Table 15. Cotton insect loss estimates for the Delta region of Mississippi during 2024.

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	256,000	80.0%	25,888	8.1%	1.0	$21.00	2.50%	0.08	$1.68	2.00%	22,147	$7,871,472	$24.60	12.7%
Beet Armyworm	0	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	16,000	5.0%	3,200	1.0%	1.0	$11.50	1.00%	0.01	$0.12	0.05%	554	$187,984	$0.59	0.3%
Loopers	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	32,000	10.0%	32,000	10.0%	1.0	$6.00	0.10%	0.10	$0.60	0.01%	111	$56,496	$0.18	0.1%
Cotton Leaf Perforator	0	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	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	320,000	100.0%	316,800	99.0%	5.0	$12.00	4.00%	4.95	$59.40	4.00%	44,293	$33,890,448	$105.91	54.8%
Cotton Fleahopper	3,200	1.0%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.00%	11	$3,696	$0.01	0.0%
Stink Bugs (other than brown stink bug)	32,000	10.0%	4,800	1.5%	1.0	$9.50	1.00%	0.02	$0.19	0.10%	1,107	$378,032	$1.18	0.6%
Brown Stink Bug	128,000	40.0%	19,200	6.0%	1.0	$9.50	1.50%	0.06	$0.57	0.60%	6,644	$2,305,344	$7.20	3.7%
Clouded Plant Bug	48,000	15.0%	3,200	1.0%	1.0	$11.00	1.00%	0.01	$0.11	0.15%	1,661	$563,376	$1.76	0.9%
Leaf Footed Bugs	3,200	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	240,000	75.0%	160,000	50.0%	1.5	$12.50	2.25%	0.75	$9.38	1.69%	18,692	$8,530,512	$26.66	13.8%
Thrips	320,000	100.0%	256,000	80.0%	1.5	$9.50	1.00%	1.20	$11.40	1.00%	11,073	$7,368,528	$23.03	11.9%
Aphids	128,000	40.0%	32,000	10.0%	0.0	$10.00	0.50%	0.00	$0.00	0.20%	2,215	$744,240	$2.33	1.2%
Grasshoppers	16,000	5.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	3,200	1.0%	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	$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%	0%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								7.18	$83.44	9.80%	108,508	$61,900,128	$193.44	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Mississippi			Total Acres	320,000		Total	Per Acre
Region	MidSouth			Total Bales Harvested	700,000	Foliar Insecticide Costs	$26,700,800	$83.44
Year	2024			Total Bales Lost to Insects	108,508	Seed Treatment Costs	$2,918,400	$9.12
Total Acres (Upland)	320,000	In-furrow cost/treated acre	$12.50	Percent Yield Loss	9.8%	In-Furrow Costs	$160,000	$0.50
Yield / Acre (Upland)	1,050	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,164	Scouting Costs	$2,534,400	$7.92
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.00	Av. # Applications	7.18	Eradication Costs	$320,000	$1.00
yield potential (lb/acre)	1,661	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	407,488	Bt Cotton	$11,264,000	$35.20
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	36.8%	Total Costs	$43,897,600	$137.18
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	320,000	Yield Loss to Insects	$36,458,688	$113.93
% Acres Scouted	99%	No. apps by air	6	Boll Weevil Eradication (# acres)	320,000	Total Losses + Costs	$80,356,288	$251.11
Fee / Scouted Acre	$8.00	Cost/app by air	$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.8	% insect apps by ground	50%	# Scouted Acres	316,800			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	307,200			
Cost/treated acre (Bt) Cotton	$35.20	Cost/app by ground	$6.00	In-Furrow Applications (# acres)	12,800			
% acres with seed treatment	96%	% Loss to weather	18.0%	Applications by Air (acres)	256,000			
Seed trt. cost/ treated acre	$9.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	160,000			
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	7.0%	No. acres with no foliar insecticide applications	0			

Table 15. Cotton insect loss estimates for the Delta region of Mississippi during 2024, 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	10.0%	32,000	$140.00	$32.00	80%	25,600	1.0
Bollgard III	70.0%	224,000	$140.00	$32.00	0%	0	0.0
Bollgard III/Thryvon	10.0%	32,000	$155.00	$48.00	0%	0	0.0
WideStrike	0.0%	0	$140.00	$32.00	0%	0	0.0
WideStrike 3	9.0%	28,800	$140.00	$32.00	1%	288	0.0
TwinLink	0.0%	0	$140.00	$32.00	0%	0	0.0
TwinLink Plus	1.0%	3,200	$140.00	$32.00	0%	0	0.0
Total Bt	100.0%	320,000	$141.50	$35.20	8.1%	25,888	0.1
Herbicide Traits Only	0.0%	0	$0.00	-	0%	0	0.0
Conventional	0.0%	0	$0.00	-	0%	0	0.0
Organic	0.0%	0	$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	320,000	$141.50	$35.20	8.1%	25,888	0.1
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)		320,000	$141.50		8.1%	25,888	0.1

Upland Cotton	% acres treated for Thrips	# acres treated for Thrips	# apps for Thrips	Thryvon Bt cost/acre	% acres treated for Lygus	# acres treated for Lygus	# apps for Lygus
Bollgard III/Thryvon	0.0%	0	0.0	$16.00	100.0%	32,000	4.0