

Table 24. Cotton insect loss estimates for Tennessee during 2017.

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	310,500	90%	241,500	70.0%	1.3	\$16.00	2.10%	0.91	\$14.56	1.89%	17,388	\$10,697,098	\$31.01	27.3%
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	138,000	40%	34,500	10.0%	1.0	\$13.50	0.40%	0.10	\$1.35	0.16%	1,472	\$709,154	\$2.06	1.8%
Loopers	3,450	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	34,500	10%	207,000	60.0%	1.0	\$4.00	0.00%	0.60	\$2.40	0.00%	0	\$82,800	\$0.24	0.2%
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	17,250	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	345,000	100%	345,000	100.0%	2.9	\$12.50	2.10%	2.90	\$36.25	2.10%	19,320	\$19,368,714	\$56.14	49.4%
Cotton Fleahopper	34,500	10%	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)	345,000	100%	69,000	20.0%	1.0	\$9.00	0.40%	0.20	\$1.80	0.40%	3,680	\$1,928,136	\$5.59	4.9%
Brown Stink Bug	345,000	100%	34,500	10.0%	1.0	\$9.00	0.10%	0.10	\$0.90	0.10%	920	\$637,284	\$1.85	1.6%
Clouded Plant Bug	276,000	80%	17,250	5.0%	1.0	\$9.00	0.05%	0.05	\$0.45	0.04%	368	\$254,914	\$0.74	0.7%
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	258,750	75%	103,500	30.0%	1.1	\$11.00	0.20%	0.33	\$3.63	0.15%	1,380	\$1,429,439	\$4.14	3.6%
Thrips	345,000	100%	310,500	90.0%	1.1	\$7.00	0.30%	0.99	\$6.93	0.30%	2,760	\$3,371,202	\$9.77	8.6%
Aphids	345,000	100%	41,400	12.0%	1.0	\$13.00	0.05%	0.12	\$1.56	0.05%	460	\$701,592	\$2.03	1.8%
Grasshoppers	3,450	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	34,500	10%	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>								6.30	\$69.83	5.19%	47,748	\$39,180,333	\$113.57	

**SUMMARY DATA**

Data Input			Yield and Management Results			Economic Results	
State	Tennessee		Total Acres	345,000		Total	Per Acre
Region	MidSouth		Total Bales Harvested	741,031		Foliar Insecticide Costs	\$24,091,350
Year	2017		Total Bales Lost to Insects	47,748		Seed Treatment Costs	\$3,450,000
Total Acres (Upland)	345,000	In-furrow cost/treated acre	\$0.00	Percent Yield Loss	5.2%	In-Furrow Costs	\$0
Yield / Acre (Upland)	1,031	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,087	Scouting Costs	\$3,036,000
Price / lb	\$0.74	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	6.3	Eradication Costs	\$517,500
yield potential (lb/acre)	1,280	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	176,548	Bt Cotton	\$7,866,000
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	19.2%	Total Costs	\$38,960,850
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	341,550	Yield Loss to Insects	\$16,960,090
% Acres Scouted	80%	No. apps by air	1,575	Boll Weevil Eradication (# acres)	345,000	Total Losses + Costs	\$55,920,940
Fee / Scouted Acre	\$11.00	Cost/app by air	\$8.50	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.5	% insect apps by ground	75%	# Scouted Acres	276,000		
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	4,725	Seed Treatments (arthropods) (# acres)	345,000		
Cost/treated acre (Bt) Cotton	\$23.03	Cost/app by ground	\$4.75	In-Furrow Applications (# acres)	0		
% acres with seed treatment	100%	% Loss to weather	6.0%	Applications by Air (acres)	86,250		
Seed trt. cost/ treated acre	\$10.00	% loss to non-arthropods	4.0%	Applications by Ground (acres)	258,750		
% acres with in-furrow	0%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0		

Table 24. Cotton insect loss estimates for Tennessee during 2017, 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	% of Population Bollworm
Bollgard II	84.0%	289,800	\$98.00	\$24.00	60%	173,880	1.3	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	10.0%	34,500	\$80.00	\$16.00	90%	31,050	1.5	100%
WideStrike 3	3.5%	12,075	\$89.00	\$20.00	0%	0	0.0	100%
TwinLink	1.0%	3,450	\$87.00	\$22.00	60%	2,070	1.2	100%
TwinLink Plus	0.5%	1,725	\$90.00	\$24.00	0%	0	0.0	100%
<b>Total Bt</b>	<b>99%</b>	<b>341,550</b>	<b>\$95.71</b>	<b>\$23.03</b>	<b>60.6%</b>	<b>207,000</b>	<b>1.3</b>	<b>100%</b>
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	1.0%	3,450	\$22.00	-	-	0	2.0	80%
Organic	0.0%	0	-	-	-	-	-	-
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>345,000</b>	<b>\$94.98</b>	<b>\$23.03</b>	<b>60.0%</b>	<b>207,000</b>	<b>1.3</b>	<b>99.8%</b>
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
<b>Total (all Cotton)</b>		<b>345,000</b>	<b>\$94.98</b>		<b>60.0%</b>	<b>207,000</b>	<b>1.3</b>	