

Table 22. Cotton insect loss estimates for North Carolina during 2022.

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	337,500	75%	54,000	12.0%	1.1	\$22.00	0.17%	0.13	\$2.86	0.13%	1,288	\$1,490,754	\$3.31	6.5%
Beet Armyworm	9,000	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	4,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	4,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	4,500	1%	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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	4,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	382,500	85%	243,000	54.0%	1.1	\$17.00	0.20%	0.59	\$10.03	0.17%	1,710	\$4,534,155	\$10.08	19.7%
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)	211,500	47%	117,000	26.0%	1.3	\$12.00	1.90%	0.34	\$4.08	0.89%	8,983	\$4,527,984	\$10.06	19.7%
Brown Stink Bug	238,500	53%	130,500	29.0%	1.3	\$12.00	1.90%	0.38	\$4.56	1.01%	10,130	\$5,220,600	\$11.60	22.7%
Clouded Plant Bug	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	4,500	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	450,000	100%	9,000	2.0%	1.0	\$18.00	0.00%	0.02	\$0.36	0.00%	0	\$162,000	\$0.36	0.7%
Thrips	450,000	100%	319,500	71.0%	1.0	\$15.00	0.40%	0.71	\$10.65	0.40%	4,024	\$6,434,292	\$14.30	28.0%
Aphids	450,000	100%	36,000	8.0%	1.0	\$16.00	0.00%	0.08	\$1.28	0.00%	0	\$576,000	\$1.28	2.5%
Grasshoppers	22,500	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	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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Garden Fleahopper	90,000	20%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
False Chinch Bug	45,000	10%	13,500	3.0%	1.0	\$12.00	0.00%	0.03	\$0.36	0.00%	0	\$16,200	\$0.04	0.1%
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								2.28	\$34.18	2.60%	26,135	\$22,961,985	\$51.03	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results	
State	North Carolina	Total Acres	450,000		Total	Per Acre
Region	Southeast	Total Bales Harvested	939,375	Foliar Insecticide Costs	\$15,381,000	\$34.18
Year	2022	Total Bales Lost to Insects	26,135	Seed Treatment Costs	\$5,123,250	\$11.39
Total Acres (Upland)	450,000	Percent Yield Loss	2.6%	In-Furrow Costs	\$4,036,500	\$8.97
Yield / Acre (Upland)	1,002	Yield w/o Insects (lb/acre)	1,029	Scouting Costs	\$2,160,000	\$4.80
Price / lb	\$0.85	Av. # Applications	2.28	Eradication Costs	\$337,500	\$0.75
yield potential (lb/acre)	1,073	Total Bales lost (all factors)	66,372	Bt Cotton	\$15,232,500	\$33.85
Acres (Pima)	0	Total % yield Loss	6.6%	Total Costs	\$42,270,750	\$93.94
Yield / Acre (Pima)	0	Transgenic Cotton (arthropods) (# acres)	445,500	Yield Loss to Insects	\$10,663,080	\$23.70
% Acres Scouted	60%	Boll Weevil Eradication (# acres)	450,000	Total Losses + Costs	\$52,933,830	\$117.63
Fee / Scouted Acre	\$8.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	# Scouted Acres	270,000			
% acres Transgenic (Bt) Cotton	99%	Seed Treatments (arthropods) (# acres)	310,500			
Cost/treated acre (Bt) Cotton	\$34.19	In-Furrow Applications (# acres)	310,500			
% acres with seed treatment	69%	Applications by Air (acres)	90,000			
Seed trt. cost/ treated acre	\$16.50	Applications by Ground (acres)	360,000			
% acres with in-furrow	69%	No. acres with no foliar insecticide applications	9,000			
		% loss to weather	2.0%			
		% loss to non-arthropods	1.0%			
		% loss to other (chemical injury, weeds, diseases, etc.)	1.0%			

Table 22. Cotton insect loss estimates for North Carolina during 2022, 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	15.0%	67,500	\$91.00	\$30.00	80%	54,000	1.1
Bollgard III	58.0%	261,000	\$101.00	\$35.00	0%	0	0.0
WideStrike	0.0%	0	\$86.00	\$30.00	0%	0	0.0
WideStrike 3	17.0%	76,500	\$101.00	\$35.00	0%	0	0.0
TwinLink	1.0%	4,500	\$91.00	\$30.00	0%	0	0.0
TwinLink Plus	8.0%	36,000	\$101.00	\$35.00	0%	0	0.0
Total Bt	99.0%	445,500	\$99.38	\$34.19	12.1%	54,000	0.1
Herbicide Traits Only	0.0%	0	\$80.00	-	0%	0	0.0
Conventional	1.0%	4,500	\$25.00	-	100%	4500	2.0
Organic	0.0%	0	\$25.00	-	0%	0	0.0
Total Upland Cotton	100.0%	450,000	\$98.64	\$34.19	13.0%	58,500	0.2
Non Upland Cotton							
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
Total (all Cotton)		450,000	\$98.64	-	13.0%	58,500	0.2