

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2021.

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	282,000	100%	56,400	20%	1.1	\$31.46	2.5%	0.22	\$6.92	2.50%	33,590	\$13,866,823	\$49.17	16.4%
Beet Armyworm	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	28,200	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	1,410	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	70,500	25%	42,300	15%	1.0	\$11.00	0.1%	0.15	\$1.65	0.03%	336	\$235,511	\$0.84	0.3%
Cotton Leaf Perforator	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	16,920	6%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	282,000	100%	282,000	100%	5.0	\$20.00	5.7%	5.00	\$100.00	5.70%	76,586	\$55,366,586	\$196.34	65.5%
Cotton Fleahopper	183,300	65%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	282,000	100%	5,640	2%	1.0	\$20.00	0.3%	0.02	\$0.40	0.30%	4,031	\$1,542,676	\$5.47	1.8%
Brown Stink Bug	282,000	100%	5,640	2%	1.0	\$20.00	0.3%	0.02	\$0.40	0.30%	4,031	\$1,542,676	\$5.47	1.8%
Clouded Plant Bug	169,200	60%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	2,820	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	169,200	60%	98,700	35%	1.3	\$20.00	1.5%	0.46	\$9.20	0.90%	12,093	\$5,846,269	\$20.73	6.9%
Thrips	282,000	100%	141,000	50%	1.1	\$13.00	0.5%	0.55	\$7.15	0.50%	6,718	\$4,399,309	\$15.60	5.2%
Aphids	282,000	100%	84,600	30%	1.0	\$20.00	0.0%	0.30	\$6.00	0.00%	0	\$1,692,000	\$6.00	2.0%
Grasshoppers	28,200	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	56,400	20%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					6.72	\$131.72			10.23%		137,385	\$84,491,850	\$299.62	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
State	Arkansas	Total Acres	282,000		Total	Per Acre	
Region	MidSouth	Total Bales Harvested	756,113		Foliar Insecticide Costs	\$37,145,378	
Year	2021	Total Bales Lost to Insects	137,385		Seed Treatment Costs	\$3,525,000	
Total Acres (Upland)	282,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	10.2%	In-Furrow Costs	\$507,600
Yield / Acre (Upland)	1,287	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,434	Scouting Costs	\$2,820,000
Price / lb	\$0.74	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	6.72	Eradication Costs	\$846,000
yield potential (lb/acre)	2,287	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	587,495	Bt Cotton	\$9,870,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	43.7%	Total Costs	\$54,713,978
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	282,000	Yield Loss to Insects	\$48,733,207
% Acres Scouted	100%	No. apps by air	4	Boll Weevil Eradication (# acres)	282,000	Total Losses + Costs	\$103,447,185
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	282,000		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	282,000		
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	33,840		
% acres with seed treatment	100%	% Loss to weather	19.5%	Applications by Air (acres)	225,600		
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	6.0%	Applications by Ground (acres)	282,000		
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	8.0%	No. acres with no foliar insecticide applications	0		

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2021, 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	11.1%	31,302	\$112.00	\$35.00	80%	25,042	1.5
Bollgard III	84.5%	238,290	\$112.00	\$35.00	6%	14,297	1.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	2.9%	8,178	\$112.00	\$35.00	7%	572	1.0
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	1.5%	4,230	\$112.00	\$35.00	6%	254	1.0
Total Bt	100.0%	282,000	\$112.00	\$35.00	14.2%	40,165	0.2
Herbicide Traits Only	0.0%	0	\$0.00		0%	0	0.0
Conventional	0.0%	0	\$0.00		0%	0	0.0
Organic	0.0%	0	\$0.00		0%	0	0.0
Total Upland Cotton	100.0%	282,000	\$112.00	\$35.00	14.2%	40,165	0.2
Non Upland Cotton							
Pima	0.0%	0	\$0.00		0%	0	0.0
Other	0.0%	0	\$0.00		0%	0	0.0
Organic	0.0%	0	\$0.00		0%	0	0.0
Total (all Cotton)		282,000	\$112.00		14.2%	40,165	0.2