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

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

SUMMARY DATA

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

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

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