

Table 21. Cotton insect loss estimates for Tennessee during 2019.

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	348,000	87%	300,000	75.0%	1.3	\$19.50	2.30%	0.98	\$19.11	2.00%	21,177	\$13,257,504	\$33.14	25.2%
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	60,000	15%	8,000	2.0%	1.0	\$13.50	0.10%	0.02	\$0.27	0.02%	159	\$65,808	\$0.16	0.1%
Loopers	4,000	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	20,000	5%	240,000	60.0%	1.0	\$4.00	0.00%	0.60	\$2.40	0.00%	0	\$48,000	\$0.12	0.1%
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	4,000	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	400,000	100%	400,000	100.0%	3.3	\$14.00	2.70%	3.30	\$46.20	2.70%	28,575	\$27,395,400	\$68.49	52.0%
Cotton Fleahopper	4,000	1%	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)	400,000	100%	220,000	55.0%	1.0	\$10.50	0.60%	0.55	\$5.78	0.60%	6,350	\$4,291,200	\$10.73	8.1%
Brown Stink Bug	400,000	100%	48,000	12.0%	1.0	\$11.00	0.10%	0.12	\$1.32	0.10%	1,058	\$858,096	\$2.15	1.6%
Clouded Plant Bug	360,000	90%	28,000	7.0%	1.0	\$10.00	0.10%	0.07	\$0.70	0.09%	953	\$549,336	\$1.37	1.0%
Leaf Footed Bugs	12,000	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	340,000	85%	132,000	33.0%	1.2	\$11.00	0.30%	0.40	\$4.40	0.26%	2,699	\$2,338,088	\$5.85	4.4%
Thrips	400,000	100%	280,000	70.0%	1.2	\$7.50	0.20%	0.84	\$6.30	0.20%	2,117	\$3,180,504	\$7.95	6.0%
Aphids	400,000	100%	32,000	8.0%	1.0	\$12.00	0.10%	0.08	\$0.96	0.10%	1,058	\$714,096	\$1.79	1.4%
Grasshoppers	12,000	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	20,000	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%
TOTAL								6.96	\$87.44	6.06%	64,146	\$52,698,032	\$131.75	

SUMMARY DATA

Data Input			Yield and Management Results			Economic Results	
State	Tennessee		Total Acres	400,000		Total	Per Acre
Region	Midsouth		Total Bales Harvested	920,000		Foliar Insecticide Costs	\$34,974,000
Year	2019		Total Bales Lost to Insects	64,146		Seed Treatment Costs	\$4,200,000
Total Acres (Upland)	400,000		Percent Yield Loss	6.1%		In-Furrow Costs	\$35,000
Yield / Acre (Upland)	1,104		Yield w/o Insects (lb/acre)	1,175		Scouting Costs	\$3,825,000
Price / lb	\$0.65		Av. # Applications	6.96		Eradication Costs	\$600,000
yield potential (lb/acre)	1,270		Total Bales lost (all factors)	159,396		Bt Cotton	\$9,528,000
Acres (Pima)	0		Total % yield Loss	15.1%		Total Costs	\$53,162,000
Yield / Acre (Pima)	0		Transgenic Cotton (arthropods) (# acres)	398,000		Yield Loss to Insects	\$20,013,552
% Acres Scouted	85%		Boll Weevil Eradication (# acres)	400,000		Total Losses + Costs	\$73,175,552
Fee / Scouted Acre	\$11.25		Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5		# Scouted Acres	340,000			
% acres Transgenic (Bt) Cotton	100%		Seed Treatments (arthropods) (# acres)	400,000			
Cost/treated acre (Bt) Cotton	\$23.94		In-Furrow Applications (# acres)	4,000			
% acres with seed treatment	100%		Applications by Air (acres)	100,000			
Seed trt. cost/ treated acre	\$10.50		Applications by Ground (acres)	300,000			
% acres with in-furrow	1%		No. acres with no foliar insecticide applications	0			

Table 21. Cotton insect loss estimates for Tennessee during 2019, 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	80.0%	320,000	\$110.00	\$24.00	90%	288,000	1.2
Bollgard III	7.0%	28,000	\$112.00	\$26.00	0%	0	0.0
WideStrike	1.5%	6,000	\$82.00	\$16.00	100%	6,000	1.5
WideStrike 3	9.0%	36,000	\$105.00	\$24.00	0%	0	0.0
TwinLink	1.0%	4,000	\$82.00	\$16.00	90%	3,600	1.2
TwinLink Plus	1.0%	4,000	\$110.00	\$24.00	0%	0	0.0
Total Bt	99.5%	398,000	\$108.98	\$23.94	74.8%	297,600	1.0
Herbicide Traits Only	0.0%	0	\$0	-	-	0	-
Conventional	0.5%	2,000	\$22.00	-	0%	0	2.3
Organic	0.0%	0	\$0	-	-	0	-
Total Upland Cotton	100.0%	400,000	\$108.55	\$23.94	74.4%	297,600	1.0
Non Upland Cotton							
Pima	0.0%	0	-	-	-	0	-
Other	0.0%	0	-	-	-	0	-
Organic	0.0%	0	-	-	-	0	-
Total (all Cotton)		400,000	\$108.55	-	74.4%	297,600	1.0