Table 18. Cotton insect loss estimates for North Carolina during 2020.

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	272,000	80%	54,400	16.0%	1.1	$22.00	3.00%	0.18	$3.96	2.40%	17,561	$6,556,152	$19.28	22.7%
Beet Armyworm	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	3,400	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	3,400	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	306,000	90%	238,000	70.0%	2.4	$15.00	0.20%	1.68	$25.20	0.18%	1,317	$8,122,104	$23.89	28.2%
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)	217,600	64%	108,800	32.0%	2.0	$12.00	1.90%	0.64	$7.68	1.22%	8,898	$4,447,344	$13.08	15.4%
Brown Stink Bug	122,400	36%	61,200	18.0%	2.0	$12.00	1.90%	0.36	$4.32	0.68%	5,005	$2,090,328	$6.15	7.3%
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	3,400	1%	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	100%	6,800	2.0%	1.0	$18.00	0.04%	0.02	$0.36	0.04%	293	$213,816	$0.63	0.7%
Thrips	340,000	100%	278,800	82.0%	1.0	$15.00	1.00%	0.82	$12.30	1.00%	7,317	$6,464,904	$19.01	22.4%
Aphids	340,000	100%	57,800	17.0%	1.0	$16.00	0.00%	0.17	$2.72	0.00%	0	$924,800	$2.72	3.2%
Grasshoppers	17,000	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%
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								3.87	$56.54	5.52%	40,391	$28,819,448	$84.76	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	340,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	566,667	Foliar Insecticide Costs	$19,223,600	$56.54
Year	2020			Total Bales Lost to Insects	40,391	Seed Treatment Costs	$4,544,100	$13.37
Total Acres (Upland)	340,000	In-furrow cost/treated acre	$13.00	Percent Yield Loss	5.5%	In-Furrow Costs	$3,845,400	$11.31
Yield / Acre (Upland)	800	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	847	Scouting Costs	$1,632,000	$4.80
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$0.75	Av. # Applications	3.87	Eradication Costs	$255,000	$0.75
yield potential (lb/acre)	1,033	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	164,781	Bt Cotton	$11,186,000	$32.90
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	22.5%	Total Costs	$40,686,100	$119.67
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	333,200	Yield Loss to Insects	$12,601,992	$37.06
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	340,000	Total Losses + Costs	$53,288,092	$156.73
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	204,000			
% acres Transgenic (Bt) Cotton	98%	No. apps by ground	1	Seed Treatments (arthropods) (# acres)	275,400			
Cost/treated acre (Bt) Cotton	$33.57	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	295,800			
% acres with seed treatment	81%	% Loss to weather	15.0%	Applications by Air (acres)	68,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	272,000			
% acres with in-furrow	87%	% loss to other (chemical injury, weeds, diseases, etc.)	1.0%	No. acres with no foliar insecticide applications	2,000			

Table 18. Cotton insect loss estimates for North Carolina during 2020, 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	26.0%	88,400	$90.00	$30.00	54%	47,736	1.1
Bollgard III	26.0%	88,400	$100.00	$35.00	0%	0	0.0
WideStrike	0.0%	0	$85.00	$30.00	0%	0	0.0
WideStrike 3	31.0%	105,400	$100.00	$35.00	1%	1,054	1.0
TwinLink	2.0%	6,800	$90.00	$30.00	59%	4,012	1.1
TwinLink Plus	13.0%	44,200	$100.00	$35.00	0%	0	1.2
Total Bt	98.0%	333,200	$97.14	$33.57	15.8%	52,802	0.2
Herbicide Traits Only	0.0%	0	$80.00	-	0%	0	0.0
Conventional	1.0%	3,400	$25.00	-	25%	850	2.0
Organic	1.0%	3,400	$25.00	-	25%	850	2.0
Total Upland Cotton	100.0%	340,000	$95.70	$33.57	16.0%	54,502	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)		340,000	$95.70	-	16.0%	54,502	0.2