

Table 24. Cotton insect loss estimates for Tennessee 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	208,000	65%	160,000	50.0%	1.0	\$20.00	1.10%	0.50	\$10.00	0.72%	6,673	\$5,603,344	\$17.51	8.5%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	3,200	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	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	3,200	1%	80,000	25.0%	1.0	\$6.00	0.00%	0.25	\$1.50	0.00%	0	\$4,800	\$0.02	0.0%
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	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	320,000	100%	320,000	100.0%	4.0	\$15.00	3.40%	4.00	\$60.00	3.40%	31,733	\$35,955,024	\$112.36	54.7%
Cotton Fleahopper	0	0%	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)	320,000	100%	176,000	55.0%	1.0	\$10.00	0.40%	0.55	\$5.50	0.40%	3,733	\$3,731,024	\$11.66	5.7%
Brown Stink Bug	320,000	100%	32,000	10.0%	1.0	\$10.00	0.20%	0.10	\$1.00	0.20%	1,867	\$1,305,776	\$4.08	2.0%
Clouded Plant Bug	320,000	100%	38,400	12.0%	1.0	\$10.00	0.20%	0.12	\$1.20	0.20%	1,867	\$1,369,776	\$4.28	2.1%
Leaf Footed Bugs	32,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	288,000	90%	80,000	25.0%	1.0	\$11.75	0.75%	0.25	\$2.94	0.68%	6,300	\$4,172,400	\$13.04	6.4%
Thrips	320,000	100%	320,000	100.0%	1.5	\$12.50	1.50%	1.50	\$18.75	1.50%	14,000	\$13,392,000	\$41.85	20.4%
Aphids	320,000	100%	3,200	1.0%	1.0	\$12.00	0.02%	0.01	\$0.12	0.02%	187	\$137,136	\$0.43	0.2%
Grasshoppers	9,600	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	3,200	1%	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								7.28	\$101.01	7.11%	66,360	\$65,671,280	\$205.22	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
State	Tennessee	Total Acres			320,000	Total	Per Acre
Region	Midsouth	Total Bales Harvested			680,000	Foliar Insecticide Costs	\$32,322,400
Year	2022	Total Bales Lost to Insects			66,360	Seed Treatment Costs	\$3,520,000
Total Acres (Upland)	320,000	In-furrow cost/treated acre	\$9.00	Percent Yield Loss	7.1%	In-Furrow Costs	\$57,600
Yield / Acre (Upland)	1,020	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,098	Scouting Costs	\$3,268,800
Price / lb	\$1.10	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	7.28	Eradication Costs	\$480,000
yield potential (lb/acre)	1,400	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	253,493	Bt Cotton	\$8,217,600
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	27.2%	Total Costs	\$47,866,400
Yield / Acre (Pima)	0	% Insect apps by air	30%	Transgenic Cotton (arthropods) (# acres)	320,000	Yield Loss to Insects	\$35,038,080
% Acres Scouted	90%	No. apps by air	2	Boll Weevil Eradication (# acres)	320,000	Total Losses + Costs	\$82,904,480
Fee / Scouted Acre	\$11.35	Cost/app by air	\$11.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.5	% insect apps by ground	100%	# Scouted Acres	288,000		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5	Seed Treatments (arthropods) (# acres)	320,000		
Cost/treated acre (Bt) Cotton	\$25.68	Cost/app by ground	\$6.00	In-Furrow Applications (# acres)	6,400		
% acres with seed treatment	100%	% Loss to weather	14.1%	Applications by Air (acres)	96,000		
Seed trt. cost/ treated acre	\$11.00	% loss to non-arthropods	3.0%	Applications by Ground (acres)	320,000		
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%	No. acres with no foliar insecticide applications	0		

Table 24. Cotton insect loss estimates for Tennessee 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	10.0%	32,000	\$110.00	\$24.00	65%	20,800	1.0
Bollgard III	84.0%	268,800	\$115.00	\$26.00	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	5.0%	16,000	\$105.00	\$24.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	1.0%	3,200	\$110.00	\$24.00	0%	0	0.0
Total Bt	100.0%	320,000	\$113.95	\$25.68	6.5%	20,800	0.1
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%	320,000	\$113.95	\$25.68	6.5%	20,800	0.1
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)		320,000	\$113.95	-	6.5%	20,800	0.1