

Table 25. Cotton insect loss estimates for Tennessee during 2018.

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	319,500	90.0%	235,010	66.2%	1.5	\$19.00	2.30%	0.99	\$18.81	2.07%	19,596	\$13,252,477	\$37.33	27.7%
Beet Armyworm	0	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	106,500	30.0%	17,750	5.0%	1.0	\$13.50	0.20%	0.05	\$0.68	0.06%	568	\$281,820	\$0.79	0.6%
Loopers	3,550	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	35,500	10.0%	213,000	60.0%	1.0	\$4.00	0.00%	0.60	\$2.40	0.00%	0	\$85,200	\$0.24	0.2%
Cotton Leaf Perforator	0	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	28,400	8.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	355,000	100.0%	355,000	100.0%	3.4	\$13.00	2.50%	3.40	\$44.20	2.50%	23,667	\$24,438,323	\$68.84	51.2%
Cotton Fleahopper	10,650	3.0%	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)	355,000	100.0%	106,500	30.0%	1.0	\$10.75	0.40%	0.30	\$3.23	0.40%	3,787	\$2,544,550	\$7.17	5.3%
Brown Stink Bug	355,000	100.0%	35,500	10.0%	1.0	\$11.00	0.10%	0.10	\$1.10	0.10%	947	\$740,511	\$2.09	1.6%
Clouded Plant Bug	319,500	90.0%	35,500	10.0%	1.0	\$9.00	0.05%	0.10	\$0.90	0.05%	426	\$445,000	\$1.25	0.9%
Leaf Footed Bugs	7,100	2.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	319,500	90.0%	134,900	38.0%	1.1	\$11.00	0.20%	0.42	\$4.62	0.18%	1,704	\$2,105,888	\$5.93	4.4%
Thrips	355,000	100.0%	319,500	90.0%	1.1	\$7.00	0.30%	0.99	\$6.93	0.30%	2,840	\$3,509,814	\$9.89	7.3%
Aphids	355,000	100.0%	14,200	4.0%	1.0	\$13.00	0.05%	0.04	\$0.52	0.05%	473	\$359,421	\$1.01	0.8%
Grasshoppers	10,650	3.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	28,400	8.0%	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	\$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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>								6.99	\$83.38	5.71%	54,008	\$47,763,004	\$134.54	

**SUMMARY DATA**

Data Input			Yield and Management Results			Economic Results	
State	Tennessee		Total Acres	355,000		Total	Per Acre
Region	Mid-South		Total Bales Harvested	764,729		Foliar Insecticide Costs	\$83.38
Year	2018		Total Bales Lost to Insects	54,008		Seed Treatment Costs	\$10.50
Total Acres (Upland)	355,000	In-furrow cost/treated acre	\$0.00	Percent Yield Loss	5.7%	In-Furrow Costs	\$0.00
Yield / Acre (Upland)	1,034	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,097	Scouting Costs	\$9.00
Price / lb	\$0.77	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	6.99	Eradication Costs	\$1.50
yield potential (lb/acre)	1,280	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	186,541	Bt Cotton	\$23.53
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	19.7%	Total Costs	\$127.91
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	353,225	Yield Loss to Insects	\$56.23
% Acres Scouted	80%	No. apps by air	1.7	Boll Weevil Eradication (# acres)	355,000	Total Losses + Costs	\$184.14
Fee / Scouted Acre	\$11.25	Cost/app by air	\$9.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.5	% insect apps by ground	75%	# Scouted Acres	284,000		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	5.2	Seed Treatments (arthropods) (# acres)	355,000		
Cost/treated acre (Bt) Cotton	\$23.65	Cost/app by ground	\$5.00	In-Furrow Applications (# acres)	0		
% acres with seed treatment	100%	% Loss to weather	8.0%	Applications by Air (acres)	88,750		
Seed trt. cost/ treated acre	\$10.50	% loss to non-arthropods	2.0%	Applications by Ground (acres)	266,250		
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0		

Table 25. Cotton insect loss estimates for Tennessee during 2018, 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	75.0%	266,250	\$110.00	\$24.00	80%	213,000	1.2
Bollgard III	5.5%	19,525	\$112.00	\$26.00	0%	0	0.0
WideStrike	5.7%	20,235	\$82.00	\$16.00	100%	20,235	1.5
WideStrike 3	12.8%	45,440	\$110.00	\$24.00	0%	0	0.0
TwinLink	0.0%	0	\$82.00	\$16.00	0	0	0
TwinLink Plus	0.5%	1,775	\$110.00	\$24.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>353,225</b>	<b>\$108.51</b>	<b>\$23.65</b>	<b>66.0%</b>	<b>233,235</b>	<b>1.0</b>
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0
Conventional	0.5%	1,775	\$22.00	-	100%	1,775	1.8
Organic	0.0%	0	\$0.00	-	0%	0	0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>355,000</b>	<b>\$101.91</b>	<b>\$23.65</b>	<b>66.2%</b>	<b>235,010</b>	<b>1.0</b>
Non Upland Cotton							
Pima	0.0%	0	\$0.00	-	0%	0	0
Other	0.0%	0	\$0.00	-	0%	0	0
Organic	0.0%	0	\$0.0	-	0%	0	0
<b>Total (all Cotton)</b>		<b>355,000</b>	<b>\$101.91</b>		<b>66.2%</b>	<b>235,010</b>	<b>1.0</b>