

Table 4. Cotton insect loss estimates for Southeast Arkansas during 2022.

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	220,500	100%	25,799	12%	1.3	\$34.50	1.5%	0.15	\$5.18	1.50%	13,340	\$6,583,808	\$29.86	11.0%
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	4,410	2%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	2,205	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	44,100	20%	6,615	3%	1.0	\$14.50	0.0%	0.03	\$0.44	0.00%	0	\$19,184	\$0.09	0.0%
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	4,410	2%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	220,500	100%	218,295	99%	4.0	\$23.50	5.0%	3.96	\$93.06	5.00%	44,468	\$38,662,674	\$175.34	64.7%
Cotton Fleahopper	154,350	70%	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	100%	6,615	3%	1.0	\$23.50	0.3%	0.03	\$0.71	0.30%	2,668	\$1,243,997	\$5.64	2.1%
Brown Stink Bug	220,500	100%	6,615	3%	1.0	\$23.50	0.3%	0.03	\$0.71	0.30%	2,668	\$1,243,997	\$5.64	2.1%
Clouded Plant Bug	165,375	75%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	11,025	5%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	110,250	50%	55,125	25%	1.5	\$23.50	1.8%	0.38	\$8.93	0.90%	8,004	\$4,250,165	\$19.28	7.1%
Thrips	220,500	100%	121,275	55%	1.5	\$17.50	1.0%	0.83	\$14.53	1.00%	8,894	\$6,831,515	\$30.98	11.4%
Aphids	220,500	100%	37,485	17%	1.0	\$23.50	0.0%	0.17	\$4.00	0.00%	0	\$880,898	\$4.00	1.5%
Grasshoppers	28,665	13%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	44,100	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%
<b>TOTAL</b>								5.58	\$127.53	9.00%	80,042	\$59,716,238	\$270.82	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results		
State	Arkansas	Total Acres		220,500		Total	Per Acre	
Region	MidSouth	Total Bales Harvested		542,522	Foliar Insecticide Costs	\$28,120,365	\$127.53	
Year	2022	Total Bales Lost to Insects		80,042	Seed Treatment Costs	\$2,646,000	\$12.00	
Total Acres (Upland)	220,500	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	9.0%	In-Furrow Costs	\$396,900	\$1.80
Yield / Acre (Upland)	1,181	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,298	Scouting Costs	\$2,205,000	\$10.00
Price / lb	\$0.85	Cost/acre Boll Weevil Eradication	\$3.00	Av. # Applications	5.58	Eradication Costs	\$661,500	\$3.00
yield potential (lb/acre)	1,936	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	346,847	Bt Cotton	\$7,717,500	\$35.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	39.0%	Total Costs	\$41,747,265	\$189.33
Yield / Acre (Pima)	0	% Insect apps by air	100%	Transgenic Cotton (arthropods) (# acres)	220,500	Yield Loss to Insects	\$32,657,136	\$148.10
% Acres Scouted	100%	No. apps by air	3	Boll Weevil Eradication (# acres)	220,500	Total Losses + Costs	\$74,404,401	\$337.43
Fee / Scouted Acre	\$10.00	Cost/app by air	\$11.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	220,500			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	3	Seed Treatments (arthropods) (# acres)	220,500			
Cost/treated acre (Bt) Cotton	\$35.00	Cost/app by ground	\$8.50	In-Furrow Applications (# acres)	26,460			
% acres with seed treatment	100%	% Loss to weather	17.0%	Applications by Air (acres)	220,500			
Seed trt. cost/ treated acre	\$12.00	% loss to non-arthropods	6.0%	Applications by Ground (acres)	220,500			
% acres with in-furrow	12%	% loss to other (chemical injury, weeds, diseases, etc.)	7.0%	No. acres with no foliar insecticide applications	0			

Table 4. Cotton insect loss estimates for Southeast Arkansas during 2022, 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	2.0%	4,410	\$112.00	\$35.00	96%	4,234	1.5
Bollgard III	96.0%	211,680	\$112.00	\$35.00	10%	21,168	1.0
WideStrike	0.0%	0	\$97.00	\$35.00	0%	0	0.0
WideStrike 3	2.0%	4,410	\$112.00	\$35.00	10%	441	1.0
TwinLink	0.0%	0	\$112.00	\$35.00	0%	0	0.0
TwinLink Plus	0.0%	0	\$112.00	\$35.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>220,500</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>11.7%</b>	<b>25,843</b>	<b>0.1</b>
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
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>220,500</b>	<b>\$112.00</b>	<b>\$35.00</b>	<b>11.7%</b>	<b>25,843</b>	<b>0.1</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>220,500</b>	<b>\$112.00</b>	<b>-</b>	<b>11.7%</b>	<b>25,843</b>	<b>0.1</b>