

Table 9. Cotton insect loss estimates for 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	430,000	100%	322,500	75.0%	1.3	\$16.00	3.20%	0.94	\$15.00	3.20%	63,860	\$27,293,818	\$63.47	29.9%
Beet Armyworm	4,300	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	107,500	25%	8,600	2.0%	1.0	\$16.00	0.00%	0.02	\$0.32	0.00%	0	\$34,400	\$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	129,000	30%	18,100	4.2%	1.0	\$10.00	0.00%	0.04	\$0.42	0.00%	0	\$54,300	\$0.13	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	43,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	430,000	100%	430,000	100.0%	4.6	\$15.00	3.30%	4.60	\$69.07	3.30%	65,902	\$51,210,336	\$119.09	56.0%
Cotton Fleahopper	387,000	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)	322,500	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	322,500	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	164,000	38%	13,000	3.0%	0.6	\$9.07	0.00%	0.02	\$0.17	0.00%	0	\$27,191	\$0.06	0.0%
Leaf Footed Bugs	48,200	11%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	254,500	59%	138,000	32.1%	1.3	\$16.00	0.76%	0.42	\$6.69	0.45%	9,023	\$4,647,107	\$10.81	5.1%
Thrips	430,000	100%	301,000	70.0%	1.0	\$11.00	0.58%	0.70	\$7.70	0.58%	11,556	\$7,082,883	\$16.47	7.8%
Aphids	284,000	66%	129,000	30.0%	1.0	\$12.00	0.00%	0.30	\$3.60	0.00%	0	\$1,022,400	\$2.38	1.1%
Grasshoppers	43,000	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	43,000	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					7.04			\$102.96		7.53%	150,341	\$91,372,434	\$212.49	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results			
State	Arkansas	Total Acres	430,000		Total	Per Acre		
Region	MidSouth	Total Bales Harvested	1,031,250	Foliar Insecticide Costs	\$44,274,427	\$102.96		
Year	2017	Total Bales Lost to Insects	150,341	Seed Treatment Costs	\$5,106,250	\$11.88		
Total Acres (Upland)	430,000	In-furrow cost/treated acre	\$19.00	Percent Yield Loss	7.5%	In-Furrow Costs	\$408,500	\$0.95
Yield / Acre (Upland)	1,151	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,245	Scouting Costs	\$3,870,000	\$9.00
Price / lb	\$0.68	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	7.04	Eradication Costs	\$1,290,000	\$3.00
yield potential (lb/acre)	2,228	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	867,269	Bt Cotton	\$4,007,600	\$9.32
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	48.3%	Total Costs	\$58,956,777	\$137.11
Yield / Acre (Pima)	0	% Insect apps by air	90%	Transgenic Cotton (arthropods) (# acres)	421,400	Yield Loss to Insects	\$49,071,228	\$114.12
% Acres Scouted	100%	No. apps by air	4.2	Boll Weevil Eradication (# acres)	430,000	Total Losses + Costs	\$108,028,006	\$251.23
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	430,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	3.8	Seed Treatments (arthropods) (# acres)	408,500			
Cost/treated acre (Bt) Cotton	\$9.51	Cost/app by ground	\$6.50	In-Furrow Applications (# acres)	21,500			
% acres with seed treatment	95%	% Loss to weather	23.2%	Applications by Air (acres)	387,000			
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	1.4%	Applications by Ground (acres)	430,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	16.2%	No. acres with no foliar insecticide applications	0			

Table 9. Cotton insect loss estimates for 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%	361,200	\$92.00	\$10.00	75%	270,900	1.1	100%
Bollgard III	0%	0	-	-	-	-	-	-
WideStrike	12%	51,600	\$80.00	\$6.00	100%	51,600	1.7	100%
WideStrike 3	1%	4,300	\$92.00	\$10.00	0%	0	0.0	0%
TwinLink	1%	4,300	\$92.00	\$10.00	75%	3,225	1.1	100%
TwinLink Plus	0%	0	-	-	-	-	-	-
Total Bt	98%	421,400	\$90.53	\$9.51	77.3%	325,725	1.2	100.0%
Herbicide Traits Only	0%	0	-	-	-	-	-	-
Conventional	2%	8,600	\$37.00	-	100%	8,600	2.0	83%
Organic	0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	430,000	\$89.46	\$9.51	77.8%	334,325	1.2	98.7%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		430,000	\$89.46		77.8%	334,325	1.2	