

Table 17. Cotton insect loss estimates for the Delta region of Mississippi during 2022.

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	297,000	90%	188,100	57.0%	1.4	\$22.00	2.50%	0.80	\$17.60	2.25%	24,750	\$15,919,200	\$48.24	19.7%
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	16,500	5%	3,300	1.0%	1.0	\$11.50	1.00%	0.01	\$0.12	0.05%	550	\$239,498	\$0.73	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	33,000	10%	49,500	15.0%	1.0	\$6.00	0.10%	0.15	\$0.90	0.01%	110	\$77,220	\$0.23	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	330,000	100%	326,700	99.0%	5.5	\$12.00	4.00%	5.45	\$65.40	4.00%	44,000	\$40,590,000	\$123.00	50.3%
Cotton Fleahopper	3,300	1%	0	0.0%	0.0	\$0.00	0.10%	0.00	\$0.00	0.00%	11	\$4,752	\$0.01	0.0%
Stink Bugs (other than brown stink bug)	33,000	10%	9,900	3.0%	1.0	\$9.00	1.00%	0.03	\$0.27	0.10%	1,100	\$484,110	\$1.47	0.6%
Brown Stink Bug	165,000	50%	49,500	15.0%	1.0	\$9.00	1.50%	0.15	\$1.35	0.75%	8,250	\$3,786,750	\$11.48	4.7%
Clouded Plant Bug	99,000	30%	3,300	1.0%	1.0	\$11.00	1.00%	0.01	\$0.11	0.30%	3,300	\$1,436,490	\$4.35	1.8%
Leaf Footed Bugs	3,300	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	231,000	70%	198,000	60.0%	1.5	\$12.00	2.25%	0.90	\$10.80	1.58%	17,325	\$9,979,200	\$30.24	12.4%
Thrips	330,000	100%	165,000	50.0%	1.5	\$9.00	1.00%	0.75	\$6.75	1.00%	11,000	\$6,979,500	\$21.15	8.6%
Aphids	132,000	40%	66,000	20.0%	1.0	\$10.00	0.50%	0.20	\$2.00	0.20%	2,200	\$1,214,400	\$3.68	1.5%
Grasshoppers	33,000	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	6,600	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								8.45	\$105.30	10.24%	112,596	\$80,711,120	\$244.58	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	Mississippi	Total Acres		330,000	Total	Per Acre	
Region	MidSouth	Total Bales Harvested		721,875	Foliar Insecticide Costs	\$34,747,350	
Year	2022	Total Bales Lost to Insects		112,596	Seed Treatment Costs	\$3,009,600	
Total Acres (Upland)	330,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	10.2%	In-Furrow Costs	\$288,750
Yield / Acre (Upland)	1,050	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,170	Scouting Costs	\$2,613,600
Price / lb	\$0.90	Cost/acre Boll Weevil Eradication	\$1.00	Av. # Applications	8.45	Eradication Costs	\$330,000
yield potential (lb/acre)	1,600	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	378,246	Bt Cotton	\$10,560,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	34.4%	Total Costs	\$51,549,300
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	330,000	Yield Loss to Insects	\$48,641,472
% Acres Scouted	99%	No. apps by air	6	Boll Weevil Eradication (# acres)	330,000	Total Losses + Costs	\$100,190,772
Fee / Scouted Acre	\$8.00	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.8	% insect apps by ground	50%	# Scouted Acres	326,700		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	316,800		
Cost/treated acre (Bt) Cotton	\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	23,100		
% acres with seed treatment	96%	% Loss to weather	15.0%	Applications by Air (acres)	264,000		
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	165,000		
% acres with in-furrow	7%	% loss to other (chemical injury, weeds, diseases, etc.)	7.2%	No. acres with no foliar insecticide applications	0		

Table 17. Cotton insect loss estimates for the Delta region of Mississippi during 2022, 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%	165,000	\$140.00	\$32.00	85%	140,250	1.8
Bollgard III	33.0%	108,900	\$140.00	\$32.00	1%	545	0.1
WideStrike	0.0%	0	\$140.00	\$32.00	0%	0	0.0
WideStrike 3	16.0%	52,800	\$140.00	\$32.00	1%	264	0.5
TwinLink	0.0%	0	\$140.00	\$32.00	0%	0	0.0
TwinLink Plus	1.0%	3,300	\$140.00	\$32.00	1%	17	0.1
Total Bt	100.0%	330,000	\$140.00	\$32.00	42.8%	141,075	0.8
Herbicide Traits Only	0.00%	0	\$108.00	-	0%	0	0.0
Conventional	0.00%	0	\$22.00	-	0%	0	0.0
Organic	0.00%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	330,000	\$140.00	\$32.00	42.8%	141,075	0.8
Non Upland Cotton							
Pima	0.0%	0	\$0.00	-	0%	0	0.0
Other	0.0%	0	\$0.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total (all Cotton)		330,000	\$140.00	-	42.8%	141,075	0.8