

Table 8. Cotton insect loss estimates for Southeast Arkansas 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	191,000	100.0%	181,450	95.0%	1.5	\$22.00	4.40%	1.43	\$31.46	4.40%	35,017	\$17,774,572	\$93.06	32.3%
Beet Armyworm	1,910	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	28,650	15.0%	0	0.0%	0.0	\$18.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	66,850	35.0%	9,550	5.0%	1.0	\$18.00	0.00%	0.05	\$0.90	0.00%	0	\$60,165	\$0.32	0.1%
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	28,650	15.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	191,000	100.0%	191,000	100.0%	5.0	\$20.00	4.20%	5.00	\$100.00	4.20%	33,425	\$30,330,800	\$158.80	55.2%
Cotton Fleahopper	171,900	90.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	152,800	80.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Brown Stink Bug	152,800	80.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Clouded Plant Bug	47,750	25.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	28,650	15.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	95,500	50.0%	66,850	35.0%	1.3	\$20.00	1.80%	0.46	\$9.20	0.90%	7,163	\$3,285,368	\$17.20	6.0%
Thrips	191,000	100.0%	114,600	60.0%	1.0	\$13.00	0.50%	0.60	\$7.80	0.50%	3,979	\$2,826,744	\$14.80	5.1%
Aphids	133,700	70.0%	47,750	25.0%	1.0	\$20.00	0.00%	0.25	\$5.00	0.00%	0	\$668,500	\$3.50	1.2%
Grasshoppers	28,650	15.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	38,200	20.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	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	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								7.79	\$154.36	10.00%	79,584	\$54,946,149	\$287.68	

SUMMARY DATA

Data Input			Yield and Management Results			Economic Results		
	SE Arkansas		Total Acres	191,000		Total	Per Acre	
State	SE Arkansas		Total Acres	191,000				
Region	Mid-South		Total Bales Harvested	497,396	Foliar Insecticide Costs	\$29,482,760	\$154.36	
Year	2018		Total Bales Lost to Insects	79,584	Seed Treatment Costs	\$2,268,125	\$11.88	
Total Acres (Upland)	191,000	In-furrow cost/treated acre	\$19.00	Percent Yield Loss	10.0%	In-Furrow Costs	\$362,900	\$1.90
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,389	Scouting Costs	\$1,910,000	\$10.00
Price / lb	\$0.70	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	7.79	Eradication Costs	\$573,000	\$3.00
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	302,417	Bt Cotton	\$6,584,725	\$34.48
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	38.0%	Total Costs	\$41,181,510	\$215.61
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	188,135	Yield Loss to Insects	\$26,740,224	\$140.00
% Acres Scouted	100%	No. apps by air	4.5	Boll Weevil Eradication (# acres)	191,000	Total Losses + Costs	\$67,921,734	\$355.61
Fee / Scouted Acre	10.00	Cost/app by air	\$10.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	191,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	3.5	Seed Treatments (arthropods) (# acres)	181,450			
Cost/treated acre (Bt) Cotton	35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	19,100			
% acres with seed treatment	95%	% Loss to weather	18.0%	Applications by Air (acres)	152,800			
Seed trt. cost/ treated acre	12.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	191,000			
% acres with in-furrow	10%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	0			

Table 8. Cotton insect loss estimates for Southeast Arkansas 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	92.0%	175,720	\$112.00	\$35.00	85%	149,362	1.5
Bollgard III	1.0%	1,910	\$112.00	\$35.00	0%	0	0.0
WideStrike	3.0%	5,730	\$97.00	\$35.00	100%	5,730	2.0
WideStrike 3	1.0%	1,910	\$112.00	\$35.00	2%	38	0.5
TwinLink	1.0%	1,910	\$112.00	\$35.00	85%	1,624	1.5
TwinLink Plus	0.5%	955	\$112.00	\$35.00	0%	0	0.0
Total Bt	99.0%	188,135	\$111.54	\$35.00	83.3%	156,754	1.5
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	1.5%	2,865	\$26.00	-	100%	2,865	2.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	191,000	\$109.14	\$35.00	83.6%	159,619	1.5
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)		191,000	\$109.14		83.6%	159,619	1.5