

Table 22. Cotton insect loss estimates for North Carolina 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	396,000	90.0%	158,400	36.0%	1.1	\$22.00	7.00%	0.40	\$8.80	6.30%	51,975	\$23,443,200	\$53.28	49.9%
Beet Armyworm	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
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	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	396,000	90.0%	286,000	65.0%	1.8	\$15.00	0.20%	1.17	\$17.55	0.18%	1,485	\$7,520,040	\$17.09	16.0%
Cotton Fleahopper	0	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)	220,000	50.0%	70,400	16.0%	1.0	\$12.00	1.90%	0.16	\$1.92	0.95%	7,838	\$3,432,192	\$7.80	7.3%
Brown Stink Bug	272,800	62.0%	105,600	24.0%	1.0	\$12.00	1.90%	0.24	\$2.88	1.18%	9,719	\$4,517,760	\$10.27	9.6%
Clouded Plant Bug	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	4,400	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	440,000	100.0%	4,400	1.0%	1.0	\$18.00	0.04%	0.01	\$0.18	0.04%	330	\$205,920	\$0.47	0.4%
Thrips	440,000	100.0%	281,600	64.0%	1.0	\$15.00	1.00%	0.64	\$9.60	1.00%	8,250	\$7,392,000	\$16.80	15.7%
Aphids	440,000	100.0%	30,800	7.0%	1.0	\$16.00	0.00%	0.07	\$1.12	0.00%	0	\$492,800	\$1.12	1.0%
Grasshoppers	22,000	5.0%	4,400	1.0%	1.0	\$12.00	0.00%	0.01	\$0.12	0.00%	0	\$2,640	\$0.01	0.0%
Banded Winged 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%
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%
TOTAL								2.70	\$42.17	9.65%	79,597	\$47,006,552	\$106.83	

SUMMARY DATA

	Data Input		Yield and Management Results			Economic Results		
	North Carolina		Total Acres			Total	Per Acre	
State	North Carolina		440,000					
Region	Southeast		Total Bales Harvested	759,000	Foliar Insecticide Costs	\$18,554,800	\$42.17	
Year	2018		Total Bales Lost to Insects	79,597	Seed Treatment Costs	\$6,243,600	\$14.19	
Total Acres (Upland)	440,000	In-furrow cost/treated acre	\$13.00	Percent Yield Loss	9.6%	In-Furrow Costs	\$4,576,000	\$10.40
Yield / Acre (Upland)	828	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	916	Scouting Costs	\$2,112,000	\$4.80
Price / lb	\$0.80	Cost/acre Boll Weevil Eradication	\$0.75	Av. # Applications	2.7	Eradication Costs	\$330,000	\$0.75
yield potential (lb/acre)	900	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	162,096	Bt Cotton	\$13,660,416	\$31.05
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	19.6%	Total Costs	\$45,476,816	\$103.36
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	431,200	Yield Loss to Insects	\$30,565,248	\$69.47
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	440,000	Total Losses + Costs	\$76,042,064	\$172.82
Fee / Scouted Acre	\$8.00	Cost/app by air	\$9.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	80%	# Scouted Acres	264,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	378,400			
Cost/treated acre (Bt) Cotton	\$31.68	Cost/app by ground	\$8.00	In-Furrow Applications (# acres)	352,000			
% acres with seed treatment	86%	% Loss to weather	8.0%	Applications by Air (acres)	88,000			
Seed trt. cost/ treated acre	\$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	352,000			
% acres with in-furrow	80%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	22,000			

Table 22. Cotton insect loss estimates for North Carolina 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	55.0%	242,000	\$90.00	\$30.00	52%	125,840	1.1
Bollgard III	12.0%	52,800	\$100.00	\$35.00	1%	528	1.0
WideStrike	5.0%	22,000	\$85.00	\$30.00	75%	16,500	1.3
WideStrike 3	20.0%	88,000	\$100.00	\$35.00	1%	880	1.0
TwinLink	5.0%	22,000	\$90.00	\$30.00	60%	13,200	1.1
TwinLink Plus	1.0%	4,400	\$100.00	\$35.00	1%	44	1.0
Total Bt	98.0%	431,200	\$93.11	\$31.68	36.4%	156,992	1.1
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0
Conventional	1.0%	4,400	\$25.00	-	100%	4,400	2.0
Organic	1.0%	4,400	\$25.00	-	100%	4,400	3.0
Total Upland Cotton	100.0%	440,000	\$79.75	\$31.68	37.7%	165,792	1.1
Non Upland Cotton							
Pima	0%	0	\$0.00	-	0%	0	0
Other	0%	0	\$0.00	-	0%	0	0
Organic	0%	0	\$0.00	-	0%	0	0
Total (all Cotton)		440,000	\$79.75		37.7%	165,792	1.1