

Table 17. Cotton insect loss estimates for the Hills area of 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	198,400	80.0%	186,000	75.0%	1.5	\$20.00	1.50%	1.13	\$22.60	1.20%	9,920	\$7,912,192	\$31.90	22.6%
Beet Armyworm	0	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	49,600	20.0%	4,960	2.0%	1.0	\$11.50	1.00%	0.02	\$0.23	0.20%	1,653	\$582,685	\$2.35	1.7%
Loopers	2,480	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	37,200	15.0%	29,760	12.0%	1.0	\$6.00	0.10%	0.12	\$0.72	0.02%	124	\$69,638	\$0.28	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	248,000	100.0%	148,800	60.0%	1.5	\$11.00	4.00%	0.90	\$9.90	4.00%	33,067	\$13,883,155	\$55.98	39.7%
Cotton Fleahopper	24,800	10.0%	0	0.0%	1.0	\$0.00	0.10%	0.00	\$0.00	0.01%	83	\$28,685	\$0.12	0.1%
Stink Bugs (other than brown stink bug)	37,200	15.0%	2,480	1.0%	1.0	\$9.00	1.00%	0.01	\$0.09	0.15%	1,240	\$431,892	\$1.74	1.2%
Brown Stink Bug	99,200	40.0%	12,400	5.0%	1.0	\$9.00	1.50%	0.05	\$0.45	0.60%	4,960	\$1,758,816	\$7.09	5.0%
Clouded Plant Bug	37,200	15.0%	2,480	1.0%	1.0	\$9.00	3.00%	0.01	\$0.09	0.45%	3,720	\$1,288,980	\$5.20	3.7%
Leaf Footed Bugs	24,800	10.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	136,400	55.0%	99,200	40.0%	1.1	\$12.00	2.25%	0.44	\$5.28	1.24%	10,234	\$4,257,062	\$17.17	12.2%
Thrips	248,000	100.0%	37,200	15.0%	1.0	\$9.00	1.00%	0.15	\$1.35	1.00%	8,267	\$3,191,875	\$12.87	9.1%
Aphids	173,600	70.0%	74,400	30.0%	1.1	\$10.00	0.50%	0.33	\$3.30	0.35%	2,893	\$1,572,701	\$6.34	4.5%
Grasshoppers	12,400	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	12,400	5.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	2,480	1.0%	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								3.16	\$44.01	9.21%	76,161	\$34,977,681	\$141.04	

SUMMARY DATA

	Data Input		Yield and Management Results			Economic Results		
						Total	Per Acre	
State	Mississippi		Total Acres	248,000				
Region	Mid-South		Total Bales Harvested	581,250	Foliar Insecticide Costs	\$10,914,480	\$44.01	
Year	2018		Total Bales Lost to Insects	76,161	Seed Treatment Costs	\$2,332,440	\$9.41	
Total Acres (Upland)	248,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	9.2%	In-Furrow Costs	\$31,000	\$0.13
Yield / Acre (Upland)	1,125	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,239	Scouting Costs	\$1,701,280	\$6.86
Price / lb	\$0.72	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	3.16	Eradication Costs	\$992,000	\$4.00
yield potential (lb/acre)	1,600	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	324,161	Bt Cotton	\$7,928,064	\$31.97
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	39.2%	Total Costs	\$23,899,264	\$96.37
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	247,752	Yield Loss to Insects	\$26,321,242	\$106.13
% Acres Scouted	98%	No. apps by air	1	Boll Weevil Eradication (# acres)	248,000	Total Losses + Costs	\$50,220,506	\$202.50
Fee / Scouted Acre	\$7.00	Cost/app by air	\$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	80%	# Scouted Acres	243,040			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	245,520			
Cost/treated acre (Bt) Cotton	\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	2,480			
% acres with seed treatment	99%	% Loss to weather	20.0%	Applications by Air (acres)	49,600			
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	198,400			
% acres with in-furrow	1%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	248			

Table 17. Cotton insect loss estimates for the Hills area of 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	75.0%	186,000	\$140.00	\$32.00	70%	130,200	1.5
Bollgard III	0.1%	248	\$140.00	\$32.00	0%	0	0.0
WideStrike	24.0%	59,520	\$140.00	\$32.00	95%	56,544	2.0
WideStrike 3	0.5%	1,240	\$140.00	\$32.00	5%	62	0.0
TwinLink	0.2%	496	\$140.00	\$32.00	90%	446	1.7
TwinLink Plus	0.1%	248	\$140.00	\$32.00	0%	0	0.0
Total Bt	100.0%	247,752	\$140.00	\$32.00	75.6%	187,252	1.6
Herbicide Traits Only	0.1%	248	\$108.00	-	100%	248	2.0
Conventional	0.01%	25	\$22.00	-	100%	25	2.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	248,025	\$139.82	\$32.00	75.6%	187,525	1.6
Non Upland Cotton							
Pima	0%	0	\$0.00	-	0%	0	0
Other	0%	0	\$0.00	-	0%	0	0
Organic	0%	0	\$0.00	-	0%	0	0
Total (all Cotton)		248,025	\$139.82		75.6%	187,525	1.6