

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2020.

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	315,000	100%	220,500	70%	1.1	\$25.00	3.0%	0.77	\$19.25	3.00%	36,225	\$16,844,310	\$53.47	25.3%
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	15,750	5%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	3,150	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	63,000	20%	25,200	8%	1.0	\$11.00	0.0%	0.08	\$0.88	0.00%	0	\$55,440	\$0.18	0.1%
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	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	315,000	100%	315,000	100%	4.0	\$20.00	3.9%	4.00	\$80.00	3.90%	47,093	\$39,214,877	\$124.49	58.9%
Cotton Fleahopper	236,250	75%	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)	220,500	70%	9,450	3%	1.0	\$20.00	0.3%	0.03	\$0.60	0.21%	2,536	\$887,014	\$2.82	1.3%
Brown Stink Bug	220,500	70%	9,450	3%	1.0	\$20.00	0.3%	0.03	\$0.60	0.21%	2,536	\$887,014	\$2.82	1.3%
Clouded Plant Bug	220,500	70%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	3,150	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	252,000	80%	110,250	35%	1.1	\$20.00	1.6%	0.39	\$7.80	1.28%	15,456	\$6,565,306	\$20.84	9.9%
Thrips	315,000	100%	63,000	20%	1.0	\$13.00	0.2%	0.20	\$2.60	0.20%	2,415	\$1,537,704	\$4.88	2.3%
Aphids	315,000	100%	31,500	10%	1.0	\$20.00	0.0%	0.10	\$2.00	0.00%	0	\$630,000	\$2.00	0.9%
Grasshoppers	31,500	10%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	15,750	5%	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%
<b>TOTAL</b>					<b>5.60</b>			<b>\$113.73</b>		<b>8.80%</b>	<b>106,261</b>	<b>\$66,621,665</b>	<b>\$211.50</b>	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results		
	Arkansas		Total Acres	315,000	Total	Per Acre	
Region	MidSouth		Total Bales Harvested	787,500	Foliar Insecticide Costs	\$35,824,950	
Year	2020		Total Bales Lost to Insects	106,261	Seed Treatment Costs	\$3,740,625	
Total Acres (Upland)	315,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	8.8%	In-Furrow Costs	\$567,000
Yield / Acre (Upland)	1,200	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,316	Scouting Costs	\$3,150,000
Price / lb	\$0.62	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	5.6	Eradication Costs	\$945,000
yield potential (lb/acre)	1,840	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	420,210	Bt Cotton	\$10,914,750
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	34.8%	Total Costs	\$55,142,325
Yield / Acre (Pima)	0	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	311,850	Yield Loss to Insects	\$31,623,274
% Acres Scouted	100%	No. apps by air	3.5	Boll Weevil Eradication (# acres)	315,000	Total Losses + Costs	\$86,765,599
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	315,000		
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4	Seed Treatments (arthropods) (# acres)	299,250		
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$7.00	In-Furrow Applications (# acres)	37,800		
% acres with seed treatment	95%	% Loss to weather	16.0%	Applications by Air (acres)	252,000		
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	315,000		
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	0		

Table 5. Cotton insect loss estimates for Northeast Arkansas during 2020, 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	71.0%	223,650	\$112.00	\$35.00	70%	156,555	1.5
Bollgard III	14.0%	44,100	\$112.00	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	9.0%	28,350	\$112.00	\$35.00	2%	567	0.5
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	5.0%	15,750	\$112.00	\$35.00	0%	0	0.0
<b>Total Bt</b>	<b>99.0%</b>	<b>311,850</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>50.4%</b>	<b>157,122</b>	<b>0.8</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	1.0%	3,150	\$26.00	-	100%	3,150	2.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>315,000</b>	<b>\$111.14</b>	<b>\$35.00</b>	<b>50.9%</b>	<b>160,272</b>	<b>0.8</b>
<b>Non Upland Cotton</b>							
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
<b>Total (all Cotton)</b>		<b>315,000</b>	<b>\$111.14</b>	<b>-</b>	<b>50.9%</b>	<b>160,272</b>	<b>0.8</b>