

Table 18. Cotton insect loss estimates for the Delta 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	353,400	95.0%	353,400	95.0%	1.9	\$20.00	1.50%	1.81	\$36.20	1.43%	19,879	\$19,663,262	\$52.86	22.2%
Beet Armyworm	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	93,000	25.0%	7,440	2.0%	1.0	\$11.50	1.00%	0.02	\$0.23	0.25%	3,488	\$1,226,843	\$3.30	1.4%
Loopers	3,720	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	74,400	20.0%	74,400	20.0%	1.0	\$6.00	0.10%	0.20	\$1.20	0.02%	279	\$185,702	\$0.50	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	372,000	100.0%	334,800	90.0%	5.5	\$11.00	4.00%	4.95	\$54.45	4.00%	55,800	\$39,539,880	\$106.29	44.7%
Cotton Fleahopper	55,800	15.0%	0	0.0%	0.0	\$0.00	0.10%	0.00	\$0.00	0.02%	209	\$72,230	\$0.19	0.1%
Stink Bugs (other than brown stink bug)	55,800	15.0%	3,720	1.0%	1.0	\$9.00	1.00%	0.01	\$0.09	0.15%	2,093	\$728,363	\$1.96	0.8%
Brown Stink Bug	186,000	50.0%	37,200	10.0%	1.0	\$9.00	1.50%	0.10	\$0.90	0.75%	10,463	\$3,783,413	\$10.17	4.3%
Clouded Plant Bug	18,600	5.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	18,600	5.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	334,800	90.0%	241,800	65.0%	2.1	\$12.00	2.25%	1.37	\$16.44	2.03%	28,249	\$15,266,966	\$41.04	17.2%
Thrips	372,000	100.0%	74,400	20.0%	1.0	\$9.00	1.00%	0.20	\$1.80	1.00%	13,950	\$5,490,720	\$14.76	6.2%
Aphids	223,200	60.0%	186,000	50.0%	1.0	\$10.00	0.50%	0.50	\$5.00	0.30%	4,185	\$2,562,336	\$6.89	2.9%
Grasshoppers	18,600	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	3,720	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	372	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%
<b>TOTAL</b>								9.16	\$116.31	9.94%	138,595	\$88,519,715	\$237.96	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results		
State	Mississippi	Total Acres		372,000			
Region	Mid-South	Total Bales Harvested		891,250	Foliar Insecticide Costs	\$43,267,320	
Year	2018	Total Bales Lost to Insects		138,595	Seed Treatment Costs	\$3,498,660	
Total Acres (Upland)	372,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	9.9%	In-Furrow Costs	\$139,500
Yield / Acre (Upland)	1,150	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,277	Scouting Costs	\$2,946,240
Price / lb	\$0.72	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	9.16	Eradication Costs	\$1,488,000
yield potential (lb/acre)	1,800	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	682,643	Bt Cotton	\$11,832,576
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	48.9%	Total Costs	\$63,172,296
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	371,628	Yield Loss to Insects	\$47,898,432
% Acres Scouted	99%	No. apps by air	6	Boll Weevil Eradication (# acres)	372,000	Total Losses + Costs	\$111,070,728
Fee / Scouted Acre	\$8.00	Cost/app by air	\$6.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.8	% insect apps by ground	50%	# Scouted Acres	368,280		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	368,280		
Cost/treated acre (Bt) Cotton	\$31.84	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	11,160		
% acres with seed treatment	99%	% Loss to weather	25.0%	Applications by Air (acres)	297,600		
Seed trt. cost/ treated acre	\$9.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	186,000		
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	12.0%	No. acres with no foliar insecticide applications	0		

Table 18. Cotton insect loss estimates for the Delta 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	78.0%	290,160	\$140.00	\$32.00	95%	275,652	1.8
Bollgard III	0.5%	1,860	\$140.00	\$32.00	0%	0	0.0
WideStrike	20.0%	74,400	\$140.00	\$32.00	99%	73,656	3.0
WideStrike 3	1.0%	3,720	\$140.00	\$32.00	5%	186	1.0
TwinLink	0.3%	1,116	\$140.00	\$32.00	90%	1,004	2.0
TwinLink Plus	0.1%	372	\$140.00	\$32.00	0%	0	0.0
<b>Total Bt</b>	<b>99.9%</b>	<b>371,628</b>	<b>\$139.30</b>	<b>\$31.84</b>	<b>94.3%</b>	<b>350,498</b>	<b>2.0</b>
Herbicide Traits Only	0.1%	372	\$108.00	-	100%	372	3.0
Conventional	0.01%	37	\$22.00	-	100%	37	3.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>372,037</b>	<b>\$139.26</b>	<b>\$31.84</b>	<b>94.3%</b>	<b>350,907</b>	<b>2.0</b>
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
<b>Total (all Cotton)</b>		<b>372,037</b>	<b>\$139.26</b>		<b>94.3%</b>	<b>350,907</b>	<b>2.0</b>