

Table 18. Cotton insect loss estimates for 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	437,000	82%	308,100	58.1%	1.4	\$21.25	2.18%	0.84	\$17.77	1.80%	31,036	\$21,173,526	\$39.95	18.4%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	24,500	5%	5,300	1.0%	1.0	\$11.50	1.00%	0.01	\$0.12	0.05%	798	\$347,680	\$0.66	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	63,000	12%	89,500	16.9%	1.0	\$6.00	0.06%	0.17	\$1.01	0.01%	127	\$118,728	\$0.22	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	530,000	100%	496,700	93.7%	4.8	\$11.62	4.00%	4.51	\$52.45	4.00%	69,077	\$57,640,735	\$108.76	50.1%
Cotton Fleahopper	19,300	4%	0	0.0%	0.0	\$0.00	0.03%	0.00	\$0.00	0.00%	16	\$6,897	\$0.01	0.0%
Stink Bugs (other than brown stink bug)	93,000	18%	19,900	3.8%	1.0	\$9.00	0.55%	0.04	\$0.34	0.10%	1,662	\$749,303	\$1.41	0.7%
Brown Stink Bug	255,000	48%	89,500	16.9%	1.0	\$9.00	1.21%	0.17	\$1.52	0.58%	10,058	\$4,732,813	\$8.93	4.1%
Clouded Plant Bug	129,000	24%	13,300	2.5%	1.0	\$10.25	0.91%	0.03	\$0.26	0.22%	3,812	\$1,680,058	\$3.17	1.5%
Leaf Footed Bugs	13,300	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	381,000	72%	298,000	56.2%	1.5	\$12.00	1.95%	0.84	\$10.12	1.41%	24,266	\$14,339,109	\$27.05	12.5%
Thrips	530,000	100%	265,000	50.0%	1.5	\$9.00	1.19%	0.75	\$6.75	1.19%	20,528	\$12,445,380	\$23.48	10.8%
Aphids	232,000	44%	126,000	23.8%	1.0	\$10.00	0.37%	0.24	\$2.38	0.16%	2,802	\$1,762,083	\$3.32	1.5%
Grasshoppers	41,000	8%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	8,600	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	2,000	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					7.59	\$92.71			9.51%		164,182	\$114,996,312	\$216.97	

SUMMARY DATA

	Data Input		Yield and Management Results			Economic Results		
						Total	Per Acre	
State	Mississippi		Total Acres			530,000		
Region	MidSouth		Total Bales Harvested	1,110,625		Foliar Insecticide Costs	\$49,138,811	\$92.71
Year	2022		Total Bales Lost to Insects	164,182		Seed Treatment Costs	\$4,852,600	\$9.16
Total Acres (Upland)	530,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	9.5%	In-Furrow Costs	\$363,750	\$0.69
Yield / Acre (Upland)	1,006	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,112	Scouting Costs	\$3,984,355	\$7.52
Price / lb	\$0.90	Cost/acre Boll Weevil Eradication	\$1.00	Av. # Applications	7.6	Eradication Costs	\$530,000	\$1.00
yield potential (lb/acre)	1,564	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	614,527	Bt Cotton	\$16,960,000	\$32.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	35.7%	Total Costs	\$75,829,516	\$143.07
Yield / Acre (Pima)	0	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	530,000	Yield Loss to Insects	\$70,926,712	\$133.82
% Acres Scouted	99%	No. apps by air	4.1	Boll Weevil Eradication (# acres)	530,000	Total Losses + Costs	\$146,756,228	\$276.90
Fee / Scouted Acre	\$7.62	Cost/app by air	\$7.57	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.7	% insect apps by ground	61%	# Scouted Acres	522,700			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.6	Seed Treatments (arthropods) (# acres)	510,800			
Cost/treated acre (Bt) Cotton	\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	29,100			
% acres with seed treatment	96%	% Loss to weather	15.9%	Applications by Air (acres)	304,000			
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	3.1%	Applications by Ground (acres)	325,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	7.1%	No. acres with no foliar insecticide applications	2,000			

Table 18. Cotton insect loss estimates for 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	51.9%	275,000	\$140.00	\$32.00	85%	234,850	1.6
Bollgard III	33.0%	174,900	\$140.00	\$32.00	0%	545	0.1
WideStrike	0.0%	0	\$140.00	\$32.00	0%	0	0.0
WideStrike 3	13.7%	72,800	\$140.00	\$32.00	0%	264	0.5
TwinLink	0.0%	0	\$140.00	\$32.00	0%	0	0.0
TwinLink Plus	1.4%	7,300	\$140.00	\$32.00	0%	17	0.1
Total Bt	100.0%	530,000	\$140.00	\$32.00	44.5%	235,675	0.7
Herbicide Traits Only	0.0%	0	\$67.25	-	0%	0	0.0
Conventional	0.0%	0	\$13.70	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	530,000	\$140.00	\$32.00	44.5%	235,675	0.7
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)		530,000	\$140.00	-	44.5%	235,675	0.7