

Table 16. Cotton insect loss estimates for 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	669,600	93%	613,440	85.2%	1.7	\$20.00	2.10%	1.48	\$29.65	1.95%	45,905	\$35,277,541	\$49.00	26.5%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	50,400	7%	10,080	1.4%	1.0	\$11.50	1.00%	0.01	\$0.16	0.07%	1,645	\$560,952	\$0.78	0.4%
Loopers	7,200	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	136,800	19%	108,000	15.0%	1.0	\$6.00	0.10%	0.15	\$0.90	0.02%	447	\$273,176	\$0.38	0.2%
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	720,000	100%	643,680	89.4%	2.9	\$11.00	4.00%	2.56	\$28.13	4.00%	94,020	\$51,840,893	\$72.00	38.9%
Cotton Fleahopper	86,400	12%	0	0.0%	0.4	\$0.00	0.10%	0.00	\$0.00	0.01%	282	\$94,772	\$0.13	0.1%
Stink Bugs (other than brown stink bug)	115,200	16%	17,280	2.4%	1.0	\$9.00	1.00%	0.02	\$0.22	0.16%	3,761	\$1,288,512	\$1.79	1.0%
Brown Stink Bug	374,400	52%	108,000	15.0%	1.0	\$9.00	1.50%	0.15	\$1.35	0.78%	18,334	\$6,665,630	\$9.26	5.0%
Clouded Plant Bug	56,160	8%	2,880	0.4%	0.4	\$3.60	1.20%	0.00	\$0.01	0.09%	2,200	\$739,546	\$1.03	0.6%
Leaf Footed Bugs	36,000	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	540,000	75%	432,000	60.0%	1.7	\$12.00	2.25%	1.02	\$12.24	1.69%	39,665	\$19,936,935	\$27.69	15.0%
Thrips	720,000	100%	165,600	23.0%	1.0	\$9.00	1.00%	0.23	\$2.07	1.00%	23,505	\$9,388,080	\$13.04	7.0%
Aphids	612,000	85%	432,000	60.0%	1.0	\$10.00	0.50%	0.62	\$6.24	0.43%	9,990	\$7,175,394	\$9.97	5.4%
Grasshoppers	36,000	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	7,200	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	3,312	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								6.25	\$80.96	10.20%	239,753	\$133,241,432	\$185.06	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results			
State	Mississippi	Total Acres	720,000	Total Bales Harvested	1,623,000	Foliar Insecticide Costs	\$58,289,472	\$80.96
Region	MidSouth	Total Bales Lost to Insects	239,753	Seed Treatment Costs	\$6,744,240	\$9.37		
Year	2019	Percent Yield Loss	10.2%	In-Furrow Costs	\$324,000	\$0.45		
Total Acres (Upland)	720,000	Yield w/o Insects (lb/acre)	1,205	Scouting Costs	\$5,395,392	\$7.49		
Yield / Acre (Upland)	1,082	Av. # Applications	6.3	Eradication Costs	\$2,880,000	\$4.00		
Price / lb	\$0.70	Total Bales lost (all factors)	1,077,424	Bt Cotton	\$23,026,176	\$31.98		
yield potential (lb/acre)	1,567	Total % yield Loss	44.8%	Total Costs	\$96,659,280	\$134.25		
Acres (Pima)	0	Transgenic Cotton (arthropods) (# acres)	719,568	Yield Loss to Insects	\$80,557,126	\$111.88		
Yield / Acre (Pima)	0	Boll Weevil Eradication (# acres)	720,000	Total Losses + Costs	\$177,216,406	\$246.13		
% Acres Scouted	99%	Pink Bollworm Eradication (# acres)	0					
Fee / Scouted Acre	\$7.60	# Scouted Acres	709,920					
No. times scouted/week	1.7	Seed Treatments (arthropods) (# acres)	709,920					
% acres Transgenic (Bt) Cotton	100%	In-Furrow Applications (# acres)	25,920					
Cost/treated acre (Bt) Cotton	\$32.00	Applications by Air (acres)	403,200					
% acres with seed treatment	99%	Applications by Ground (acres)	446,400					
Seed trt. cost/ treated acre	\$9.50	No. acres with no foliar insecticide applications	2,880					
% acres with in-furrow	4%							

Table 16. Cotton insect loss estimates for 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	79.1%	569,232	\$140.00	\$32.00	87%	494,093	1.7
Bollgard III	12.4%	89,280	\$140.00	\$32.00	6%	5,357	0.2
WideStrike	2.6%	18,720	\$140.00	\$32.00	97%	18,233	2.6
WideStrike 3	4.2%	30,240	\$140.00	\$32.00	9%	2,601	0.2
TwinLink	0.4%	2,736	\$140.00	\$32.00	90%	2,462	2.6
TwinLink Plus	1.3%	9,360	\$140.00	\$32.00	6%	562	0.2
Total Bt	99.9%	719,568	\$140.00	\$32.00	72.7%	523,308	1.5
Herbicide Traits Only	0.1%	432	\$108.00	-	100%	432	2.6
Conventional	0.0%	43	\$22.00	-	100%	43	2.6
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	720,043	\$139.97	\$32.00	72.7%	523,783	1.5
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)		720,043	\$139.97	-	72.7%	523,783	1.5