Table 18. Cotton insect loss estimates for North Carolina during 2024.

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	260,000	65.0%	8,000	2.0%	1.3	$22.00	0.05%	0.03	$0.66	0.03%	265	$260,640	$0.65	0.9%
Beet Armyworm	4,000	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	4,000	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	4,000	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	4,000	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	4,000	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	380,000	95.0%	340,000	85.0%	2.8	$17.00	0.20%	2.38	$40.46	0.19%	1,523	$15,886,528	$39.72	54.8%
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)	148,000	37.0%	64,000	16.0%	1.4	$0.00	1.90%	0.22	$0.00	0.70%	5,636	$1,893,696	$4.73	6.5%
Brown Stink Bug	212,000	53.0%	64,000	16.0%	1.4	$12.00	1.90%	0.22	$2.64	1.01%	8,073	$3,272,208	$8.18	11.3%
Clouded Plant Bug	20,000	5.0%	0	0.0%	0.0	$0.00	0.10%	0.00	$0.00	0.01%	40	$13,440	$0.03	0.0%
Leaf Footed Bugs	4,000	1.0%	0	0.0%	0.0	$0.00	0.20%	0.00	$0.00	0.00%	16	$5,376	$0.01	0.0%
Spider Mites	400,000	100.0%	12,000	3.0%	1.0	$18.00	0.00%	0.03	$0.54	0.00%	0	$216,000	$0.54	0.7%
Thrips	400,000	100.0%	296,000	74.0%	1.0	$18.00	0.50%	0.74	$13.32	0.50%	4,008	$6,674,688	$16.69	23.0%
Aphids	400,000	100.0%	40,000	10.0%	1.0	$16.00	0.00%	0.10	$1.60	0.00%	0	$640,000	$1.60	2.2%
Grasshoppers	20,000	5.0%	0	0.0%	1.0	$16.00	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	$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%
Garden fleahopper	80,000	20.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
False chinch bug	4,000	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Asiatic garden beetle	20,000	5.0%	4,000	1.0%	1.0	$16.00	1.00%	0.01	$0.16	0.05%	401	$137,936	$0.34	0.5%
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								3.73	$59.38	2.49%	19,962	$29,000,512	$72.50	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	400,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	750,000	Foliar Insecticide Costs	$23,752,000	$59.38
Year	2024			Total Bales Lost to Insects	19,962	Seed Treatment Costs	$5,940,000	$14.85
Total Acres (Upland)	400,000	In-furrow cost/treated acre	$16.00	Percent Yield Loss	2.5%	In-Furrow Costs	$5,120,000	$12.80
Yield / Acre (Upland)	900	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	923	Scouting Costs	$1,920,000	$4.80
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$0.75	Av. # Applications	3.73	Eradication Costs	$300,000	$0.75
yield potential (lb/acre)	962	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	52,028	Bt Cotton	$15,888,000	$39.72
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	6.5%	Total Costs	$52,920,000	$132.30
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	396,000	Yield Loss to Insects	$6,707,232	$16.77
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	400,000	Total Losses + Costs	$59,627,232	$149.07
Fee / Scouted Acre	$8.00	Cost/app by air	$9.00	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week		% insect apps by ground	80%	# Scouted Acres	240,000			
% acres Transgenic (Bt) Cotton	99%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	360,000			
Cost/treated acre (Bt) Cotton	$40.12	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	320,000			
% acres with seed treatment	90%	% Loss to weather	2.0%	Applications by Air (acres)	80,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	320,000			
% acres with in-furrow	80%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	12,000			

Table 18. Cotton insect loss estimates for North Carolina during 2024, 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	1.0%	4,000	$91.00	$30.00	100%	4,000	1.3
Bollgard III	55.0%	220,000	$101.00	$35.00	0%	0	0.0
Bollgard III/Thryvon	16.0%	64,000	$117.00	$51.00	0%	0	0.0
WideStrike	0.0%	0	$0.00	$0.00	0%	0	0.0
WideStrike 3	26.0%	104,000	$101.00	$35.00	0%	0	0.0
TwinLink	0.0%	0	$91.00	$30.00	100%	0	1.3
TwinLink Plus	1.0%	4,000	$101.00	$35.00	0%	0	0.0
Total Bt	99.0%	396,000	$103.48	$40.12	1.0%	4,000	0.01
Herbicide Traits Only	0.0%	0	$0.00	-	-	0	
Conventional	1.0%	4,000	$0.00	-	-	0	
Organic	0.0%	0	$0.00	-	-	0	
Total Upland Cotton	100.0%	400,000	$102.45	$40.12	1.0%	4,000	0.0
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)		400,000	$102.45		1.0%	4,000	0.0

Upland Cotton	% acres treated for Thrips	# acres treated for Thrips	# apps for Thrips	Thryvon Bt cost/acre	% acres treated for Lygus	# acres treated for Lygus	# apps for Lygus
Bollgard III/Thryvon	1.05	640	1.0	$16.00	62.0%	39,680	2.25