\$0.27	0.2%
Potato leafhopper	28,931	25%	3,092	2.6%	0.1	\$16.97	0.00%	0.00	\$0.04	0.00%	3	\$2,455	\$0.02	0.0%
Thrips, Bean	5,044	4%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$147	\$0.00	0.0%
Cockroaches	4,651	4%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Mealybugs	1,220	1%	1,220	1.0%	0.5	\$22.63	0.00%	0.00	\$0.11	0.00%	0	\$135	\$0.00	0.0%
Thrips, Citrus	3,629	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$106	\$0.00	0.0%
White-marked fleahopper	1,953	2%	1,953	1.7%	0.1	\$16.97	0.01%	0.00	\$0.04	0.00%	1	\$411	\$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%
<b>TOTAL</b>								1.88	\$48.58	5.06%	22,876	\$14,771,480	\$125.81	

Table 9. Insect loss estimates for Arizona during 2021, continued.

SUMMARY DATA								
Data Input				Yield and Management Results			Economic Results	
State	Arizona			Total Acres	117,411		Total	Per Acre
Region	West			Total Bales Harvested	358,432	Foliar Insecticide Costs	\$5,704,066	\$48.58
Year	2021			Total Bales Lost to Insects	22,876	Seed Treatment Costs	\$1,779,989	\$15.16
Total Acres (Upland)	117,411	In-furrow cost/treated acre	\$16.44	Percent Yield Loss	5.1%	In-Furrow Costs	\$160,655	\$1.37
Yield / Acre (Upland)	1,465	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,543	Scouting Costs	\$1,990,449	\$16.95
Price / lb.	\$0.90	Cost/acre Boll Weevil Eradication	\$3.37	Av. # Applications	1.9	Eradication Costs	\$835,963	\$7.12
yield potential (lb./acre)	1,849	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	93,809	Bt Cotton	\$5,502,917	\$46.87
Acres (Pima)	8,772	Cost/acre Pink Bollworm Eradication	\$3.75	Total % yield Loss	20.7%	Total Costs	\$15,974,038	\$136.05
Yield / Acre (Pima)	1,004	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	117,411	Yield Loss to Insects	\$9,882,533	\$84.17
% Acres Scouted	100%	No. apps by air	1.9	Boll Weevil Eradication (# acres)	117,411	Total Losses + Costs	\$25,856,571	\$220.22
Fee / Scouted Acre	\$16.95	Cost/app by air	\$11.70	Pink Bollworm Eradication (# acres)	117,411			
No. times scouted/week	2.0	% insect apps by ground	43%	# Scouted Acres	117,411			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.3	Seed Treatments (arthropods) (# acres)	51,846			
Cost/treated acre (Bt) Cotton	\$46.87	Cost/app by ground	\$11.44	In-Furrow Applications (# acres)	9,770			
% acres with seed treatment	44%	% Loss to weather	11.0%	Applications by Air (acres)	66,354			
Seed trt. cost/ treated acre	\$34.33	% loss to non-arthropods	0.0%	Applications by Ground (acres)	49,977			
% acres with in-furrow	8%	% loss to other (chemical injury, weeds, diseases, etc.)	4.6%	No. acres with no foliar insecticide applications	26,575			

Table 9. Cotton insect loss estimates for Arizona Bt cotton during 2021, 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	44.1%	51,822	\$0.00	\$47.18	0%	0	0.0
Bollgard III	44.9%	52,766	\$0.00	\$46.49	0%	0	0.0
WideStrike	3.3%	3,857	\$0.00	\$47.18	0%	0	0.0
WideStrike 3	5.6%	6,569	\$0.00	\$47.18	0%	0	0.0
TwinLink	0.7%	814	\$0.00	\$47.18	0%	0	0.0
TwinLink Plus	1.3%	1,583	\$0.00	\$47.18	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>117,411</b>	<b>\$0.00</b>	<b>\$46.87</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
Conventional	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
Organic	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>117,411</b>	<b>\$0.00</b>	<b>\$46.87</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
Non-Upland Cotton							
Pima	0.0%	8,772	\$0.00	-	0%	0	0.0
Other	0%	0	\$0.00	-	0%	0	0.0
Organic	0%	0	\$0.00	-	0%	0	0.0
<b>Total (all Cotton)</b>		<b>126,183</b>	<b>\$0.00</b>		<b>0.0%</b>	<b>0</b>	<b>0.0</b>

Table 10. Cotton insect loss estimates for Florida during 2021.

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	72,159	80%	0	0.0%	0.0	\$0.00	1.00%	0.00	\$0.00	0.80%	4,152	\$1,753,805	\$19.44	6.3%
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	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	36,080	40%	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	85,689	95%	81,179	90.0%	3.0	\$15.00	7.00%	2.70	\$40.50	6.65%	34,515	\$18,049,543	\$200.11	64.5%
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)	81,179	90%	76,669	85.0%	1.5	\$8.00	2.00%	1.27	\$10.16	1.80%	9,342	\$4,770,840	\$52.89	17.1%
Brown Stink Bug	45,100	50%	45,100	50.0%	1.0	\$8.50	1.00%	0.50	\$4.25	0.50%	2,595	\$1,287,801	\$14.28	4.6%
Clouded Plant Bug	27,060	30%	1,804	2.0%	1.0	\$10.00	0.00%	0.02	\$0.20	0.00%	0	\$5,412	\$0.06	0.0%
Leaf Footed Bugs	45,100	50%	9,020	10.0%	1.0	\$8.00	0.00%	0.10	\$0.80	0.00%	0	\$36,080	\$0.40	0.1%
Spider Mites	36,080	40%	54,119	60.0%	1.0	\$9.00	1.00%	0.60	\$5.40	0.40%	2,076	\$1,071,732	\$11.88	3.8%
Thrips	81,179	90%	72,159	80.0%	1.0	\$2.25	0.00%	0.80	\$1.80	0.00%	0	\$146,122	\$1.62	0.5%
Aphids	90,199	100%	81,179	90.0%	1.0	\$5.00	0.00%	0.90	\$4.50	0.00%	0	\$405,896	\$4.50	1.5%
Grasshoppers	18,040	20%	9,020	10.0%	1.0	\$6.00	1.00%	0.10	\$0.60	0.20%	1,038	\$449,275	\$4.98	1.6%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					6.99	\$68.21				10.35%	53,718	\$27,976,506	\$310.16	

## SUMMARY DATA

Data Input				Yield and Management Results				Economic Results		
State	Florida			Total Acres	90,199			Total		Per Acre
Region	Southeast			Total Bales Harvested	140,936	Foliar Insecticide Costs		\$6,152,474		\$68.21
Year	2021			Total Bales Lost to Insects	53,718	Seed Treatment Costs		\$1,298,866		\$14.40
Total Acres (Upland)	90,199	In-furrow cost/treated acre	\$27.00	Percent Yield Loss	10.4%	In-Furrow Costs		\$1,582,992		\$17.55
Yield / Acre (Upland)	750	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	837	Scouting Costs		\$405,896		\$4.50
Price / lb.	\$0.88	Cost/acre Boll Weevil Eradication	\$2.00	Av. # Applications	6.99	Eradication Costs		\$180,398		\$2.00
yield potential (lb./acre)	2,762	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	378,106	Bt Cotton		\$3,125,395		\$34.65
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	72.9%	Total Costs		\$12,746,021		\$141.31
Yield / Acre (Pima)	0	% Insect apps by air	5%	Transgenic Cotton (arthropods) (# acres)	90,199	Yield Loss to Insects		\$22,690,483		\$251.56
% Acres Scouted	50%	No. apps by air	1	Boll Weevil Eradication (# acres)	90,199	Total Losses + Costs		\$35,436,504		\$392.87
Fee / Scouted Acre	\$9.00	Cost/app by air	\$8.00	Pink Bollworm Eradication (# acres)	0					
No. times scouted/week	1	% insect apps by ground	95%	# Scouted Acres	45,100					
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	5	Seed Treatments (arthropods) (# acres)	72,159					
Cost/treated acre (Bt) Cotton	\$34.65	Cost/app by ground	\$4.00	In-Furrow Applications (# acres)	58,629					
% acres with seed treatment	80%	% Loss to weather	55.0%	Applications by Air (acres)	4,510					
Seed trt. cost/ treated acre	\$18.00	% loss to non-arthropods	5.0%	Applications by Ground (acres)	85,689					
% acres with in-furrow	65%	% loss to other (chemical injury, weeds, diseases, etc.)	2.5%	No. acres with no foliar insecticide applications	0					

Table 10. Cotton insect loss estimates for Florida during 2021, 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	75.0%	67,649	\$99.25	\$35.00	0%	0	0.0
Bollgard III	20.0%	18,040	\$98.31	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	4.0%	3,608	-	\$35.00	0%	0	0.0
TwinLink	1.0%	902	-	-	0%	0	0.0
TwinLink Plus	0.0%	0	\$0.00	\$0.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>90,199</b>	<b>\$94.10</b>	<b>\$34.65</b>	<b>0.0%</b>	<b>0</b>	<b>0.00</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>90,199</b>	<b>\$94.10</b>	<b>\$34.65</b>	<b>0.0%</b>	<b>0</b>	<b>0.00</b>
<b>Non-Upland Cotton</b>							
Pima	0.0%	0	\$0.00	-	0%	0	0
Other	0.0%	0	\$0.00	-	0%	0	0
Organic	0.0%	0	\$0.00	-	0%	0	0
<b>Total (all Cotton)</b>		<b>90,199</b>	<b>\$94.10</b>		<b>0.0%</b>	<b>0</b>	<b>0.00</b>

Table 11. Cotton insect loss estimates for Georgia during 2021.

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	696,000	60%	6,960	0.6%	1.0	\$8.00	0.10%	0.01	\$0.08	0.06%	2,638	\$1,195,296	\$1.03	1.7%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	11,600	1%	0	0.0%	0.0	\$0.00	0.01%	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	754,000	65%	394,400	34.0%	1.2	\$8.00	0.50%	0.41	\$3.28	0.33%	14,287	\$8,645,104	\$7.45	12.2%
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)	1,044,000	90%	928,000	80.0%	1.2	\$8.00	1.00%	0.96	\$7.68	0.90%	39,563	\$25,109,136	\$21.65	35.3%
Brown Stink Bug	1,044,000	90%	870,000	75.0%	1.0	\$9.00	1.00%	0.75	\$6.75	0.90%	39,563	\$24,138,216	\$20.81	34.0%
Clouded Plant Bug	406,000	35%	174,000	15.0%	1.0	\$8.00	0.50%	0.15	\$1.20	0.18%	7,693	\$3,810,576	\$3.28	5.4%
Leaf Footed Bugs	23,200	2%	0	0.0%	0.0	\$0.00	0.20%	0.00	\$0.00	0.00%	176	\$76,032	\$0.07	0.1%
Spider Mites	11,600	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	1,148,400	99%	301,600	26.0%	1.0	\$6.00	0.20%	0.26	\$1.56	0.20%	8,704	\$5,551,632	\$4.79	7.8%
Aphids	1,102,000	95%	81,200	7.0%	1.0	\$8.00	0.10%	0.07	\$0.56	0.10%	4,176	\$2,421,152	\$2.09	3.4%
Grasshoppers	11,600	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	11,600	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	81,200	7%	5,800	0.5%	1.1	\$15.00	0.10%	0.01	\$0.15	0.01%	308	\$145,236	\$0.13	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%
<b>TOTAL</b>					2.62				\$21.26	2.66%	117,108	\$71,092,380	\$61.29	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Georgia	Total Acres	1,160,000			Total	Per Acre
Region	Southeast	Total Bales Harvested	2,300,667			Foliar Insecticide Costs	\$24,661,600
Year	2021	Total Bales Lost to Insects	117,108			Seed Treatment Costs	\$6,264,000
Total Acres (Upland)	1,160,000	Percent Yield Loss	2.7%			In-Furrow Costs	\$3,480,000
Yield / Acre (Upland)	952	Yield w/o Insects (lb./acre)	978			Scouting Costs	\$6,496,000
Price / lb.	\$0.90	Av. # Applications	2.62			Eradication Costs	\$1,670,400
yield potential (lb./acre)	1,819	Total Bales lost (all factors)	2,095,270			Bt Cotton	\$17,400,000
Acres (Pima)	0	Total % yield Loss	47.7%			Total Costs	\$59,972,000
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	1,160,000			Yield Loss to Insects	\$50,590,656
% Acres Scouted	70%	Boll Weevil Eradication (# acres)	1,160,000			Total Losses + Costs	\$110,562,656
Fee / Scouted Acre	\$8.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1.1	# Scouted Acres	812,000				
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	1,044,000				
Cost/treated acre (Bt) Cotton	\$15.00	In-Furrow Applications (# acres)	232,000				
% acres with seed treatment	90%	Applications by Air (acres)	232,000				
Seed trt. cost/ treated acre	\$6.00	Applications by Ground (acres)	986,000				
% acres with in-furrow	20%	No. acres with no foliar insecticide applications	174,000				
		% loss to non-arthropods	5.0%				
		% loss to other (chemical injury, weeds, diseases, etc.)	10.0%				

Table 11. Cotton insect loss estimates for Georgia during 2021, 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	20.2%	234,320	\$85.00	\$15.00	2%	4,686	1.0
Bollgard III	73.0%	846,800	\$90.00	\$15.00	0%	0	0.0
WideStrike	0.2%	2,320	\$82.00	\$15.00	50%	1,160	1.0
WideStrike 3	3.5%	40,600	\$83.00	\$15.00	0%	0	0.0
TwinLink	0.1%	1,160	\$85.00	\$15.00	1%	12	1.0
TwinLink Plus	3.0%	34,800	\$90.00	\$15.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>1,160,000</b>	<b>\$88.72</b>	<b>\$15.00</b>	<b>0.5%</b>	<b>5,858</b>	<b>0.005</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>1,160,000</b>	<b>\$88.72</b>	<b>\$15.00</b>	<b>0.5%</b>	<b>5,858</b>	<b>0.005</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>1,160,000</b>	<b>\$88.72</b>		<b>0.5%</b>	<b>5,858</b>	<b>0.005</b>

Table 12. Cotton insect loss estimates for Louisiana during 2021.

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	110,000	100%	49,500	45.0%	0.7	\$22.00	2.50%	0.32	\$7.04	2.50%	11,006	\$6,321,424	\$57.47	25.1%
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	1,100	1%	550	0.5%	1.0	\$7.00	0.00%	0.01	\$0.07	0.00%	0	\$77	\$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	110,000	100%	110,000	100.0%	4.0	\$14.00	4.00%	4.00	\$56.00	4.00%	17,609	\$15,034,936	\$136.68	59.7%
Cotton Fleahopper	11,000	10%	5,500	5.0%	1.0	\$8.00	0.00%	0.05	\$0.40	0.00%	0	\$4,400	\$0.04	0.0%
Stink Bugs (other than brown stink bug)	5,500	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Brown Stink Bug	5,500	5%	5,500	5.0%	1.0	\$12.00	0.00%	0.05	\$0.60	0.00%	0	\$3,300	\$0.03	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	33,000	30%	16,500	15.0%	1.0	\$15.00	0.50%	0.15	\$2.25	0.15%	660	\$406,890	\$3.70	1.6%
Thrips	110,000	100%	110,000	100.0%	1.0	\$7.25	1.00%	1.00	\$7.25	1.00%	4,402	\$3,016,108	\$27.42	12.0%
Aphids	110,000	100%	16,500	15.0%	1.0	\$11.50	0.10%	0.15	\$1.73	0.10%	440	\$411,510	\$3.74	1.6%
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%
<b>TOTAL</b>					5.73	\$75.34			7.75%		34,117	\$25,198,645	\$229.08	

## SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Louisiana			Total Acres	110,000	Total	Per Acre	
Region	Midsouth			Total Bales Harvested	252,083	Foliar Insecticide Costs	\$8,286,850	\$75.34
Year	2021			Total Bales Lost to Insects	34,117	Seed Treatment Costs	\$1,089,000	\$9.90
Total Acres (Upland)	110,000	In-furrow cost/treated acre	\$7.50	Percent Yield Loss	7.8%	In-Furrow Costs	\$8,250	\$0.08
Yield / Acre (Upland)	1,100	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,192	Scouting Costs	\$1,100,000	\$10.00
Price / lb.	\$1.05	Cost/acre Boll Weevil Eradication	\$5.00	Av. # Applications	5.73	Eradication Costs	\$550,000	\$5.00
yield potential (lb./acre)	1,921	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	188,198	Bt Cotton	\$2,083,400	\$18.94
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	42.8%	Total Costs	\$13,117,500	\$119.25
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	110,000	Yield Loss to Insects	\$17,194,968	\$156.32
% Acres Scouted	100%	No. apps by air	3.5	Boll Weevil Eradication (# acres)	110,000	Total Losses + Costs	\$30,312,468	\$275.57
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	80%	# Scouted Acres	110,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	108,900			
Cost/treated acre (Bt) Cotton	\$18.94	Cost/app by ground	\$6.00	In-Furrow Applications (# acres)	1,100			
% acres with seed treatment	99%	% Loss to weather	20.0%	Applications by Air (acres)	88,000			
Seed trt. cost/ treated acre	\$10.00	% loss to non-arthropods	5.0%	Applications by Ground (acres)	88,000			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	0			



Table 12. Cotton insect loss estimates for Louisiana during 2021, 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%	60,500	\$85.00	\$16.00	80%	48,400	1.5
Bollgard III	33.5%	36,850	\$91.00	\$23.00	2%	737	1.0
WideStrike	0.0%	0	\$70.00	\$0.00	0%	0	0.0
WideStrike 3	10.5%	11,550	\$91.00	\$21.00	2%	231	1.0
TwinLink	0.0%	0	\$77.00	\$0.00	0%	0	0.0
TwinLink Plus	1.0%	1,100	\$84.00	\$23.00	2%	22	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>110,000</b>	<b>\$87.63</b>	<b>\$18.94</b>	<b>44.9%</b>	<b>49,390</b>	<b>0.7</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>110,000</b>	<b>\$87.63</b>	<b>\$18.94</b>	<b>44.9%</b>	<b>49,390</b>	<b>0.7</b>
<b>Non-Upland Cotton</b>							
Pima	0.0%	0	\$0.00	-	0%	0	0
Other	0.0%	0	\$0.00	-	0%	0	0
Organic	0.0%	0	\$0.00	-	0%	0	0
<b>Total (all Cotton)</b>		<b>110,000</b>	<b>\$87.63</b>		<b>44.9%</b>	<b>49,390</b>	<b>0.7</b>

Table 13. Cotton insect loss estimates for the Hills region of Mississippi during 2021.

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%
<b>TOTAL</b>					<b>4.47</b>				<b>\$53.11</b>	<b>9.51%</b>	<b>67,428</b>	<b>\$27,816,184</b>	<b>\$139.08</b>	

## 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	2021			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 13. Cotton insect loss estimates for the Hills region of Mississippi during 2021, 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%	36,000	\$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
<b>Total Bt</b>	<b>100%</b>	<b>200,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>59.9%</b>	<b>119,700</b>	<b>0.7</b>
Herbicide Traits Only	0.00%	0	\$0.00	-	0%	0	0.0
Conventional	0.00%	0	\$0.00	-	0%	0	0.0
Organic	0.00%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>200,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>59.9%</b>	<b>119,700</b>	<b>0.7</b>
<b>Non-Upland Cotton</b>							
Pima	0.0%	0	\$0.00	-	0%	0	0
Other	0.0%	0	\$0.00	-	0%	0	0
Organic	0.0%	0	\$0.00	-	0%	0	0
<b>Total (all Cotton)</b>		<b>200,000</b>	<b>\$140.00</b>		<b>59.9%</b>	<b>119,700</b>	<b>0.7</b>

Table 14. Cotton insect loss estimates for the Delta region of Mississippi during 2021.

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	24.1%
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	44.2%
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	1.4%
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	14.3%
Thrips	325,000	100%	130,000	40.0%	1.0	\$9.00	1.00%	0.40	\$3.60	1.00%	13,135	\$4,952,880	\$15.24	7.5%
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%
<b>TOTAL</b>					7.18	\$88.02				10.56%	138,752	\$66,235,121	\$203.80	

## 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	\$28,604,875	\$88.02	
Year	2021	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
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,398	Scouting Costs	\$2,574,000
Price / lb.	\$0.60	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	7.18	Eradication Costs	\$1,300,000
yield potential (lb./acre)	1,940	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	467,135	Bt Cotton	\$10,400,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	35.6%	Total Costs	\$46,005,375
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	325,000	Yield Loss to Insects	\$39,960,576
% Acres Scouted	99%	No. apps by air	6	Boll Weevil Eradication (# acres)	325,000	Total Losses + Costs	\$85,965,951
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 14. Cotton insect loss estimates for the Delta region of Mississippi during 2021, 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
<b>Total Bt</b>	<b>100.0%</b>	<b>325,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>67.1%</b>	<b>218,140</b>	<b>1.0</b>
Herbicide Traits Only	0.00%	0	\$0.00	-	0%	0	0.0
Conventional	0.00%	0	\$0.00	-	0%	0	0.0
Organic	0.00%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>325,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>67.1%</b>	<b>218,140</b>	<b>1.0</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>325,000</b>	<b>\$140.00</b>		<b>67.1%</b>	<b>218,140</b>	<b>1.0</b>

Table 15. Cotton insect loss estimates for Mississippi during 2021.

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	44.6%
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	14.2%
Thrips	525,000	100%	190,000	36.2%	1.0	\$9.00	1.00%	0.36	\$3.26	1.00%	20,169	\$7,518,600	\$14.32	8.1%
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					6.05	\$73.49	10.16%				204,927	\$92,735,317	\$176.64	
<b>TOTAL</b>														

**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		\$38,581,280	\$73.49
Year	2021	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
Yield / Acre (Upland)	1,231	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,370	Scouting Costs	\$3,944,762
Price / lb.	\$0.60	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	6.0	Eradication Costs	\$2,100,000
yield potential (lb./acre)	1,844	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	676,396	Bt Cotton	\$16,800,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	33.3%	Total Costs	\$66,470,542
Yield / Acre (Pima)	0	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	525,000	Yield Loss to Insects	\$59,018,834
% Acres Scouted	99%	No. apps by air	4.1	Boll Weevil Eradication (# acres)	525,000	Total Losses + Costs	\$125,489,375
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 15. Cotton insect loss estimates for Mississippi during 2021, 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
<b>Total Bt</b>	<b>100.0%</b>	<b>525,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>64.3%</b>	<b>337,716</b>	<b>0.9</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>525,000</b>	<b>\$140.00</b>	<b>\$32.00</b>	<b>64.3%</b>	<b>337,716</b>	<b>0.9</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>525,000</b>	<b>\$140.00</b>		<b>64.3%</b>	<b>337,716</b>	<b>0.9</b>

Table 16. Cotton insect loss estimates for upland cotton in New Mexico during 2021.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	15,806	23%	8,727	12.7%	1.0	\$10.87	1.50%	0.13	\$1.41	0.35%	506	\$287,074	\$4.18	8.8%
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	2,749	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	39,170	57%	3,436	5.0%	1.0	\$12.84	0.80%	0.05	\$0.64	0.46%	669	\$375,168	\$5.46	11.5%
Cotton Fleahopper	16,493	24%	2,405	3.5%	1.0	\$10.85	1.00%	0.03	\$0.33	0.24%	352	\$189,535	\$2.76	5.8%
Stink Bugs (other than brown stink bug)	6,185	9%	550	0.8%	1.0	\$9.93	1.00%	0.01	\$0.10	0.09%	132	\$69,677	\$1.01	2.1%
Brown Stink Bug	687	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	2,062	3%	0	0.0%	0.0	\$0.00	2.00%	0.00	\$0.00	0.06%	88	\$46,042	\$0.67	1.4%
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	61,848	90%	54,289	79.0%	1.1	\$10.52	2.50%	0.87	\$9.15	2.25%	3,302	\$2,293,664	\$33.38	70.3%
Aphids	1,374	2%	687	1.0%	1.0	\$10.57	0.00%	0.01	\$0.11	0.00%	0	\$145	\$0.00	0.0%
Grasshoppers	1,718	3%	344	0.5%	0.0	\$10.74	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	1,374	2%	825	1.2%	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%
<b>TOTAL</b>					1.10				\$11.74	3.44%	5,049	\$3,261,305	\$47.46	

## SUMMARY DATA

Data Input				Yield and Management Results			Economic Results		
State	New Mexico			Total Acres	68,720		Total	Per Acre	
Region	West			Total Bales Harvested	130,568	Foliar Insecticide Costs	\$806,635	\$11.74	
Year	2021			Total Bales Lost to Insects	5,049	Seed Treatment Costs	\$452,906	\$6.59	
Total Acres (Upland)	68,720	In-furrow cost/treated acre	\$2.03	Percent Yield Loss	3.4%	In-Furrow Costs	\$8,370	\$0.12	
Yield / Acre (Upland)	912	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	945	Scouting Costs	\$366,910	\$5.34	
Price / lb.	\$1.09	Cost/acre Boll Weevil Eradication	\$5.95	Av. # Applications	1.1	Eradication Costs	\$408,884	\$5.95	
yield potential (lb./acre)	1,025	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	16,202	Bt Cotton	\$846,767	\$12.32	
Acres (Pima)	4,948	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	11.0%	Total Costs	\$2,890,472	\$42.06	
Yield / Acre (Pima)	892	% Insect apps by air	21%	Transgenic Cotton (arthropods) (# acres)	55,663	Yield Loss to Insects	\$2,641,637	\$38.44	
% Acres Scouted	71%	No. apps by air	0	Boll Weevil Eradication (# acres)	68,720	Total Losses + Costs	\$5,532,109	\$80.50	
Fee / Scouted Acre	\$7.52	Cost/app by air	\$21.50	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1	% insect apps by ground	3%	# Scouted Acres	48,791				
% acres Transgenic (Bt) Cotton	81%	No. apps by ground	0	Seed Treatments (arthropods) (# acres)	42,606				
Cost/treated acre (Bt) Cotton	\$15.21	Cost/app by ground	\$6.20	In-Furrow Applications (# acres)	4,123				
% acres with seed treatment	62%	% Loss to weather	4.0%	Applications by Air (acres)	14,431				
Seed trt. cost/ treated acre	\$10.63	% loss to non-arthropods	2.0%	Applications by Ground (acres)	2,062				
% acres with in-furrow	6%	% loss to other (chemical injury, weeds, diseases, etc.)	1.6%	No. acres with no foliar insecticide applications	47,417				



Table 16. Cotton insect loss estimates for upland cotton New Mexico during 2021, 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	8.0%	5,498	\$40.25	\$14.24	2%	82	1.0
Bollgard III	36.0%	24,739	\$42.10	\$16.22	0%	0	0.0
WideStrike	4.0%	2,749	\$35.03	\$12.11	2%	49	1.0
WideStrike 3	28.0%	19,242	\$37.24	\$14.21	0%	0	0.0
TwinLink	2.0%	1,374	\$45.25	\$16.51	3%	41	1.0
TwinLink Plus	3.0%	2,062	\$48.77	\$18.34	0%	0	0.0
<b>Total Bt</b>	<b>81.0%</b>	<b>55,664</b>	<b>\$40.21</b>	<b>\$15.21</b>	<b>0.3%</b>	<b>173</b>	<b>0.003</b>
Herbicide Traits Only	11.0%	7,559	\$26.44	-	31%	2,343	1.0
Conventional	7.0%	4,810	\$12.22	-	21%	1,010	1.0
Organic	1.0%	687	\$12.22	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>68,720</b>	<b>\$36.46</b>	<b>\$15.21</b>	<b>5.1%</b>	<b>3,526</b>	<b>0.051</b>
<b>Non-Upland Cotton</b>							
Pima	7.2%	4,948	\$38.47	-	28%	1,385	1.0
Other	0.0%	0	\$0.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
<b>Total (all Cotton)</b>		<b>73,668</b>	<b>\$36.59</b>		<b>6.7%</b>	<b>4,911</b>	<b>0.067</b>

Table 17. Cotton insect loss estimates for pima cotton in New Mexico during 2021.

Pest	Acres Infested	% Acres Infested	Acres Treated	% Acres Treated	# of apps /acres treated	Cost of 1 application	% loss /acre infested	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest	Loss + cost	Loss + cost/acre	% Total Loss+Cost
Bollworm/Budworm	3,365	68%	1,336	27.0%	1.0	\$10.87	1.00%	0.27	\$2.93	0.68%	64	\$44,896	\$9.07	26.4%
Beet Armyworm	99	2%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$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	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	1,682	34%	247	5.0%	1.0	\$12.84	0.80%	0.05	\$0.64	0.27%	25	\$14,760	\$2.98	8.7%
Cotton Fleahopper	891	18%	49	1.0%	1.0	\$10.85	1.00%	0.01	\$0.11	0.18%	17	\$9,399	\$1.90	5.5%
Stink Bugs (other than brown stink bug)	346	7%	40	0.8%	1.0	\$9.93	1.00%	0.01	\$0.10	0.07%	7	\$3,865	\$0.78	2.3%
Brown Stink Bug	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$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	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	148	3%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	4,651	94%	4,453	90.0%	1.0	\$10.52	1.10%	0.9	\$9.47	1.03%	97	\$97,115	\$19.63	57.1%
Aphids	99	2%	49	1.0%	1.0	\$10.57	0.00%	0.01	\$0.11	0.00%	0	\$10	\$0.00	0.0%
Grasshoppers	99	2%	0	0.0%	0.0	\$10.74	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	99	2%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	\$0.00	0.00%	0	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>					1.25				\$13.36	2.23%	210	\$170,045	\$34.37	

## SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	New Mexico	Total Acres	4,948		Total	Per Acre	
Region	West	Total Bales Harvested	8,989	Foliar Insecticide Costs	\$66,097	\$13.36	
Year	2021	Total Bales Lost to Insects	210	Seed Treatment Costs	\$47,863	\$9.67	
Total Acres (Pima)	4,948	Percent Yield Loss	2.2%	In-Furrow Costs	\$904	\$0.18	
Yield / Acre (Pima)	872	Yield w/o Insects (lb./acre)	892	Scouting Costs	\$33,488	\$6.77	
Price / lb.	\$1.14	Av. # Applications	1.25	Eradication Costs	\$29,441	\$5.95	
yield potential (lb./acre)	911	Total Bales lost (all factors)	1,149	Bt Cotton	\$0	\$0.00	
% Acres Scouted	90%	Total % yield Loss	12.2%	Total Costs	\$177,793	\$35.93	
Fee / Scouted Acre	\$7.52	Transgenic Cotton (arthropods) (# acres)	0	Yield Loss to Insects	\$114,912	\$23.22	
No. times scouted/week	1	Boll Weevil Eradication (# acres)	4,948	Total Losses + Costs	\$292,705	\$59.16	
% acres Transgenic (Bt) Cotton	0%	Pink Bollworm Eradication (# acres)	0				
Cost/treated acre (Bt) Cotton	\$0.00	# Scouted Acres	4,453				
% acres with seed treatment	91%	Seed Treatments (arthropods) (# acres)	4,503				
Seed trt. cost/ treated acre	\$10.63	In-Furrow Applications (# acres)	445				
% acres with in-furrow	9%	Applications by Air (acres)	1,385				
		Applications by Ground (acres)	247				
		No. acres with no foliar insecticide applications	0				
		% loss to weather	5.0%				
		% loss to non-arthropods	3.0%				
		% loss to other (chemical injury, weeds, diseases, etc.)	2.0%				

Table 18. Cotton insect loss estimates for North Carolina during 2021.

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	105,000	30%	17,500	5.0%	1.0	\$22.00	3.00%	0.05	\$1.10	0.90%	7,508	\$3,467,071	\$9.91	12.7%
Beet Armyworm	7,000	2%	0	0.0%	0.0	\$0.00	0.05%	0.00	\$0.00	0.00%	8	\$3,571	\$0.01	0.0%
Fall Armyworm	3,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	3,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	3,500	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	3,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	297,500	85%	227,500	65.0%	2.1	\$17.00	0.20%	1.37	\$23.29	0.17%	1,418	\$7,561,770	\$21.61	27.7%
Cotton Fleahopper	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	171,500	49%	42,000	12.0%	2.0	\$12.00	1.90%	0.24	\$2.88	0.93%	7,766	\$3,960,662	\$11.32	14.5%
Brown Stink Bug	178,500	51%	42,000	12.0%	2.0	\$12.00	1.90%	0.24	\$2.88	0.97%	8,083	\$4,122,331	\$11.78	15.1%
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	3,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	350,000	100%	7,000	2.0%	1.0	\$18.00	0.00%	0.02	\$0.36	0.00%	0	\$126,000	\$0.36	0.5%
Thrips	350,000	100%	248,500	71.0%	1.0	\$15.00	0.04%	0.71	\$10.65	0.04%	334	\$3,876,598	\$11.08	14.2%
Aphids	350,000	100%	24,500	7.0%	1.0	\$16.00	1.00%	0.07	\$1.12	1.00%	8,342	\$4,115,869	\$11.76	15.1%
Grasshoppers	17,500	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%
Garden Fleahopper	70,000	20%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.01%	67	\$29,909	\$0.09	0.1%
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%
<b>TOTAL</b>					2.70				\$42.28	4.02%	33,526	\$27,263,781	\$77.90	

## SUMMARY DATA

Data Input				Yield and Management Results			Economic Results		
State	North Carolina			Total Acres	350,000			Total	Per Acre
Region	Southeast			Total Bales Harvested	750,313	Foliar Insecticide Costs		\$14,798,000	\$42.28
Year	2021			Total Bales Lost to Insects	33,526	Seed Treatment Costs		\$4,458,300	\$12.74
Total Acres (Upland)	350,000	In-furrow cost/treated acre	\$13.00	Percent Yield Loss	4.0%	In-Furrow Costs		\$3,913,000	\$11.18
Yield / Acre (Upland)	1,029	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,072	Scouting Costs		\$1,680,000	\$4.80
Price / lb.	\$0.93	Cost/acre Boll Weevil Eradication	\$0.75	Av. # Applications	2.7	Eradication Costs		\$262,500	\$0.75
yield potential (lb./acre)	1,144	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	83,575	Bt Cotton		\$11,690,000	\$33.40
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	10.0%	Total Costs		\$36,801,800	\$105.15
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	343,000	Yield Loss to Insects		\$14,966,006	\$42.76
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	350,000	Total Losses + Costs		\$51,767,806	\$147.91
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	210,000				
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	270,200				
Cost/treated acre (Bt) Cotton	\$34.08	Cost/app by ground	\$8.00	In-Furrow Applications (# acres)	301,000				
% acres with seed treatment	77%	% Loss to weather	4.0%	Applications by Air (acres)	70,000				
Seed trt. cost/ treated acre	\$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	280,000				
% acres with in-furrow	86%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	7,000				

Table 18. Cotton insect loss estimates for North Carolina during 2021, 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	18.0%	63,000	\$90.00	\$30.00	23%	14,490	1.0
Bollgard III	45.0%	157,500	\$100.00	\$35.00	1%	1,575	1.0
WideStrike	0.0%	0	\$85.00	\$30.00	0%	0	0.0
WideStrike 3	28.0%	98,000	\$100.00	\$35.00	1%	980	1.0
TwinLink	0.0%	0	\$90.00	\$30.00	0%	0	0.0
TwinLink Plus	7.0%	24,500	\$100.00	\$35.00	1%	245	1.0
<b>Total Bt</b>	<b>98.0%</b>	<b>343,000</b>	<b>\$98.16</b>	<b>\$34.08</b>	<b>5.0%</b>	<b>17,290</b>	<b>0.1</b>
Herbicide Traits Only	0.0%	0	\$80.00	-	0%	0	0.0
Conventional	1.0%	3,500	\$25.00	-	10%	350	2.0
Organic	1.0%	3,500	\$25.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>350,000</b>	<b>\$96.70</b>	<b>\$34.08</b>	<b>5.0%</b>	<b>17,640</b>	<b>0.1</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>350,000</b>	<b>\$96.70</b>		<b>5.0%</b>	<b>17,640</b>	<b>0.1</b>

Table 19. Cotton insect loss estimates for Oklahoma during 2021.

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	27,271	5%	16,363	3.0%	1.0	\$20.00	10.00%	0.03	\$0.60	0.50%	4,403	\$2,235,475	\$4.10	17.6%
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	38,179	7%	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	27,271	5%	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	409,066	75%	463,608	85.0%	1.5	\$12.00	1.00%	1.28	\$15.36	0.75%	6,605	\$9,612,170	\$17.62	75.6%
Stink Bugs (other than brown stink bug)	81,813	15%	54,542	10.0%	1.0	\$9.00	0.05%	0.10	\$0.90	0.01%	70	\$108,912	\$0.20	0.9%
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	5,454	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	5,454	1%	2,727	0.5%	1.0	\$12.50	0.01%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	218,168	40%	136,355	25.0%	1.0	\$5.00	0.01%	0.25	\$1.25	0.00%	35	\$290,351	\$0.53	2.3%
Aphids	54,542	10%	54,542	10.0%	1.0	\$15.00	0.01%	0.10	\$1.50	0.00%	9	\$86,349	\$0.16	0.7%
Grasshoppers	190,897	35%	10,908	2.0%	1.0	\$18.00	0.20%	0.02	\$0.36	0.07%	616	\$379,187	\$0.70	3.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.02%	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%
<b>TOTAL</b>					1.78	\$19.97			1.33%		11,738	\$12,712,444	\$23.31	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Oklahoma	Total Acres				Total	Per Acre
Region	Central	Total Bales Harvested	545,421	Foliar Insecticide Costs		\$10,892,057	\$19.97
Year	2021	Total Bales Lost to Insects	909,035	Seed Treatment Costs		\$818,132	\$1.50
Total Acres (Upland)	545,421	In-furrow cost/treated acre	\$6.00	Percent Yield Loss	11,738	In-Furrow Costs	\$0
Yield / Acre (Upland)	800	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1.3%	Scouting Costs	\$2,045,329
Price / lb.	\$1.05	Cost/acre Boll Weevil Eradication	\$2.50	Av. # Applications	811	Eradication Costs	\$1,363,553
yield potential (lb./acre)	775	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1.78	Bt Cotton	\$9,957,839
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	368,393	Total Costs	\$25,076,910
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	41.8%	Yield Loss to Insects	\$5,915,952
% Acres Scouted	50%	No. apps by air	1	Boll Weevil Eradication (# acres)	544,330	Total Losses + Costs	\$30,992,862
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	272,711		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	81,813		
Cost/treated acre (Bt) Cotton	\$18.29	Cost/app by ground	\$8.50	In-Furrow Applications (# acres)	0		
% acres with seed treatment	15%	% Loss to weather	35.0%	Applications by Air (acres)	81,813		
Seed trt. cost/ treated acre	\$10.00	% loss to non-arthropods	1.0%	Applications by Ground (acres)	463,608		
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	4.5%	No. acres with no foliar insecticide applications	190,897		

Table 19. Cotton insect loss estimates for Oklahoma during 2021, 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%	163,626	\$68.00	\$18.00	3%	4,909	1.0
Bollgard III	44.6%	243,258	\$68.42	\$18.42	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	25.2%	137,446	\$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
<b>Total Bt</b>	<b>99.8%</b>	<b>544,330</b>	<b>\$67.18</b>	<b>\$18.29</b>	<b>0.9%</b>	<b>4,909</b>	<b>0.009</b>
Herbicide Traits Only	0.20%	1,091	\$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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>545,421</b>	<b>\$67.15</b>	<b>\$18.29</b>	<b>0.9%</b>	<b>4,909</b>	<b>0.0</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>545,421</b>	<b>\$67.15</b>		<b>0.9%</b>	<b>4,909</b>	<b>0.0</b>

Table 20. Cotton insect loss estimates for South Carolina during 2021.

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	205,000	100%	102,500	50.0%	1.0	\$15.00	1.25%	0.50	\$7.50	1.25%	7,415	\$5,310,252	\$25.90	22.8%
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	51,250	25%	2,050	1.0%	1.0	\$8.00	0.01%	0.01	\$0.08	0.00%	18	\$13,258	\$0.06	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	205,000	100%	30,750	15.0%	1.0	\$10.00	0.25%	0.15	\$1.50	0.25%	1,483	\$1,062,050	\$5.18	4.6%
Cotton Fleahopper	153,750	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)	205,000	100%	194,750	95.0%	2.0	\$10.00	2.50%	1.90	\$19.00	2.50%	14,830	\$11,440,504	\$55.81	49.2%
Brown Stink Bug	205,000	100%	102,500	50.0%	1.0	\$10.00	0.25%	0.50	\$5.00	0.25%	1,483	\$1,779,550	\$8.68	7.7%
Clouded Plant Bug	41,000	20%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	205,000	100%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	205,000	100%	20,500	10.0%	1.0	\$15.00	0.10%	0.10	\$1.50	0.10%	593	\$609,218	\$2.97	2.6%
Thrips	205,000	100%	123,000	60.0%	1.0	\$8.00	0.50%	0.60	\$4.80	0.50%	2,966	\$2,493,101	\$12.16	10.7%
Aphids	205,000	100%	41,000	20.0%	1.0	\$10.00	0.00%	0.20	\$2.00	0.00%	0	\$410,000	\$2.00	1.8%
Grasshoppers	205,000	100%	10,250	5.0%	1.0	\$10.00	0.01%	0.05	\$0.50	0.01%	59	\$132,519	\$0.65	0.6%
Banded Winged Whitefly	102,500	50%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	102,500	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%
<b>TOTAL</b>					4.01	\$41.88	4.86%				28,847	\$23,250,452	\$113.42	

## SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
State	South Carolina	Total Acres	205,000			Total	Per Acre
Region	Southeast	Total Bales Harvested	410,000	Foliar Insecticide Costs		\$8,585,400	\$41.88
Year	2021	Total Bales Lost to Insects	28,847	Seed Treatment Costs		\$2,398,500	\$11.70
Total Acres (Upland)	205,000	Percent Yield Loss	4.9%	In-Furrow Costs		\$369,000	\$1.80
Yield / Acre (Upland)	960	Yield w/o Insects (lb./acre)	1,009	Scouting Costs		\$1,076,250	\$5.25
Price / lb.	\$1.06	Av. # Applications	4.01	Eradication Costs		\$256,250	\$1.25
yield potential (lb./acre)	1,389	Total Bales lost (all factors)	183,085	Bt Cotton		\$5,861,975	\$28.60
Acres (Pima)	0	Total % yield Loss	30.9%	Total Costs		\$18,547,375	\$90.48
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	205,000	Yield Loss to Insects		\$14,677,354	\$71.60
% Acres Scouted	75%	Boll Weevil Eradication (# acres)	205,000	Total Losses + Costs		\$33,224,729	\$162.07
Fee / Scouted Acre	\$7.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1	# Scouted Acres	153,750				
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	184,500				
Cost/treated acre (Bt) Cotton	\$28.60	In-Furrow Applications (# acres)	20,500				
% acres with seed treatment	90%	Applications by Air (acres)	10,250				
Seed trt. cost/ treated acre	\$13.00	Applications by Ground (acres)	194,750				
% acres with in-furrow	10%	No. acres with no foliar insecticide applications	513				

Table 20. Cotton insect loss estimates for South Carolina during 2021, 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%	102,500	\$108.00	\$30.00	50%	51,250	1.0
Bollgard III	42.4%	86,920	\$106.00	\$30.00	1%	869	1.0
WideStrike	0.0%	0	\$92.00	\$10.00	0%	0	0.0
WideStrike 3	7.0%	14,350	\$105.00	\$10.00	1%	144	1.0
TwinLink	0.1%	205	\$99.00	\$25.00	50%	103	1.0
TwinLink Plus	0.5%	1,025	\$102.00	\$30.00	1%	10	1.0
<b>Total Bt</b>	<b>100.0%</b>	<b>205,000</b>	<b>\$106.90</b>	<b>\$28.60</b>	<b>25.5%</b>	<b>52,375</b>	<b>0.3</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>205,000</b>	<b>\$106.90</b>	<b>\$28.60</b>	<b>25.5%</b>	<b>52,375</b>	<b>0.3</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>205,000</b>	<b>\$106.90</b>		<b>25.5%</b>	<b>52,375</b>	<b>0.3</b>



Table 21. Cotton insect loss estimates for Tennessee during 2021.

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	105,300	39%	108,000	40.0%	1.1	\$20.00	1.10%	0.44	\$8.80	0.43%	3,325	\$2,570,520	\$9.52	5.8%
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	8,100	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	8,100	3%	135,000	50.0%	1.0	\$3.50	0.00%	0.50	\$1.75	0.00%	0	\$14,175	\$0.05	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	5,400	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	270,000	100%	270,000	100.0%	3.5	\$14.25	3.40%	3.50	\$49.88	3.40%	26,354	\$26,495,668	\$98.13	59.5%
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)	270,000	100%	108,000	40.0%	1.0	\$10.00	0.40%	0.40	\$4.00	0.40%	3,101	\$2,613,134	\$9.68	5.9%
Brown Stink Bug	270,000	100%	18,900	7.0%	1.0	\$10.00	0.20%	0.07	\$0.70	0.20%	1,550	\$955,320	\$3.54	2.1%
Clouded Plant Bug	270,000	100%	27,000	10.0%	1.0	\$10.00	0.20%	0.10	\$1.00	0.20%	1,550	\$1,036,320	\$3.84	2.3%
Leaf Footed Bugs	27,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	216,000	80%	43,200	16.0%	1.1	\$11.25	0.50%	0.18	\$2.03	0.40%	3,101	\$1,970,534	\$7.30	4.4%
Thrips	270,000	100%	243,000	90.0%	1.3	\$9.50	1.50%	1.17	\$11.12	1.50%	11,627	\$8,749,439	\$32.41	19.7%
Aphids	270,000	100%	2,700	1.0%	1.0	\$11.50	0.02%	0.01	\$0.12	0.02%	155	\$107,682	\$0.40	0.2%
Grasshoppers	13,500	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	13,500	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	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%
<b>TOTAL</b>					6.37				\$79.38	6.55%	50,763	\$44,512,792	\$164.86	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results	
State	Tennessee	Total Acres	270,000		Total	Per Acre
Region	Midsouth	Total Bales Harvested	600,188	Foliar Insecticide Costs	\$21,432,600	\$79.38
Year	2021	Total Bales Lost to Insects	50,763	Seed Treatment Costs	\$2,916,000	\$10.80
Total Acres (Upland)	270,000	Percent Yield Loss	6.5%	In-Furrow Costs	\$48,600	\$0.18
Yield / Acre (Upland)	1,067	Yield w/o Insects (lb./acre)	1,142	Scouting Costs	\$2,758,050	\$10.22
Price / lb.	\$1.03	Av. # Applications	6.37	Eradication Costs	\$405,000	\$1.50
yield potential (lb./acre)	1,378	Total Bales lost (all factors)	174,783	Bt Cotton	\$6,847,200	\$25.36
Acres (Pima)	0	Total % yield Loss	22.5%	Total Costs	\$34,407,450	\$127.44
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	270,000	Yield Loss to Insects	\$25,097,227	\$92.95
% Acres Scouted	90%	Boll Weevil Eradication (# acres)	270,000	Total Losses + Costs	\$59,504,677	\$220.39
Fee / Scouted Acre	\$11.35	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	# Scouted Acres	243,000			
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	270,000			
Cost/treated acre (Bt) Cotton	\$25.36	In-Furrow Applications (# acres)	5,400			
% acres with seed treatment	100%	Applications by Air (acres)	81,000			
Seed trt. cost/ treated acre	\$10.80	Applications by Ground (acres)	270,000			
% acres with in-furrow	2%	No. acres with no foliar insecticide applications	0			
		% loss to other (chemical injury, weeds, diseases, etc.)	3.0%			

Table 21. Cotton insect loss estimates for Tennessee during 2021, 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	25.0%	67,500	\$110.00	\$24.00	60%	40,500	1.1
Bollgard III	68.0%	183,600	\$115.00	\$26.00	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	6.0%	16,200	\$105.00	\$24.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	1.0%	2,700	\$110.00	\$24.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>270,000</b>	<b>\$113.10</b>	<b>\$25.36</b>	<b>15.0%</b>	<b>40,500</b>	<b>0.2</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>270,000</b>	<b>\$113.10</b>	<b>\$25.36</b>	<b>15.0%</b>	<b>40,500</b>	<b>0.2</b>
<b>Non-Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>270,000</b>	<b>\$113.10</b>		<b>15.0%</b>	<b>40,500</b>	<b>0.2</b>

Table 22. Cotton insect loss estimates for South Texas during 2021.

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	790,625	100%	78,023	9.9%	1.0	\$21.00	0.50%	0.10	\$2.10	0.50%	16,463	\$9,562,553	\$12.09	11.7%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	79,063	10%	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	632,500	80%	15,605	2.0%	0.0	\$12.00	0.20%	0.00	\$0.00	0.16%	5,268	\$2,528,640	\$3.20	3.1%
Cotton Fleahopper	790,625	100%	437,442	55.3%	1.5	\$12.00	2.00%	0.83	\$9.96	2.00%	65,852	\$39,483,585	\$49.94	48.2%
Stink Bugs (other than brown stink bug)	790,625	100%	234,068	29.6%	0.5	\$11.00	1.00%	0.15	\$1.65	1.00%	32,926	\$17,109,011	\$21.64	20.9%
Brown Stink Bug	790,625	100%	0	0.0%	0.0	\$11.00	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	316,250	40%	20,806	2.6%	1.0	\$0.00	1.00%	0.03	\$0.00	0.40%	13,170	\$6,321,600	\$8.00	7.7%
Spider Mites	0	0%	0	0.0%	0.0	\$13.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	790,625	100%	305,847	38.7%	1.0	\$11.00	0.00%	0.39	\$4.29	0.00%	0	\$3,391,781	\$4.29	4.1%
Aphids	711,563	90%	279,316	35.3%	1.0	\$13.00	0.00%	0.35	\$4.55	0.00%	0	\$3,237,609	\$4.09	4.0%
Grasshoppers	790,625	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	316,250	40%	40,571	5.1%	1.0	\$0.00	0.00%	0.05	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Verde Plant Bug	197,656	25%	7,282	0.9%	1.0	\$12.00	0.07%	0.01	\$0.12	0.02%	527	\$276,679	\$0.35	0.3%
Boll Weevil	40,322	5%	40,322	5.1%	17.0	\$0.00	0.00%	0.87	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					2.78				\$22.67	4.08%	134,206	\$81,911,458	\$103.60	

## SUMMARY DATA

Data Input				Yield and Management Results				Economic Results		
State	Texas			Total Acres	790,625				Total	Per Acre
Region	Central			Total Bales Harvested	1,597,721			Foliar Insecticide Costs	\$17,923,469	\$22.67
Year	2021			Total Bales Lost to Insects	134,206			Seed Treatment Costs	\$8,301,563	\$10.50
Total Acres (Upland)	790,625	In-furrow cost/treated acre	\$12.00	Percent Yield Loss	4.1%			In-Furrow Costs	\$94,875	\$0.12
Yield / Acre (Upland)	970	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	1,011			Scouting Costs	\$6,641,250	\$8.40
Price / lb.	\$1.00	Cost/acre Boll Weevil Eradication	\$7.60	Av. # Applications	2.78			Eradication Costs	\$6,008,750	\$7.60
yield potential (lb./acre)	1,999	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,694,911			Bt Cotton	\$16,816,597	\$21.27
Acres (Pima)	66	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	51.5%			Total Costs	\$55,786,504	\$70.56
Yield / Acre (Pima)	1,000	% Insect apps by air	64%	Transgenic Cotton (arthropods) (# acres)	790,625			Yield Loss to Insects	\$64,418,880	\$81.48
% Acres Scouted	80%	No. apps by air	1.35	Boll Weevil Eradication (# acres)	790,625			Total Losses + Costs	\$120,205,384	\$152.04
Fee / Scouted Acre	\$10.50	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0					
No. times scouted/week	1.5	% insect apps by ground	98%	# Scouted Acres	632,500					
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3.38	Seed Treatments (arthropods) (# acres)	790,625					
Cost/treated acre (Bt) Cotton	\$21.27	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	7,906					
% acres with seed treatment	100%	% Loss to weather	35.0%	Applications by Air (acres)	507,660					
Seed trt. cost/ treated acre	\$10.50	% loss to non-arthropods	3.0%	Applications by Ground (acres)	777,105					
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	9.4%	No. acres with no foliar insecticide applications	15,813					

Table 22. Cotton insect loss estimates for South Texas during 2021, 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	27.0%	213,469	\$85.00	\$17.00	32%	68,310	1.0
Bollgard III	55.0%	434,844	\$93.00	\$25.00	0%	0	0.0
WideStrike	0.0%	0	\$68.00	\$5.00	0%	0	0.0
WideStrike 3	15.0%	118,594	\$83.00	\$15.00	5%	5,930	1.0
TwinLink	1.0%	7,906	\$73.00	\$14.00	45%	3,558	1.0
TwinLink Plus	2.0%	15,813	\$86.00	\$27.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>790,626</b>	<b>\$89.00</b>	<b>\$21.27</b>	<b>9.8%</b>	<b>77,797</b>	<b>0.10</b>
Herbicide Traits Only	0.0%	0	\$44.00	-	0%	0	0.0
Conventional	0.0%	0	\$19.00	-	0%	0	0.0
Organic	0.0%	0	\$19.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>790,626</b>	<b>\$89.00</b>	<b>\$21.27</b>	<b>9.8%</b>	<b>77,797</b>	<b>0.10</b>
<b>Non-Upland Cotton</b>							
Pima	0.009%	71	\$65.00	-	0%	0	0
Other	0%	0	\$19.00	-	0%	0	0
Organic	0%	0	\$65.00	-	0%	0	0
<b>Total (all Cotton)</b>		<b>790,697</b>	<b>\$89.00</b>		<b>9.8%</b>	<b>77,797</b>	<b>0.10</b>

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2021.

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	219,257	100%	11,182	5.1%	1.0	\$20.00	0.50%	0.05	\$1.00	0.50%	4,572	\$2,413,817	\$11.01	5.8%
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	153,480	70%	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	4,385	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	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	186,368	85%	21,926	10.0%	1.0	\$12.00	0.02%	0.10	\$1.20	0.02%	155	\$298,042	\$1.36	0.7%
Cotton Fleahopper	219,257	100%	208,294	95.0%	1.5	\$12.00	2.00%	1.42	\$17.04	2.00%	18,290	\$12,515,339	\$57.08	30.3%
Stink Bugs (other than brown stink bug)	164,443	75%	4,385	2.0%	1.0	\$11.00	0.05%	0.02	\$0.22	0.04%	348	\$203,217	\$0.93	0.5%
Brown Stink Bug	219,257	100%	197,331	90.0%	1.3	\$11.00	3.00%	1.17	\$12.87	3.00%	27,435	\$15,990,638	\$72.93	38.7%
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	164,443	75%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	87,703	40%	2,193	1.0%	0.0	\$13.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	219,257	100%	65,777	30.0%	1.0	\$11.00	1.00%	0.30	\$3.30	1.00%	9,145	\$5,113,148	\$23.32	12.4%
Aphids	219,257	100%	32,889	15.0%	1.0	\$13.00	1.00%	0.15	\$1.95	1.00%	9,145	\$4,817,151	\$21.97	11.6%
Grasshoppers	219,257	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	43,851	20%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	1,206	0.55%	1,206	0.55%	2.5	\$0.00	0.00%	0.01	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>					3.22				\$37.58	7.56%	69,090	\$41,351,352	\$188.60	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Texas	Total Acres	219,257			Total	Per Acre
Region	Central	Total Bales Harvested	593,821	Foliar Insecticide Costs		\$8,239,678	\$37.58
Year	2021	Total Bales Lost to Insects	69,090	Seed Treatment Costs		\$2,302,199	\$10.50
Total Acres (Upland)	219,257	Percent Yield Loss	7.6%	In-Furrow Costs		\$26,311	\$0.12
Yield / Acre (Upland)	1,300	Yield w/o Insects (lb./acre)	1,406	Scouting Costs		\$1,754,056	\$8.00
Price / lb.	\$1.00	Av. # Applications	3.22	Eradication Costs		\$1,188,373	\$5.42
yield potential (lb./acre)	2,002	Total Bales lost (all factors)	320,573	Bt Cotton		\$4,773,220	\$21.77
Acres (Pima)	0	Total % yield Loss	35.1%	Total Costs		\$18,283,837	\$83.39
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	219,257	Yield Loss to Insects		\$33,163,200	\$151.25
% Acres Scouted	80%	Boll Weevil Eradication (# acres)	219,257	Total Losses + Costs		\$51,447,037	\$234.64
Fee / Scouted Acre	\$10.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1.5	# Scouted Acres	175,406				
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	219,257				
Cost/treated acre (Bt) Cotton	\$21.77	In-Furrow Applications (# acres)	2,193				
% acres with seed treatment	100%	Applications by Air (acres)	186,368				
Seed trt. cost/ treated acre	\$10.50	Applications by Ground (acres)	87,703				
% acres with in-furrow	1.0%	No. acres with no foliar insecticide applications	0				
		% loss to other (chemical injury, weeds, diseases, etc.)	5.0%				

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2021, 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	27.0%	59,199	\$85.00	\$17.00	18%	10,656	1.0
Bollgard III	60.0%	131,554	\$93.00	\$25.00	0%	0	0.0
WideStrike	0.0%	0	\$68.00	\$5.00	0%	0	0.0
WideStrike 3	10.0%	21,926	\$83.00	\$15.00	0%	0	0.0
TwinLink	1.0%	2,193	\$73.00	\$14.00	18%	395	1.0
TwinLink Plus	2.0%	4,385	\$86.00	\$27.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>219,257</b>	<b>\$89.50</b>	<b>\$21.77</b>	<b>5.0%</b>	<b>11,051</b>	<b>0.05</b>
Herbicide Traits Only	0%	0	\$44.00	-	0%	0	0.0
Conventional	0%	0	\$19.00	-	0%	0	0.0
Organic	0%	0	\$19.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>219,257</b>	<b>\$89.50</b>	<b>\$21.77</b>	<b>5.0%</b>	<b>11,051</b>	<b>0.05</b>
<b>Non-Upland Cotton</b>							
Pima	0%	0	\$65.00	-	0%	0	0.0
Other	0%	0	\$19.00	-	0%	0	0.0
Organic	0%	0	\$65.00	-	0%	0	0.0
<b>Total (all Cotton)</b>		<b>219,257</b>	<b>\$89.50</b>		<b>5.0%</b>	<b>11,051</b>	<b>0.05</b>

Table 24. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2021.

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	961,794	70%	18,549	1.4%	1.0	\$20.00	0.40%	0.01	\$0.20	0.28%	16,102	\$8,694,215	\$6.33	5.7%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	68,700	5.0%	1,374	0.1%	2.0	\$20.00	0.30%	0.00	\$0.00	0.02%	863	\$455,664	\$0.33	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	27,480	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	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	13,740	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Fleahopper	1,236,592	90%	384,717	28.0%	1.0	\$18.00	4.00%	0.28	\$5.04	3.60%	207,026	\$115,542,151	\$84.09	75.8%
Stink Bugs (other than brown stink bug)	1,030,493	75%	123,659	9.0%	1.0	\$11.00	1.00%	0.09	\$0.99	0.75%	43,130	\$23,792,828	\$17.32	15.6%
Brown Stink Bug	0	0%	0	0.0%	1.0	\$0.00	0.20%	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	27,480	2%	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	1,373,991	100%	68,700	5.0%	1.0	\$9.00	0.00%	0.05	\$0.45	0.00%	0	\$618,296	\$0.45	0.4%
Aphids	1,373,991	100%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	1,373,991	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	27,480	2%	343,498	25.0%	2.0	\$16.00	5.00%	0.50	\$8.00	0.10%	5,751	\$3,256,367	\$2.37	2.1%
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%
<b>TOTAL</b>					0.93				\$14.68	4.75%	272,872	\$152,359,521	\$110.89	

## SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	Texas	Total Acres	1,373,991		Total	Per Acre	
Region	Central	Total Bales Harvested	1,917,862	Foliar Insecticide Costs	\$20,170,188	\$14.68	
Year	2021	Total Bales Lost to Insects	272,872	Seed Treatment Costs	\$11,211,767	\$8.16	
Total Acres (Upland)	1,373,991	Percent Yield Loss	4.7%	In-Furrow Costs	\$6,870	\$0.01	
Yield / Acre (Upland)	670	Yield w/o Insects (lb./acre)	703	Scouting Costs	\$1,868,628	\$1.36	
Price / lb.	\$1.10	Av. # Applications	0.93	Eradication Costs	\$1,909,847	\$1.39	
yield potential (lb./acre)	2,009	Total Bales lost (all factors)	3,832,571	Bt Cotton	\$25,102,817	\$18.27	
Acres (Pima)	9,331	Total % yield Loss	66.6%	Total Costs	\$60,270,117	\$43.87	
Yield / Acre (Pima)	990	Transgenic Cotton (arthropods) (# acres)	1,332,771	Yield Loss to Insects	\$144,076,416	\$104.86	
% Acres Scouted	16%	Boll Weevil Eradication (# acres)	1,373,991	Total Losses + Costs	\$204,346,533	\$148.72	
Fee / Scouted Acre	\$8.50	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1	# Scouted Acres	219,839				
% acres Transgenic (Bt) Cotton	97%	Seed Treatments (arthropods) (# acres)	1,319,031				
Cost/treated acre (Bt) Cotton	\$18.84	In-Furrow Applications (# acres)	137				
% acres with seed treatment	96%	Applications by Air (acres)	164,879				
Seed trt. cost/ treated acre	\$8.50	Applications by Ground (acres)	1,099,193				
% acres with in-furrow	0%	No. acres with no foliar insecticide applications	1,099,193				

Table 24. Cotton insect loss estimates for the Rolling Plains-Trans Pecos area of Texas during 2021, 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	31.0%	425,937	\$85.00	\$17.00	2.0%	8,519	1.0
Bollgard III	30.0%	412,197	\$93.00	\$25.00	0.0%	0	0.0
WideStrike	9.0%	123,659	\$68.00	\$5.00	3.0%	3,710	1.0
WideStrike 3	10.0%	137,399	\$83.00	\$15.00	0.0%	0	0.0
TwinLink	8.0%	109,919	\$73.00	\$14.00	2.0%	2,198	1.0
TwinLink Plus	9.0%	123,659	\$86.00	\$27.00	0.0%	0	0.0
<b>Total Bt</b>	<b>97.0%</b>	<b>1,332,770</b>	<b>\$84.79</b>	<b>\$18.84</b>	<b>1.1%</b>	<b>14,427</b>	<b>0.01</b>
Herbicide Traits Only	2.0%	27,480	\$44.00	-	6.0%	1,649	1.0
Conventional	1.0%	13,740	\$19.00	-	0.0%	0	0.0
Organic	0.0%	0	\$19.00	-	0.0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>1,373,990</b>	<b>\$83.32</b>	<b>\$18.84</b>	<b>1.2%</b>	<b>16,076</b>	<b>0.01</b>
<b>Non-Upland Cotton</b>							
Pima	0.68%	9,343	\$65.00	-	20.0%	1,869	1
Other	0.00%	0	\$19.00	-	0.0%	0	0
Organic	0.00%	0	\$65.00	-	0.0%	0	0
<b>Total (all Cotton)</b>		<b>1,383,333</b>	<b>\$83.20</b>		<b>1.3%</b>	<b>17,945</b>	<b>0.01</b>



Table 25. Cotton insect loss estimates for the High Plains area of Texas during 2021.

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	2,378,359	70%	9,513	0.3%	1.0	\$15.00	0.100%	0.00	\$0.00	0.07%	9,910	\$4,756,800	\$1.40	1.5%
Beet Armyworm	271,812	8%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	169,883	5%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	339,766	10%	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	169,883	5%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	2,718,125	80%	339,766	10.0%	1.0	\$15.00	1.000%	0.10	\$1.50	0.80%	113,255	\$58,439,587	\$17.20	18.4%
Cotton Fleahopper	3,397,656	100%	441,695	13.0%	1.0	\$15.00	3.000%	0.13	\$1.95	3.00%	424,707	\$210,484,789	\$61.95	66.3%
Stink Bugs (other than brown stink bug)	849,414	25%	101,930	3.0%	1.0	\$11.00	2.000%	0.03	\$0.33	0.50%	70,785	\$34,257,107	\$10.08	10.8%
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	16,988	1%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	339,766	10%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	1,698,828	50%	509,648	15.0%	1.0	\$5.00	0.250%	0.15	\$0.75	0.13%	17,696	\$9,768,201	\$2.87	3.1%
Aphids	339,766	10%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	1,019,297	30%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	33,977	1%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	\$0.00	0.000%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>					0.41			\$4.53	4.50%		636,353	\$317,706,484	\$93.51	

## SUMMARY DATA

Data Input				Yield and Management Results			Economic Results		
State	Texas			Total Acres	3,397,656		Total	Per Acre	
Region	Central			Total Bales Harvested	4,742,562	Foliar Insecticide Costs	\$15,391,382	\$4.53	
Year	2021			Total Bales Lost to Insects	636,353	Seed Treatment Costs	\$30,578,904	\$9.00	
Total Acres (Upland)	3,397,656	In-furrow cost/treated acre	\$12.00	Percent Yield Loss	4.5%	In-Furrow Costs	\$1,223,156	\$0.36	
Yield / Acre (Upland)	670	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	702	Scouting Costs	\$15,289,452	\$4.50	
Price / lb.	\$1.00	Cost/acre Boll Weevil Eradication	\$1.39	Av. # Applications	0.41	Eradication Costs	\$4,722,742	\$1.39	
yield potential (lb./acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	9,413,631	Bt Cotton	\$49,979,525	\$14.71	
Acres (Pima)	5,311	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	66.5%	Total Costs	\$117,185,161	\$34.49	
Yield / Acre (Pima)	950	% Insect apps by air	35%	Transgenic Cotton (arthropods) (# acres)	2,531,254	Yield Loss to Insects	\$305,449,440	\$89.90	
% Acres Scouted	50%	No. apps by air	1	Boll Weevil Eradication (# acres)	3,397,656	Total Losses + Costs	\$422,634,601	\$124.39	
Fee / Scouted Acre	\$9.00	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1	% insect apps by ground	65%	# Scouted Acres	1,698,828				
% acres Transgenic (Bt) Cotton	75%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	3,057,890				
Cost/treated acre (Bt) Cotton	\$19.74	Cost/app by ground	\$6.00	In-Furrow Applications (# acres)	101,930				
% acres with seed treatment	90%	% Loss to weather	55.0%	Applications by Air (acres)	1,189,180				
Seed trt. cost/ treated acre	\$10.00	% loss to non-arthropods	2.0%	Applications by Ground (acres)	2,208,476				
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	2,718,125				

Table 25. Cotton insect loss estimates for the High Plains area of Texas during 2021, 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	18.0%	611,578	\$85.00	\$17.00	0%	0	0.0
Bollgard III	21.0%	713,508	\$93.00	\$25.00	0%	0	0.0
WideStrike	0.0%	0	\$68.00	\$5.00	0%	0	0.0
WideStrike 3	13.0%	441,695	\$83.00	\$15.00	0%	0	0.0
TwinLink	12.5%	424,707	\$73.00	\$14.00	0%	0	0.0
TwinLink Plus	10.0%	339,766	\$86.00	\$27.00	0%	0	0.0
Total Bt	74.5%	2,531,254	\$85.03	\$19.74	0.0%	0	0.000
Herbicide Traits Only	22.0%	747,484	\$44.00	-	1%	7,475	1.0
Conventional	3.0%	101,930	\$19.00	-	2%	2,039	1.0
Organic	0.5%	16,988	\$19.00	-	0%	0	0.0
Total Upland Cotton	100.0%	3,397,656	\$73.69	\$19.74	0.3%	9,514	0.003
Non-Upland Cotton							
Pima	0.1563%	5,311	\$65.00	-	2%	106	1.0
Other	0.0%	0	\$19.00	-	0%	0	0
Organic	0.0%	0	\$65.00	-	0%	0	0
Total (all Cotton)		3,402,967	\$73.68		0.3%	9,620	0.003

Table 26. Cotton insect loss estimates for Texas during 2021.

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	4,350,035	75%	117,267	2%	1.0	\$17.20	0.17%	0.02	\$0.35	0.13%	30,052	\$16,284,984	\$2.82	3.7%
Beet Armyworm	271,812	5%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	471,125	8%	1,374	0%	0.5	\$4.75	0.00%	0.00	\$0.00	0.00%	0	\$253	\$0.00	0.0%
Loopers	339,766	6%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	31,865	1%	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	169,883	3%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	3,550,733	61%	377,296	7%	0.6	\$10.91	0.80%	0.04	\$0.45	0.49%	115,240	\$58,211,274	\$10.07	13.4%
Cotton Fleahopper	5,644,130	98%	1,472,149	25%	1.1	\$15.19	2.16%	0.28	\$4.21	2.11%	494,107	\$266,543,126	\$46.10	61.3%
Stink Bugs (other than brown stink bug)	2,834,975	49%	464,042	8%	0.9	\$11.00	0.88%	0.07	\$0.82	0.43%	101,052	\$51,989,414	\$8.99	12.0%
Brown Stink Bug	1,009,882	17%	197,331	3%	0.3	\$1.92	0.65%	0.01	\$0.02	0.11%	26,612	\$13,096,492	\$2.27	3.0%
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	525,161	9%	20,806	0%	0.1	\$0.00	0.60%	0.00	\$0.00	0.05%	12,795	\$6,287,531	\$1.09	1.4%
Spider Mites	427,468	7%	2,193	0%	0.0	\$2.27	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	4,082,701	71%	949,972	16%	1.0	\$7.00	0.16%	0.16	\$1.15	0.11%	26,054	\$17,497,922	\$3.03	4.0%
Aphids	2,644,576	46%	312,204	5%	0.2	\$2.27	0.08%	0.01	\$0.02	0.04%	8,871	\$4,415,806	\$0.76	1.0%
Grasshoppers	3,403,170	59%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	33,977	1%	0	0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	387,581	7%	384,069	7%	0.6	\$3.80	0.00%	0.04	\$0.15	0.00%	0	\$59,921	\$0.01	0.0%
Verde Plant Bug	197,656	3%	7,282	0%	0.1	\$1.64	0.07%	0.00	\$0.00	0.00%	526	\$258,591	\$0.04	0.1%
Boll Weevil	41,528	1%	41,528	1%	2.4	\$0.00	0.00%	0.02	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					0.66	\$7.17				3.49%	815,308	\$434,645,314	\$75.18	

## SUMMARY DATA

Data Input				Yield and Management Results			Economic Results		
State	Texas	Total Acres		5,781,529			Total	Per Acre	
Region	Central	Total Bales Harvested		8,851,966	Foliar Insecticide Costs		\$41,440,681	\$7.17	
Year	2021	Total Bales Lost to Insects		815,308	Seed Treatment Costs		\$52,418,229	\$9.07	
Total Acres (Upland)	5,781,529	In-furrow cost/treated acre	\$21.03	Percent Yield Loss	3.5%	In-Furrow Costs	\$2,358,935	\$0.41	
Yield / Acre (Upland)	735	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb./acre)	761	Scouting Costs	\$24,877,852	\$4.30	
Price / lb.	\$1.02	Cost/acre Boll Weevil Eradication	\$2.39	Av. # Applications	0.7	Eradication Costs	\$13,829,712	\$2.39	
yield potential (lb./acre)	1,942	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	15,261,686	Bt Cotton	\$96,672,154	\$16.72	
Acres (Pima)	14,708	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	62.2%	Total Costs	\$231,597,564	\$40.06	
Yield / Acre (Pima)	976	% Insect apps by air	35%	Transgenic Cotton (arthropods) (# acres)	4,873,907	Yield Loss to Insects	\$400,648,055	\$69.30	
% Acres Scouted	47%	No. apps by air	1.1	Boll Weevil Eradication (# acres)	5,781,529	Total Losses + Costs	\$632,245,618	\$109.36	
Fee / Scouted Acre	\$9.12	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1.1	% insect apps by ground	72%	# Scouted Acres	2,726,572				
% acres Transgenic (Bt) Cotton	84%	No. apps by ground	1.6	Seed Treatments (arthropods) (# acres)	5,386,804				
Cost/treated acre (Bt) Cotton	\$19.83	Cost/app by ground	\$5.91	In-Furrow Applications (# acres)	112,166				
% acres with seed treatment	93%	% Loss to weather	49.7%	Applications by Air (acres)	2,048,087				
Seed trt. cost/ treated acre	\$9.73	% loss to non-arthropods	3.3%	Applications by Ground (acres)	4,172,477				
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	5.6%	No. acres with no foliar insecticide applications	3,833,130				

Table 26. Cotton insect loss estimates for Texas during 2021, 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	22.66%	1,310,183	\$85.00	\$17.00	5.5%	72,505	0.4
Bollgard III	29.27%	1,692,103	\$93.00	\$25.00	0.0%	0	0.0
WideStrike	2.14%	123,659	\$68.00	\$5.00	0.7%	882	0.2
WideStrike 3	12.45%	719,614	\$83.00	\$15.00	0.7%	4,920	0.1
TwinLink	9.42%	544,725	\$73.00	\$14.00	7.3%	39,829	0.4
TwinLink Plus	8.36%	483,622	\$86.00	\$27.00	0.0%	0	0.0
Total Bt	84.30%	4,873,907	\$85.81	\$19.83	2.4%	118,135	0.010
Herbicide Traits Only	13.40%	774,964	\$44.00	-	2.0%	15,605	0.8
Conventional	2.00%	115,670	\$19.00	-	1.2%	1,360	0.6
Organic	0.29%	16,988	\$19.00	-	0.0%	0	0.0
Total Upland Cotton	100.00%	5,781,529	\$78.67	\$19.83	2.3%	135,099	0.011
Non-Upland Cotton							
Pima	0.3%	14,725	\$65.00	-	6%	873	0.8
Other	0.0%	0	\$19.00	-	0%	0	0.0
Organic	0.0%	0	\$65.00	-	0%	0	0.0
Total (all Cotton)		5,796,254	\$78.64		2.3%	135,972	0.011

Table 27. Cotton insect loss estimates for Virginia during 2021.

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	7,800	10%	3,900	5.0%	1.0	\$18.00	0.00%	0.05	\$0.90	0.00%	0	\$7,020	\$0.09	0.1%
Beet Armyworm	1,560	2%	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	78,000	100%	58,500	75.0%	2.0	\$12.50	3.00%	1.50	\$18.75	3.00%	7,088	\$5,307,031	\$68.04	55.6%
Cotton Fleahopper	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	66,300	85%	7,800	10.0%	1.0	\$10.00	1.00%	0.10	\$1.00	0.85%	2,008	\$1,155,439	\$14.81	12.1%
Brown Stink Bug	58,500	75%	7,800	10.0%	1.0	\$10.00	1.00%	0.10	\$1.00	0.75%	1,772	\$1,019,633	\$13.07	10.7%
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	3,900	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	78,000	100%	78,000	100.0%	1.0	\$10.00	1.00%	1.00	\$10.00	1.00%	2,363	\$2,061,691	\$26.43	21.6%
Aphids	19,500	25%	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%
<b>TOTAL</b>					2.75				\$31.65	5.60%	13,231	\$9,550,814	\$122.45	

## SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	Virginia	Total Acres	78,000		Total	Per Acre	
Region	Southeast	Total Bales Harvested	211,250	Foliar Insecticide Costs	\$2,468,700	\$31.65	
Year	2021	Total Bales Lost to Insects	13,231	Seed Treatment Costs	\$936,000	\$12.00	
Total Acres (Upland)	78,000	Percent Yield Loss	5.6%	In-Furrow Costs	\$140,400	\$1.80	
Yield / Acre (Upland)	1,300	Yield w/o Insects (lb./acre)	1,377	Scouting Costs	\$234,000	\$3.00	
Price / lb.	\$1.13	Av. # Applications	2.75	Eradication Costs	\$97,500	\$1.25	
yield potential (lb./acre)	1,454	Total Bales lost (all factors)	25,045	Bt Cotton	\$1,345,500	\$17.25	
Acres (Pima)	0	Total % yield Loss	10.6%	Total Costs	\$5,222,100	\$66.95	
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	78,000	Yield Loss to Insects	\$7,176,494	\$92.01	
% Acres Scouted	25%	Boll Weevil Eradication (# acres)	78,000	Total Losses + Costs	\$12,398,594	\$158.96	
Fee / Scouted Acre	\$12.00	Pink Bollworm Eradication (# acres)	0				
No. times scouted/week	1	# Scouted Acres	19,500				
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	78,000				
Cost/treated acre (Bt) Cotton	\$17.25	In-Furrow Applications (# acres)	23,400				
% acres with seed treatment	100%	Applications by Air (acres)	3,900				
Seed trt. cost/ treated acre	\$12.00	Applications by Ground (acres)	78,000				
% acres with in-furrow	30%	No. acres with no foliar insecticide applications	0				
		% loss to non-arthropods	0.0%				
		% loss to other (chemical injury, weeds, diseases, etc.)	0.0%				

Table 27. Cotton insect loss estimates for Virginia during 2021, 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	25.0%	19,500	\$130.00	\$15.00	75%	14,625	1.0
Bollgard III	30.0%	23,400	\$130.00	\$20.00	0%	0	0.0
WideStrike	0.0%	0	\$130.00	\$15.00	0%	0	0.0
WideStrike 3	15.0%	11,700	\$130.00	\$20.00	0%	0	0.0
TwinLink	30.0%	23,400	\$130.00	\$15.00	75%	17,550	1.0
TwinLink Plus	0.0%	0	\$130.00	\$20.00	0%	0	0.0
Total Bt	100.0%	78,000	\$130.00	\$17.25	41.3%	32,175	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%	78,000	\$130.00	\$17.25	41.3%	32,175	0.4
Non-Upland Cotton					0		
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)		78,000	\$130.00		41.3%	32,175	0.4

Table 28. Cotton insect loss estimates for the United States during 2021.

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	6,643,385	65%	886,587	8.7%	1.2	\$20.20	0.65%	0.10	\$2.05	0.42%	164,625	\$89,761,091	\$8.83	9.7%
Beet Armyworm	284,614	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	8	\$3,701	\$0.00	0.0%
Fall Armyworm	627,426	6%	8,624	0.1%	0.9	\$10.43	0.06%	0.00	\$0.01	0.00%	1,546	\$720,397	\$0.07	0.1%
Loopers	352,043	3%	163	0.0%	0.2	\$23.57	0.00%	0.00	\$0.00	0.00%	19	\$8,601	\$0.00	0.0%
Cutworms	308,315	3%	274,290	2.7%	1.0	\$5.66	0.06%	0.03	\$0.15	0.00%	718	\$379,442	\$0.04	0.0%
Cotton Leaf Perforator	64,897	1%	163	0.0%	0.2	\$23.57	0.00%	0.00	\$0.00	0.00%	7	\$3,231	\$0.00	0.0%
Saltmarsh Caterpillar	207,440	2%	1,660	0.0%	1.2	\$20.74	0.00%	0.00	\$0.00	0.00%	11	\$5,703	\$0.00	0.0%
Lygus	6,885,744	68%	2,957,553	29.1%	2.7	\$13.29	1.63%	0.79	\$10.45	1.11%	457,166	\$283,419,807	\$27.87	30.7%
Cotton Fleahopper	6,624,493	65%	1,945,411	19.1%	1.2	\$14.42	1.91%	0.23	\$3.27	1.24%	501,667	\$253,737,270	\$24.95	27.5%
Stink Bugs (other than brown stink bug)	5,739,746	56%	2,226,188	21.9%	1.3	\$9.07	0.97%	0.29	\$2.61	0.55%	204,192	\$109,444,518	\$10.76	11.9%
Brown Stink Bug	3,982,690	39%	1,579,338	15.5%	0.9	\$8.46	0.75%	0.14	\$1.15	0.29%	109,670	\$55,330,460	\$5.44	6.0%
Clouded Plant Bug	1,310,886	13%	297,937	2.9%	0.9	\$7.51	0.36%	0.03	\$0.20	0.05%	17,316	\$8,273,657	\$0.81	0.9%
Leaf Footed Bugs	1,077,917	11%	87,848	0.9%	0.6	\$5.36	0.32%	0.01	\$0.03	0.03%	13,618	\$6,329,824	\$0.62	0.7%
Spider Mites	2,184,076	21%	627,688	6.2%	1.3	\$13.72	0.64%	0.08	\$1.06	0.14%	56,265	\$28,344,365	\$2.79	3.1%
Thrips	8,110,181	80%	3,009,335	29.6%	1.0	\$8.25	0.36%	0.30	\$2.51	0.29%	102,878	\$67,963,089	\$6.68	7.4%
Aphids	5,726,349	56%	929,384	9.1%	0.7	\$8.70	0.15%	0.07	\$0.57	0.08%	27,851	\$16,159,871	\$1.59	1.8%
Grasshoppers	4,184,895	41%	212,312	2.1%	1.0	\$8.20	0.01%	0.02	\$0.18	0.01%	1,807	\$1,587,718	\$0.16	0.2%
Banded Winged Whitefly	283,730	3%	1,557	0.0%	0.1	\$13.30	0.00%	0.00	\$0.00	0.00%	0	\$51	\$0.00	0.0%
Silverleaf Whitefly	674,384	7%	424,033	4.2%	0.7	\$6.36	0.10%	0.03	\$0.18	0.01%	2,581	\$1,314,164	\$0.13	0.1%
Other insect pests*	450,586	4%	19,966	0.2%	0.3	\$9.66	0.05%	0.00057	\$0.01	0.00%	931	\$433,045	\$0.04	0.0%
Boll Weevil	41,528	0%	41,528	0.4%	2.4	\$0.00	0.00%	0.01	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					2.11	\$24.43				4.22%	1,662,876	\$923,220,005	\$90.78	

## SUMMARY DATA

Data Input				Yield and Management Results				Economic Results		
								Total		Per Acre
Year	2021			Total Acres	10,169,739					
Total Acres (Upland)	10,169,739			Total Bales Harvested	18,298,091			Foliar Insecticide Costs	\$248,455,928	\$24.43
Yield / Acre (Upland)	861			Total Bales Lost to Insects	1,662,876			Seed Treatment Costs	\$90,341,434	\$8.88
Price / lb.	\$0.96			Percent Yield Loss	4.2%			In-Furrow Costs	\$13,428,429	\$1.32
yield potential (lb./acre)	1,795			Yield w/o Insects (lb./acre)	899			Scouting Costs	\$54,554,370	\$5.36
Acres (Pima)	28,428			Av. # Applications	2.106452729			Eradication Costs	\$23,967,848	\$2.36
Yield / Acre (Pima)	970			Total Bales lost (all factors)	20,909,060			Bt Cotton	\$205,649,129	\$20.22
% Acres Scouted	60%			Total % yield Loss	51.2%			Total Costs	\$636,397,138	\$62.58
Fee / Scouted Acre	\$8.96			Transgenic Cotton (arthropods) (# acres)	9,240,969			Yield Loss to Insects	\$769,255,787	\$75.64
No. times scouted/week	1.2			Boll Weevil Eradication (# acres)	10,169,739			Total Losses + Costs	\$1,405,652,925	\$138.22
% acres Transgenic (Bt) Cotton	91%			Pink Bollworm Eradication (# acres)	117,411					
Cost/treated acre (Bt) Cotton	\$22.25			# Scouted Acres	6,085,275					
% acres with seed treatment	88%			Seed Treatments (arthropods) (# acres)	8,911,794					
Seed trt. cost/ treated acre	\$10.14			In-Furrow Applications (# acres)	896,981					
% acres with in-furrow	9%			Applications by Air (acres)	3,436,114					
				Applications by Ground (acres)	7,801,754					
				No. acres with no foliar insecticide applications	4,281,532					

\* See individual states for details on "other insect pests".

Table 28. Cotton insect loss estimates for the United States during 2021, 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	27.1%	2,758,076	\$87.68	\$20.50	16.9%	465,891	0.7
Bollgard III	39.2%	3,987,336	\$93.45	\$25.41	0.5%	19,592	0.1
WideStrike	1.3%	132,585	\$68.26	\$9.80	6.1%	8,115	0.3
WideStrike 3	11.8%	1,204,777	\$84.95	\$18.58	0.9%	10,937	0.2
TwinLink	5.6%	572,580	\$74.48	\$16.21	5.9%	33,634	0.4
TwinLink Plus	5.8%	585,615	\$84.56	\$25.34	0.3%	1,795	0.1
Total Bt	91%	9,240,969	\$88.52	\$22.25	5.8%	539,964	0.0
Herbicide Traits Only	7.7%	783,614	\$30.68	-	1.4%	10,612	0.5
Conventional	1.2%	123,980	\$12.23	-	1.2%	1,431	0.4
Organic	0.2%	21,175	\$11.74	-	0.0%	0	0.0
Total Upland Cotton	100.0%	10,169,739	\$82.97	\$22.25	5.4%	552,007	0.0

See individual states for Pima cotton data.