Table 18. Cotton insect loss estimates for North Carolina during 2019.

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	80%	59,400	12.0%	1.1	$22.00	3.00%	0.13	$2.86	2.40%	30,022	$10,499,424	$21.21	25.5%
Beet Armyworm	4,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	4,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	4,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	4,950	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	4,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	396,000	80%	247,500	50.0%	2.5	$15.00	0.20%	1.25	$18.75	0.16%	2,001	$8,049,312	$16.26	19.6%
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)	188,100	38%	99,000	20.0%	2.3	$12.00	1.90%	0.46	$5.52	0.72%	9,032	$3,856,296	$7.79	9.4%
Brown Stink Bug	306,900	62%	148,500	30.0%	2.3	$12.00	1.90%	0.69	$8.28	1.18%	14,736	$7,138,764	$14.42	17.3%
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	4,950	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	495,000	100%	4,604	0.9%	0.0	$18.00	0.04%	0.00	$0.00	0.04%	500	$156,000	$0.32	0.4%
Thrips	495,000	100%	379,665	76.7%	1.2	$15.00	1.00%	0.92	$13.80	1.00%	12,509	$10,733,808	$21.68	26.1%
Aphids	495,000	100%	42,570	8.6%	1.0	$16.00	0.00%	0.09	$1.44	0.00%	0	$712,800	$1.44	1.7%
Grasshoppers	24,750	5%	4,950	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$2,970	$0.01	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								3.55	$50.77	5.50%	68,800	$41,149,374	$83.13	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	495,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	1,020,938	Foliar Insecticide Costs	$25,131,150	$50.77
Year	2019			Total Bales Lost to Insects	68,800	Seed Treatment Costs	$6,452,325	$13.04
Total Acres (Upland)	495,000	In-furrow cost/treated acre	$13.00	Percent Yield Loss	5.5%	In-Furrow Costs	$4,568,850	$9.23
Yield / Acre (Upland)	990	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,048	Scouting Costs	$2,376,000	$4.80
Price / lb	$0.65	Cost/acre Boll Weevil Eradication	$0.75	Av. # Applications	3.55	Eradication Costs	$371,250	$0.75
yield potential (lb/acre)	1,213	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	281,454	Bt Cotton	$16,013,250	$32.35
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	22.5%	Total Costs	$54,912,825	$110.94
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	495,000	Yield Loss to Insects	$21,465,600	$43.36
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	495,000	Total Losses + Costs	$76,378,425	$154.30
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	297,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	391,050			
Cost/treated acre (Bt) Cotton	$32.35	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	351,450			
% acres with seed treatment	79%	% Loss to weather	2.0%	Applications by Air (acres)	99,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	396,000			
% acres with in-furrow	71%	% loss to other (chemical injury, weeds, diseases, etc.)	10.0%	No. acres with no foliar insecticide applications	24,750			

Table 18. Cotton insect loss estimates for North Carolina during 2019, 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	44.0%	217,800	$90.00	$30.00	18%	39,204	1.2
Bollgard III	18.0%	89,100	$100.00	$35.00	0%	0	1.0
WideStrike	4.5%	22,275	$85.00	$30.00	23%	5,123	1.2
WideStrike 3	28.0%	138,600	$100.00	$35.00	1%	1,386	1.0
TwinLink	4.5%	22,275	$90.00	$30.00	23%	5,123	1.2
TwinLink Plus	1.0%	4,950	$100.00	$35.00	0%	0	1.0
Total Bt	100.0%	495,000	$94.48	$32.35	10.3%	50,837	1.1
Herbicide Traits Only	0.0%	0	$80.00	-	0%	0	0.0
Conventional	1.0%	4,950	$25.00	-	25%	1,238	2.0
Organic	1.0%	4,950	$25.00	-	25%	1,238	2.0
Total Upland Cotton	102.0%	504,900	$93.11	$32.35	10.6%	53,313	1.1
Non Upland Cotton							
Pima	0.0%	0	$0.00	-	0%	0	0
Other	0.0%	0	$0.00	-	0%	0	0
Organic	0.0%	0	$0.00	-	0%	0	0
Total (all Cotton)		504,900	$93.11	-	10.6%	53,313	1.1