

Table 8. Cotton insect loss estimates for Northeast Arkansas during 2017.

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	260,000	100%	195,000	75.0%	1.3	\$16.00	3.20%	0.94	\$15.04	3.20%	34,667	\$15,225,709	\$58.56	27.0%
Beet Armyworm	2,600	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	65,000	25%	5,200	2.0%	1.0	\$16.00	0.00%	0.02	\$0.32	0.00%	0	\$20,800	\$0.08	0.0%
Loopers	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	78,000	30%	13,000	5.0%	1.0	\$10.00	0.00%	0.05	\$0.50	0.00%	0	\$39,000	\$0.15	0.1%
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	26,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	260,000	100%	260,000	100.0%	5.0	\$15.00	3.50%	5.00	\$75.00	3.50%	37,917	\$31,876,109	\$122.60	56.4%
Cotton Fleahopper	234,000	90%	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)	195,000	75%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Brown Stink Bug	195,000	75%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Clouded Plant Bug	130,000	50%	13,000	5.0%	1.0	\$15.00	0.00%	0.05	\$0.75	0.00%	0	\$97,500	\$0.38	0.2%
Leaf Footed Bugs	31,200	12%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	195,000	75%	104,000	40.0%	1.5	\$16.00	1.10%	0.60	\$9.60	0.83%	8,938	\$4,789,363	\$18.42	8.5%
Thrips	260,000	100%	182,000	70.0%	1.0	\$11.00	0.50%	0.70	\$7.70	0.50%	5,417	\$3,770,109	\$14.50	6.7%
Aphids	182,000	70%	78,000	30.0%	1.0	\$12.00	0.00%	0.30	\$3.60	0.00%	0	\$655,200	\$2.52	1.2%
Grasshoppers	26,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	26,000	10%	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	\$0.00	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								7.66	\$112.51	8.03%	86,939	\$56,473,790	\$217.21	

SUMMARY DATA

Data Input			Yield and Management Results			Economic Results		
State	Arkansas		Total Acres	260,000		Total	Per Acre	
Region	MidSouth		Total Bales Harvested	677,083		Foliar Insecticide Costs	\$29,252,600	
Year	2017		Total Bales Lost to Insects	86,939		Seed Treatment Costs	\$3,087,500	
Total Acres (Upland)	260,000	In-furrow cost/treated acre	\$19.00	Percent Yield Loss	8.0%		In-Furrow Costs	\$247,000
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,359		Scouting Costs	\$2,340,000
Price / lb	\$0.68	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	7.66		Eradication Costs	\$780,000
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	520,271		Bt Cotton	\$2,423,200
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	48.0%		Total Costs	\$38,130,300
Yield / Acre (Pima)	0	% Insect apps by air	90%	Transgenic Cotton (arthropods) (# acres)	254,800		Yield Loss to Insects	\$28,376,890
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	260,000		Total Losses + Costs	\$66,507,190
Fee / Scouted Acre	\$9.00	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	260,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	247,000			
Cost/treated acre (Bt) Cotton	\$9.51	Cost/app by ground	\$6.50	In-Furrow Applications (# acres)	13,000			
% acres with seed treatment	95%	% Loss to weather	22.0%	Applications by Air (acres)	234,000			
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	260,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	17.0%	No. acres with no foliar insecticide applications	0			

Table 8. Cotton insect loss estimates for Northeast Arkansas during 2017, 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	% of Population Bollworm
Bollgard II	84.0%	218,400	\$92.00	\$10.00	75%	163,800	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	12.0%	31,200	\$80.00	\$6.00	100%	31,200	1.5	100%
WideStrike 3	1.0%	2,600	\$92.00	\$10.00	0%	0	0.0	0%
TwinLink	1.0%	2,600	\$92.00	\$10.00	75%	1,950	1.0	100%
TwinLink Plus	0.0%	0	-	-	-	-	-	-
Total Bt	98.0%	254,800	\$90.53	\$9.51	77.3%	196,950	1.1	100.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	2.0%	5,200	\$37.00	-	100%	5,200	2.0	85%
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	260,000	\$89.46	\$9.51	77.8%	202,150	1.1	98.7%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		260,000	\$89.46	-	77.8%	202,150	1.1	