

Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2019.

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	259,200	90%	224,640	78.0%	1.5	\$20.00	1.50%	1.17	\$23.40	1.35%	11,162	\$9,815,712	\$34.08	24.0%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.10%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	28,800	10%	5,760	2.0%	1.0	\$11.50	1.00%	0.02	\$0.23	0.10%	827	\$284,496	\$0.99	0.7%
Loopers	2,880	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	28,800	10%	43,200	15.0%	1.0	\$6.00	0.10%	0.15	\$0.90	0.01%	83	\$53,808	\$0.19	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	288,000	100%	216,000	75.0%	2.2	\$11.00	4.00%	1.65	\$18.15	4.00%	33,072	\$16,339,392	\$56.73	39.9%
Cotton Fleahopper	43,200	15%	0	0.0%	1.0	\$0.00	0.10%	0.00	\$0.00	0.02%	124	\$41,664	\$0.14	0.1%
Stink Bugs (other than brown stink bug)	72,000	25%	8,640	3.0%	1.0	\$9.00	1.00%	0.03	\$0.27	0.25%	2,067	\$713,952	\$2.48	1.7%
Brown Stink Bug	115,200	40%	43,200	15.0%	1.0	\$9.00	1.50%	0.15	\$1.35	0.60%	4,961	\$1,822,416	\$6.33	4.4%
Clouded Plant Bug	34,560	12%	2,880	1.0%	1.0	\$9.00	3.00%	0.01	\$0.09	0.36%	2,976	\$1,003,046	\$3.48	2.4%
Leaf Footed Bugs	14,400	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	172,800	60%	129,600	45.0%	1.1	\$12.00	2.25%	0.50	\$6.00	1.35%	11,162	\$4,787,232	\$16.62	11.7%
Thrips	288,000	100%	57,600	20.0%	1.0	\$9.00	1.00%	0.20	\$1.80	1.00%	8,268	\$3,296,448	\$11.45	8.0%
Aphids	244,800	85%	172,800	60.0%	1.1	\$10.00	0.50%	0.66	\$6.60	0.43%	3,514	\$2,796,384	\$9.71	6.8%
Grasshoppers	14,400	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	2,880	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	2,880	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								4.54	\$58.79	9.46%	78,216	\$40,954,550	\$142.20	

SUMMARY DATA

Data Input		Yield and Management Results		Economic Results	
State	Mississippi	Total Acres	288,000	Total	Per Acre
Region	MidSouth	Total Bales Harvested	615,000	Foliar Insecticide Costs	\$16,931,520
Year	2019	Total Bales Lost to Insects	78,216	Seed Treatment Costs	\$2,681,280
Total Acres (Upland)	288,000	Percent Yield Loss	9.5%	In-Furrow Costs	\$54,000
Yield / Acre (Upland)	1,025	Yield w/o Insects (lb/acre)	1,132	Scouting Costs	\$1,975,680
Price / lb	\$0.70	Av. # Applications	4.54	Eradication Costs	\$1,152,000
yield potential (lb/acre)	1,378	Total Bales lost (all factors)	284,915	Bt Cotton	\$9,216,000
Acres (Pima)	0	Total % yield Loss	34.5%	Total Costs	\$32,010,480
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	288,000	Yield Loss to Insects	\$26,280,576
% Acres Scouted	98%	Boll Weevil Eradication (# acres)	288,000	Total Losses + Costs	\$58,291,056
Fee / Scouted Acre	\$7.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.5	# Scouted Acres	282,240		
% acres Transgenic (Bt) Cotton	100%	Seed Treatments (arthropods) (# acres)	282,240		
Cost/treated acre (Bt) Cotton	\$32.00	In-Furrow Applications (# acres)	4,320		
% acres with seed treatment	98%	Applications by Air (acres)	57,600		
Seed trt. cost/ treated acre	\$9.50	Applications by Ground (acres)	230,400		
% acres with in-furrow	2%	No. acres with no foliar insecticide applications	2,880		
		% loss to non-arthropods	5.0%		
		% loss to other (chemical injury, weeds, diseases, etc.)	5.0%		

Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2019, 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	77.8%	224,064	\$140.00	\$32.00	70%	156,845	1.5
Bollgard III	10.0%	28,800	\$140.00	\$32.00	0%	0	0.1
WideStrike	5.0%	14,400	\$140.00	\$32.00	95%	13,680	2.0
WideStrike 3	6.0%	17,280	\$140.00	\$32.00	5%	864	0.1
TwinLink	0.2%	576	\$140.00	\$32.00	90%	518	2.0
TwinLink Plus	1.0%	2,880	\$140.00	\$32.00	0%	0	0.1
Total Bt	100%	288,000	\$140.00	\$32.00	59.7%	171,907	1.3
Herbicide Traits Only	0.00%	0	\$108.00	-	100%	0	2.0
Conventional	0.00%	0	\$22.00	-	100%	0	2.0
Organic	0.00%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	288,000	\$140.00	\$32.00	59.7%	171,907	1.3
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)		288,000	\$140.00	-	59.7%	171,907	1.3