Table 18. Cotton insect loss estimates for North Carolina during 2021.

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	105,000	30%	17,500	5.0%	1.0	$22.00	3.00%	0.05	$1.10	0.90%	7,508	$3,467,071	$9.91	12.7%
Beet Armyworm	7,000	2%	0	0.0%	0.0	$0.00	0.05%	0.00	$0.00	0.00%	8	$3,571	$0.01	0.0%
Fall Armyworm	3,500	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,500	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	3,500	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	3,500	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	297,500	85%	227,500	65.0%	2.1	$17.00	0.20%	1.37	$23.29	0.17%	1,418	$7,561,770	$21.61	27.7%
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)	171,500	49%	42,000	12.0%	2.0	$12.00	1.90%	0.24	$2.88	0.93%	7,766	$3,960,662	$11.32	14.5%
Brown Stink Bug	178,500	51%	42,000	12.0%	2.0	$12.00	1.90%	0.24	$2.88	0.97%	8,083	$4,122,331	$11.78	15.1%
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	3,500	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	350,000	100%	7,000	2.0%	1.0	$18.00	0.00%	0.02	$0.36	0.00%	0	$126,000	$0.36	0.5%
Thrips	350,000	100%	248,500	71.0%	1.0	$15.00	0.04%	0.71	$10.65	0.04%	334	$3,876,598	$11.08	14.2%
Aphids	350,000	100%	24,500	7.0%	1.0	$16.00	1.00%	0.07	$1.12	1.00%	8,342	$4,115,869	$11.76	15.1%
Grasshoppers	17,500	5%	0	0.0%	0.0	$12.00	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	70,000	20%	0	0.0%	0.0	$0.00	0.04%	0.00	$0.00	0.01%	67	$29,909	$0.09	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								2.70	$42.28	4.02%	33,526	$27,263,781	$77.90	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	350,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	750,313	Foliar Insecticide Costs	$14,798,000	$42.28
Year	2021			Total Bales Lost to Insects	33,526	Seed Treatment Costs	$4,458,300	$12.74
Total Acres (Upland)	350,000	In-furrow cost/treated acre	$13.00	Percent Yield Loss	4.0%	In-Furrow Costs	$3,913,000	$11.18
Yield / Acre (Upland)	1,029	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,072	Scouting Costs	$1,680,000	$4.80
Price / lb	$0.93	Cost/acre Boll Weevil Eradication	$0.75	Av. # Applications	2.7	Eradication Costs	$262,500	$0.75
yield potential (lb/acre)	1,144	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	83,575	Bt Cotton	$11,690,000	$33.40
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	10.0%	Total Costs	$36,801,800	$105.15
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	343,000	Yield Loss to Insects	$14,966,006	$42.76
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	350,000	Total Losses + Costs	$51,767,806	$147.91
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	210,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	270,200			
Cost/treated acre (Bt) Cotton	$34.08	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	301,000			
% acres with seed treatment	77%	% Loss to weather	4.0%	Applications by Air (acres)	70,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	280,000			
% acres with in-furrow	86%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	7,000			

Table 18. Cotton insect loss estimates for North Carolina during 2021, 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	18.0%	63,000	$90.00	$30.00	23%	14,490	1.0
Bollgard III	45.0%	157,500	$100.00	$35.00	1%	1,575	1.0
WideStrike	0.0%	0	$85.00	$30.00	0%	0	0.0
WideStrike 3	28.0%	98,000	$100.00	$35.00	1%	980	1.0
TwinLink	0.0%	0	$90.00	$30.00	0%	0	0.0
TwinLink Plus	7.0%	24,500	$100.00	$35.00	1%	245	1.0
Total Bt	98.0%	343,000	$98.16	$34.08	5.0%	17,290	0.1
Herbicide Traits Only	0.0%	0	$80.00	-	0%	0	0.0
Conventional	1.0%	3,500	$25.00	-	10%	350	2.0
Organic	1.0%	3,500	$25.00	-	0%	0	0.0
Total Upland Cotton	100.0%	350,000	$96.70	$34.08	5.0%	17,640	0.1
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)		350,000	$96.70		5.0%	17,640	0.1