

Table 21. Cotton insect loss estimates for Tennessee 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	105,300	39%	108,000	40.0%	1.1	\$20.00	1.10%	0.44	\$8.80	0.43%	3,325	\$2,570,520	\$9.52	5.8%
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	8,100	3%	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	8,100	3%	135,000	50.0%	1.0	\$3.50	0.00%	0.50	\$1.75	0.00%	0	\$14,175	\$0.05	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	5,400	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	270,000	100%	270,000	100.0%	3.5	\$14.25	3.40%	3.50	\$49.88	3.40%	26,354	\$26,495,668	\$98.13	59.5%
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)	270,000	100%	108,000	40.0%	1.0	\$10.00	0.40%	0.40	\$4.00	0.40%	3,101	\$2,613,134	\$9.68	5.9%
Brown Stink Bug	270,000	100%	18,900	7.0%	1.0	\$10.00	0.20%	0.07	\$0.70	0.20%	1,550	\$955,320	\$3.54	2.1%
Clouded Plant Bug	270,000	100%	27,000	10.0%	1.0	\$10.00	0.20%	0.10	\$1.00	0.20%	1,550	\$1,036,320	\$3.84	2.3%
Leaf Footed Bugs	27,000	10%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	216,000	80%	43,200	16.0%	1.1	\$11.25	0.50%	0.18	\$2.03	0.40%	3,101	\$1,970,534	\$7.30	4.4%
Thrips	270,000	100%	243,000	90.0%	1.3	\$9.50	1.50%	1.17	\$11.12	1.50%	11,627	\$8,749,439	\$32.41	19.7%
Aphids	270,000	100%	2,700	1.0%	1.0	\$11.50	0.02%	0.01	\$0.12	0.02%	155	\$107,682	\$0.40	0.2%
Grasshoppers	13,500	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	13,500	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>6.37</b>			<b>\$79.38</b>		<b>6.55%</b>	<b>50,763</b>	<b>\$44,512,792</b>	<b>\$164.86</b>	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Tennessee	Total Acres	270,000		Total	Per Acre	
Region	Midsouth	Total Bales Harvested	600,188		Foliar Insecticide Costs	\$21,432,600	
Year	2021	Total Bales Lost to Insects	50,763		Seed Treatment Costs	\$2,916,000	
Total Acres (Upland)	270,000	In-furrow cost/treated acre	\$9.00		Percent Yield Loss	6.5%	
Yield / Acre (Upland)	1,067	% acres in Boll Weevil Eradication	100%		Yield w/o Insects (lb/acre)	1,142	
Price / lb	\$1.03	Cost/acre Boll Weevil Eradication	\$1.50		Av. # Applications	6.37	
yield potential (lb/acre)	1,378	% acres in Pink Bollworm Eradication	0%		Total Bales lost (all factors)	174,783	
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00		Total % yield Loss	22.5%	
Yield / Acre (Pima)	0	% Insect apps by air	30%		Transgenic Cotton (arthropods) (# acres)	270,000	
% Acres Scouted	90%	No. apps by air	2		Boll Weevil Eradication (# acres)	270,000	
Fee / Scouted Acre	\$11.35	Cost/app by air	\$10.50		Pink Bollworm Eradication (# acres)	0	
No. times scouted/week	1.5	% insect apps by ground	100%		# Scouted Acres	243,000	
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5		Seed Treatments (arthropods) (# acres)	270,000	
Cost/treated acre (Bt) Cotton	\$25.36	Cost/app by ground	\$5.50		In-Furrow Applications (# acres)	5,400	
% acres with seed treatment	100%	% Loss to weather	10.0%		Applications by Air (acres)	81,000	
Seed trt. cost/ treated acre	\$10.80	% loss to non-arthropods	3.0%		Applications by Ground (acres)	270,000	
% acres with in-furrow	2%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%		No. acres with no foliar insecticide applications	0	

Table 21. Cotton insect loss estimates for Tennessee 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	25.0%	67,500	\$110.00	\$24.00	60%	40,500	1.1
Bollgard III	68.0%	183,600	\$115.00	\$26.00	0%	0	0.0
WideStrike	0.0%	0	\$0.00	\$0.00	0%	0	0.0
WideStrike 3	6.0%	16,200	\$105.00	\$24.00	0%	0	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	1.0%	2,700	\$110.00	\$24.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>270,000</b>	<b>\$113.10</b>	<b>\$25.36</b>	<b>15.0%</b>	<b>40,500</b>	<b>0.2</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>270,000</b>	<b>\$113.10</b>	<b>\$25.36</b>	<b>15.0%</b>	<b>40,500</b>	<b>0.2</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>270,000</b>	<b>\$113.10</b>		<b>15.0%</b>	<b>40,500</b>	<b>0.2</b>