

Table 19. Cotton insect loss estimates for Mississippi during 2018.

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	551,800	89.0%	539,400	87.0%	1.7	\$20.00	1.50%	1.51	\$30.28	1.34%	35,725	\$29,052,754	\$46.86	21.6%
Beet Armyworm	0	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	142,600	23.0%	12,400	2.0%	1.0	\$11.50	1.00%	0.02	\$0.23	0.23%	6,155	\$2,159,903	\$3.48	1.6%
Loopers	6,200	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	111,600	18.0%	104,160	16.8%	1.0	\$6.00	0.10%	0.17	\$1.01	0.02%	482	\$278,962	\$0.45	0.2%
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	620,000	100.0%	483,600	78.0%	3.9	\$11.00	4.00%	3.04	\$33.46	4.00%	107,040	\$57,739,571	\$93.13	43.0%
Cotton Fleahopper	80,600	13.0%	0	0.0%	0.4	\$0.00	0.10%	0.00	\$0.00	0.01%	348	\$120,228	\$0.19	0.1%
Stink Bugs (other than brown stink bug)	93,000	15.0%	6,200	1.0%	1.0	\$9.00	1.00%	0.01	\$0.09	0.15%	4,014	\$1,395,612	\$2.25	1.0%
Brown Stink Bug	285,200	46.0%	49,600	8.0%	1.0	\$9.00	1.50%	0.08	\$0.72	0.69%	18,464	\$6,586,659	\$10.62	4.9%
Clouded Plant Bug	55,800	9.0%	2,480	0.4%	0.4	\$3.60	1.20%	0.00	\$0.01	0.11%	2,890	\$999,136	\$1.61	0.7%
Leaf Footed Bugs	43,400	7.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	471,200	76.0%	341,000	55.0%	1.7	\$12.00	2.25%	0.94	\$11.22	1.71%	45,760	\$21,101,427	\$34.03	15.7%
Thrips	620,000	100.0%	111,600	18.0%	1.0	\$9.00	1.00%	0.18	\$1.62	1.00%	26,760	\$10,252,683	\$16.54	7.6%
Aphids	396,800	64.0%	260,400	42.0%	1.0	\$10.00	0.50%	0.44	\$4.37	0.32%	8,563	\$4,692,673	\$7.57	3.5%
Grasshoppers	31,000	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	16,120	3.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	2,852	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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					6.39	\$83.00			9.57%		256,201	\$134,379,607	\$216.74	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results			
State	Mississippi	Total Acres	620,000		Total	Per Acre		
Region	Mid-South	Total Bales Harvested	1,472,500	Foliar Insecticide Costs	\$51,459,851	\$83.00		
Year	2018	Total Bales Lost to Insects	256,201	Seed Treatment Costs	\$5,831,100	\$9.41		
Total Acres (Upland)	620,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	9.6%	In-Furrow Costs	\$170,500	\$0.28
Yield / Acre (Upland)	1,140	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,261	Scouting Costs	\$4,646,032	\$7.49
Price / lb	\$0.72	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	6.4	Eradication Costs	\$2,480,000	\$4.00
yield potential (lb/acre)	2,072	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	1,006,804	Bt Cotton	\$19,820,160	\$31.97
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	45.0%	Total Costs	\$84,407,643	\$136.14
Yield / Acre (Pima)	0	% Insect apps by air	56%	Transgenic Cotton (arthropods) (# acres)	619,380	Yield Loss to Insects	\$88,543,058	\$142.81
% Acres Scouted	99%	No. apps by air	4.0	Boll Weevil Eradication (# acres)	620,000	Total Losses + Costs	\$172,950,701	\$278.95
Fee / Scouted Acre	\$7.60	Cost/app by air	\$6.60	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.7	% insect apps by ground	62%	# Scouted Acres	611,320			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.6	Seed Treatments (arthropods) (# acres)	613,800			
Cost/treated acre (Bt) Cotton	\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	13,640			
% acres with seed treatment	99%	% Loss to weather	23.0%	Applications by Air (acres)	347,200			
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	3.2%	Applications by Ground (acres)	384,400			
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	9.2%	No. acres with no foliar insecticide applications	248			

Table 19. Cotton insect loss estimates for Mississippi during 2018, 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	76.8%	476,160	\$140.00	\$32.00	85%	404,736	1.7
Bollgard III	0.3%	2,108	\$140.00	\$32.00	0%	0	0.0
WideStrike	21.6%	133,920	\$140.00	\$32.00	97%	130,438	2.6
WideStrike 3	0.8%	4,960	\$140.00	\$32.00	5%	248	0.6
TwinLink	0.3%	1,612	\$140.00	\$32.00	90%	1,451	1.9
TwinLink Plus	0.1%	620	\$140.00	\$32.00	0%	0	0.0
Total Bt	99.9%	619,380	\$140.00	\$32.00	86.7%	536,873	1.9
Herbicide Traits Only	0.1%	620	\$108.00	-	100%	620	2.6
Conventional	0.01%	62	\$22.00	-	100%	62	2.6
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	620,062	\$139.48	\$32.00	86.7%	537,555	1.9
Non Upland Cotton							
Pima	0%	0	\$0.00	-	0%	0	0.0
Other	0%	0	\$0.00	-	0%	0	0.0
Organic	0%	0	\$0.00	-	0%	0	0.0
Total (all Cotton)		620,062	\$139.48		86.7%	537,555	1.9