Table 21. Cotton insect loss estimates for North Carolina during 2017.

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	324,000	90%	135,000	37.5%	1.6	$22.00	7.00%	0.60	$13.20	6.30%	49,613	$20,946,768	$58.19	44.9%
Beet Armyworm	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	3,600	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	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	342,000	95%	270,000	75.0%	2.0	$15.00	0.20%	1.50	$22.50	0.19%	1,496	$8,197,656	$22.77	17.6%
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)	252,000	70%	79,200	22.0%	1.0	$12.00	1.90%	0.22	$2.64	1.33%	10,474	$4,184,544	$11.62	9.0%
Brown Stink Bug	306,000	85%	100,800	28.0%	1.0	$12.00	1.90%	0.28	$3.36	1.62%	12,718	$5,301,408	$14.73	11.4%
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	3,600	1%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	360,000	100%	3,600	1.0%	1.0	$18.00	0.04%	0.01	$0.18	0.04%	315	$170,640	$0.47	0.4%
Thrips	360,000	100%	324,720	90.2%	1.0	$15.00	1.00%	0.90	$13.50	1.00%	7,875	$7,506,000	$20.85	16.1%
Aphids	360,000	100%	26,388	7.3%	1.0	$14.75	0.00%	0.07	$1.03	0.00%	0	$371,700	$1.03	0.8%
Grasshoppers	18,000	5%	3,600	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$2,160	$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								3.59	$56.53	10.48%	82,491	$46,680,876	$129.67	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	North Carolina			Total Acres	360,000		Total	Per Acre
Region	Southeast			Total Bales Harvested	712,500	Foliar Insecticide Costs	$20,351,700	$56.53
Year	2017			Total Bales Lost to Insects	82,491	Seed Treatment Costs	$5,245,020	$14.57
Total Acres (Upland)	360,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	10.5%	In-Furrow Costs	$2,609,820	$7.25
Yield / Acre (Upland)	950	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,061	Scouting Costs	$1,728,000	$4.80
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$0.90	Av. # Applications	3.59	Eradication Costs	$324,000	$0.90
yield potential (lb/acre)	1,050	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	173,053	Bt Cotton	$11,070,000	$30.75
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	22.0%	Total Costs	$41,328,540	$114.80
Yield / Acre (Pima)	0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	360,000	Yield Loss to Insects	$27,716,976	$76.99
% Acres Scouted	60%	No. apps by air	1	Boll Weevil Eradication (# acres)	360,000	Total Losses + Costs	$69,045,516	$191.79
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	216,000			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	317,880			
Cost/treated acre (Bt) Cotton	$30.75	Cost/app by ground	$8.00	In-Furrow Applications (# acres)	173,988			
% acres with seed treatment	88%	% Loss to weather	10.0%	Applications by Air (acres)	72,000			
Seed trt. cost/ treated acre	$16.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	288,000			
% acres with in-furrow	48%	% loss to other (chemical injury, weeds, diseases, etc.)	0.5%	No. acres with no foliar insecticide applications	18,000			

Table 21. Cotton insect loss estimates for North Carolina during 2017, 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	% of Population Bollworm
Bollgard II	63.0%	226,800	$90.00	$30.00	40%	90,720	1.6	85%
Bollgard III	0.5%	1,800	$100.00	$35.00	6%	108	1.0	85%
WideStrike	15.0%	54,000	$85.00	$30.00	54%	28,944	2.0	85%
WideStrike 3	14.0%	50,400	$100.00	$35.00	10%	5,040	1.0	85%
TwinLink	7.0%	25,200	$90.00	$30.00	40%	10,080	1.6	85%
TwinLink Plus	0.5%	1,800	$100.00	$35.00	6%	108	1.0	85%
Total Bt	100%	360,000	$90.75	$30.75	37.5%	135,000	1.6	85.0%
Herbicide Traits Only	0.0%	0	-	-	-	-	-	-
Conventional	0.5%	1,800	$25.00	-	100%	1,800	2.0	85%
Organic	0.3%	900	$25.00	-	100%	900	3.0	85%
Total Upland Cotton	100.8%	362,700	$89.76	$30.75	38.0%	137,700	1.6	85.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		362,700	$89.76		38.0%	137,700	1.6	