

Table 24. Cotton insect loss estimates for Tennessee during 2023.

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	294,500	95%	31,000	10.0%	1.0	\$20.00	1.50%	0.10	\$2.00	1.43%	16,520	\$7,249,864	\$23.39	8.6%
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	620	0%	0	0.0%	1.0	\$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	3,100	1%	3,100	1.0%	1.0	\$7.00	0.00%	0.01	\$0.07	0.00%	0	\$217	\$0.00	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	310,000	100%	310,000	100.0%	4.5	\$16.00	5.50%	4.50	\$72.00	5.50%	63,760	\$48,028,032	\$154.93	57.1%
Cotton Fleahopper	3,100	1%	3,100	1.0%	1.0	\$10.00	0.05%	0.01	\$0.10	0.00%	12	\$5,148	\$0.02	0.0%
Stink Bugs (other than brown stink bug)	310,000	100%	201,500	65.0%	1.0	\$11.00	0.40%	0.65	\$7.15	0.40%	4,637	\$4,086,138	\$13.18	4.9%
Brown Stink Bug	310,000	100%	279,000	90.0%	1.0	\$11.00	0.40%	0.90	\$9.90	0.40%	4,637	\$4,938,638	\$15.93	5.9%
Clouded Plant Bug	310,000	100%	279,000	90.0%	1.5	\$12.00	0.40%	1.35	\$16.20	0.40%	4,637	\$6,891,638	\$22.23	8.2%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	279,000	90%	0	0.0%	1.5	\$12.50	0.50%	0.00	\$0.00	0.45%	5,217	\$2,103,494	\$6.79	2.5%
Thrips	310,000	100%	155,000	50.0%	1.5	\$15.00	1.50%	0.75	\$11.25	1.50%	17,389	\$10,498,745	\$33.87	12.5%
Aphids	310,000	100%	15,500	5.0%	1.0	\$12.50	0.01%	0.05	\$0.63	0.01%	116	\$240,521	\$0.78	0.3%
Grasshoppers	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	15,500	5%	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%
<b>TOTAL</b>					<b>8.32</b>			<b>\$119.30</b>		<b>10.09%</b>	<b>116,925</b>	<b>\$84,042,435</b>	<b>\$271.10</b>	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results		
State	Tennessee	Total Acres		310,000	Total	Per Acre	
Region	Midsouth	Total Bales Harvested		798,896	Foliar Insecticide Costs	\$36,981,450	
Year	2023	Total Bales Lost to Insects		116,925	Seed Treatment Costs	\$3,410,000	
Total Acres (Upland)	310,000	In-furrow cost/treated acre	\$10.00	Percent Yield Loss	10.1%	In-Furrow Costs	\$62,000
Yield / Acre (Upland)	1,237	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,376	Scouting Costs	\$3,342,575
Price / lb	\$0.84	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	8.32	Eradication Costs	\$465,000
yield potential (lb/acre)	1,795	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	360,371	Bt Cotton	\$11,705,600
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	31.1%	Total Costs	\$55,966,625
Yield / Acre (Pima)	0	% Insect apps by air	30%	Transgenic Cotton (arthropods) (# acres)	310,000	Yield Loss to Insects	\$47,144,160
% Acres Scouted	95%	No. apps by air	2	Boll Weevil Eradication (# acres)	310,000	Total Losses + Costs	\$103,110,785
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	294,500		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	5	Seed Treatments (arthropods) (# acres)	310,000		
Cost/treated acre (Bt) Cotton	\$37.76	Cost/app by ground	\$6.50	In-Furrow Applications (# acres)	6,200		
% acres with seed treatment	100%	% Loss to weather	15.0%	Applications by Air (acres)	93,000		
Seed trt. cost/ treated acre	\$11.00	% loss to non-arthropods	3.0%	Applications by Ground (acres)	310,000		
% 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 2023, 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%	31,000	\$140.00	\$24.00	80%	24,800	1.0
Bollgard III	38.0%	117,800	\$150.00	\$26.00	0%	0	0.0
Bollgard III/Thryvon	50.0%	155,000	\$170.00	\$26.00	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	2.0%	6,200	\$120.00	\$24.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	0.0%	0	\$0.00	\$0.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>310,000</b>	<b>\$158.40</b>	<b>\$37.76</b>	<b>8.0%</b>	<b>24,800</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>310,000</b>	<b>\$158.40</b>	<b>\$37.76</b>	<b>8.0%</b>	<b>24,800</b>	<b>0.1</b>
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
<b>Total (all Cotton)</b>		<b>310,000</b>	<b>\$158.40</b>		<b>8.0%</b>	<b>24,800</b>	<b>0.1</b>

  

Upland Cotton	Thryvon Bt cost/acre	% acres treated for Thrips	# acres treated for Thrips	# apps for Thrips	% acres treated for Lygus	# acres treated for Lygus	# apps for Lygus
Bollgard III/Thryvon	\$24.00	0.2%	310	1	95%	147,250	0