

Table 16. Cotton insect loss estimates for Mississippi during 2020.

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	448,750	85%	363,750	69.3%	1.3	\$20.00	2.19%	0.93	\$18.67	1.87%	37,720	\$19,243,490	\$36.65	20.8%
Beet Armyworm	325	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	40,250	8%	7,250	1.4%	1.0	\$11.50	1.00%	0.01	\$0.16	0.08%	1,546	\$451,718	\$0.86	0.5%
Loopers	1,000	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	95,000	18%	88,750	16.9%	1.0	\$6.00	0.10%	0.17	\$1.01	0.02%	365	\$201,465	\$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	525,000	100%	481,750	91.8%	3.4	\$11.00	4.00%	3.15	\$34.61	4.00%	80,675	\$41,403,257	\$78.86	44.9%
Cotton Fleahopper	36,250	7%	0	0.0%	0.0	\$0.00	0.10%	0.00	\$0.00	0.01%	139	\$40,107	\$0.08	0.0%
Stink Bugs (other than brown stink bug)	76,250	15%	16,500	3.1%	1.0	\$9.00	1.00%	0.03	\$0.28	0.15%	2,929	\$865,198	\$1.65	0.9%
Brown Stink Bug	268,750	51%	88,750	16.9%	1.0	\$9.00	1.50%	0.17	\$1.52	0.77%	15,487	\$4,869,059	\$9.27	5.3%
Clouded Plant Bug	121,250	23%	13,250	2.5%	1.0	\$10.24	1.66%	0.03	\$0.26	0.38%	7,731	\$2,257,960	\$4.30	2.4%
Leaf Footed Bugs	19,750	4%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	373,750	71%	317,500	60.5%	1.4	\$12.00	2.25%	0.86	\$10.33	1.60%	32,306	\$13,166,012	\$25.08	14.3%
Thrips	525,000	100%	141,250	26.9%	1.0	\$9.00	1.00%	0.27	\$2.42	1.00%	20,169	\$7,079,850	\$13.49	7.7%
Aphids	305,000	58%	177,500	33.8%	1.0	\$10.00	0.50%	0.34	\$3.38	0.29%	5,859	\$2,718,450	\$5.18	2.9%
Grasshoppers	26,250	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	5,250	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	5,250	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								5.96	\$72.65	10.16%	204,927	\$92,296,567	\$175.80	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results		
State	Mississippi	Total Acres		525,000	Total	Per Acre	
Region	MidSouth	Total Bales Harvested		1,346,354	Foliar Insecticide Costs	\$38,142,530	
Year	2020	Total Bales Lost to Insects		204,927	Seed Treatment Costs	\$4,807,000	
Total Acres (Upland)	525,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	10.2%	In-Furrow Costs	\$237,500
Yield / Acre (Upland)	1,231	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,370	Scouting Costs	\$3,944,762
Price / lb	\$0.60	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	6.0	Eradication Costs	\$2,100,000
yield potential (lb/acre)	1,844	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	676,396	Bt Cotton	\$16,800,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	33.3%	Total Costs	\$66,031,792
Yield / Acre (Pima)	0	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	525,000	Yield Loss to Insects	\$59,018,834
% Acres Scouted	99%	No. apps by air	4.1	Boll Weevil Eradication (# acres)	525,000	Total Losses + Costs	\$125,050,625
Fee / Scouted Acre	\$7.62	Cost/app by air	\$6.57	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.7	% insect apps by ground	61%	# Scouted Acres	517,750		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.6	Seed Treatments (arthropods) (# acres)	506,000		
Cost/treated acre (Bt) Cotton	\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	19,000		
% acres with seed treatment	96%	% Loss to weather	10.0%	Applications by Air (acres)	300,000		
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	322,500		
% acres with in-furrow	4%	% loss to other (chemical injury, weeds, diseases, etc.)	8.1%	No. acres with no foliar insecticide applications	2,000		

Table 16. Cotton insect loss estimates for Mississippi during 2020, 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	72.5%	380,500	\$140.00	\$32.00	88%	335,927	1.3
Bollgard III	16.1%	84,750	\$140.00	\$32.00	1%	1,049	0.6
WideStrike	0.0%	0	\$140.00	\$32.00	0%	0	0.0
WideStrike 3	10.0%	52,500	\$140.00	\$32.00	1%	650	0.6
TwinLink	0.0%	0	\$140.00	\$32.00	0%	0	0.0
TwinLink Plus	1.4%	7,250	\$140.00	\$32.00	1%	90	0.6
Total Bt	100.0%	525,000	\$140.00	\$32.00	64.3%	337,716	0.9
Herbicide Traits Only	0.0%	0	\$108.00	-	0%	0	0.0
Conventional	0.0%	0	\$22.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	525,000	\$140.00	\$32.00	64.3%	337,716	0.9
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)		525,000	\$140.00	-	64.3%	337,716	0.9