

Table 16. Cotton insect loss estimates for the Hills 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	140,000	70%	120,000	60.0%	1.5	\$20.00	1.50%	0.90	\$18.00	1.05%	6,563	\$5,355,216	\$26.78	15.4%
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	8,000	4%	2,000	1.0%	1.0	\$11.50	1.00%	0.01	\$0.12	0.04%	250	\$108,920	\$0.54	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	30,000	15%	40,000	20.0%	1.0	\$6.00	0.02%	0.20	\$1.20	0.00%	19	\$44,208	\$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	200,000	100%	170,000	85.0%	3.5	\$11.00	4.00%	2.98	\$32.78	4.00%	25,000	\$17,356,000	\$86.78	50.0%
Cotton Fleahopper	16,000	8%	0	0.0%	0.0	\$0.00	0.01%	0.00	\$0.00	0.00%	6	\$2,592	\$0.01	0.0%
Stink Bugs (other than brown stink bug)	60,000	30%	10,000	5.0%	1.0	\$9.00	0.30%	0.05	\$0.45	0.09%	563	\$270,216	\$1.35	0.8%
Brown Stink Bug	90,000	45%	40,000	20.0%	1.0	\$9.00	0.68%	0.20	\$1.80	0.31%	1,913	\$988,416	\$4.94	2.8%
Clouded Plant Bug	30,000	15%	10,000	5.0%	1.0	\$9.00	0.60%	0.05	\$0.45	0.09%	563	\$256,716	\$1.28	0.7%
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	150,000	75%	100,000	50.0%	1.5	\$12.00	1.50%	0.75	\$9.00	1.13%	7,031	\$4,387,392	\$21.94	12.6%
Thrips	200,000	100%	100,000	50.0%	1.5	\$9.00	1.50%	0.75	\$6.75	1.50%	9,375	\$5,400,000	\$27.00	15.5%
Aphids	100,000	50%	60,000	30.0%	1.0	\$10.00	0.20%	0.30	\$3.00	0.10%	625	\$570,000	\$2.85	1.6%
Grasshoppers	8,000	4%	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%
TOTAL								6.19	\$73.55	8.31%	51,908	\$34,739,676	\$173.70	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
State	Mississippi	Total Acres			200,000	Total	Per Acre
Region	MidSouth	Total Bales Harvested			388,750	Foliar Insecticide Costs	\$14,709,000
Year	2022	Total Bales Lost to Insects			51,908	Seed Treatment Costs	\$1,843,000
Total Acres (Upland)	200,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	8.3%	In-Furrow Costs	\$75,000
Yield / Acre (Upland)	933	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,018	Scouting Costs	\$1,372,000
Price / lb	\$0.90	Cost/acre Boll Weevil Eradication	\$1.00	Av. # Applications	6.19	Eradication Costs	\$200,000
yield potential (lb/acre)	1,500	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	236,281	Bt Cotton	\$6,400,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	37.8%	Total Costs	\$24,599,000
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	200,000	Yield Loss to Insects	\$22,424,256
% Acres Scouted	98%	No. apps by air	1	Boll Weevil Eradication (# acres)	200,000	Total Losses + Costs	\$47,023,256
Fee / Scouted Acre	\$7.00	Cost/app by air	\$8.50	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	17.5%	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.)	7.0%	No. acres with no foliar insecticide applications	2,000		

Table 16. Cotton insect loss estimates for the Hills 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	55.0%	110,000	\$140.00	\$32.00	86%	94,600	1.3
Bollgard III	33.0%	66,000	\$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
Total Bt	100%	200,000	\$140.00	\$32.00	47.3%	94,600	0.6
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
Total Upland Cotton	100.0%	200,000	\$140.00	\$32.00	47.3%	94,600	0.6
Non Upland Cotton							
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
Total (all Cotton)		200,000	\$140.00	-	47.3%	94,600	0.6