

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

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

SUMMARY DATA

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

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

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