

Table 1. Cotton insect loss estimates for South Alabama 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	90,000	25%	10,800	3%	1.0	\$9.50	0.001	0.03	\$0.29	0.03%	217	\$88,146	\$0.24	0.2%
Beet Armyworm	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	3,600	1%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	198,000	55%	126,000	35%	1.0	\$10.50	0.001	0.35	\$3.68	0.06%	477	\$865,026	\$2.40	2.3%
Cotton Fleahopper	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	360,000	100%	342,000	95%	2.0	\$9.50	0.020	1.90	\$18.05	2.00%	17,340	\$11,491,920	\$31.92	30.1%
Brown Stink Bug	360,000	100%	342,000	95%	1.5	\$11.00	0.020	1.43	\$15.73	2.00%	17,340	\$10,656,720	\$29.60	28.0%
Clouded Plant Bug	36,000	10%	7,200	2%	1.0	\$10.50	0.000	0.02	\$0.21	0.00%	0	\$7,560	\$0.02	0.0%
Leaf Footed Bugs	270,000	75%	18,000	5%	1.0	\$11.00	0.005	0.05	\$0.55	0.38%	3,251	\$1,084,788	\$3.01	2.8%
Spider Mites	162,000	45%	72,000	20%	1.0	\$14.00	0.000	0.20	\$2.80	0.00%	0	\$453,600	\$1.26	1.2%
Thrips	360,000	100%	144,000	40%	1.0	\$9.00	0.030	0.40	\$3.60	3.00%	26,010	\$8,786,880	\$24.41	23.1%
Aphids	270,000	75%	126,000	35%	1.0	\$8.50	0.020	0.35	\$2.98	1.50%	13,005	\$4,548,690	\$12.64	11.9%
Grasshoppers	180,000	50%	18,000	5%	1.0	\$8.00	0.000	0.05	\$0.40	0.00%	0	\$72,000	\$0.20	0.2%
Banded Winged Whitefly	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	18,000	5%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0%	0	0%	0.0	\$0.00	0.000	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								4.79	\$48.37	8.98%	77,857	\$38,119,536	\$105.89	

SUMMARY DATA

Data Input			Yield and Management Results			Economic Results	
State	Alabama		Total Acres	360,000		Total	Per Acre
Region	Southeast		Total Bales Harvested	682,500		Foliar Insecticide Costs	\$17,413,200
Year	2019		Total Bales Lost to Insects	77,857		Seed Treatment Costs	\$4,536,000
Total Acres (Upland)	360,000	In-furrow cost/treated acre	\$15.00	Percent Yield Loss	9.0%	In-Furrow Costs	\$540,000
Yield / Acre (Upland)	910	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,000	Scouting Costs	\$2,142,000
Price / lb	\$0.60	Cost/acre Boll Weevil Eradication	\$1.50	Av. # Applications	4.79	Eradication Costs	\$540,000
yield potential (lb/acre)	1,156	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	311,947	Bt Cotton	\$11,620,800
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	36.0%	Total Costs	\$36,792,000
Yield / Acre (Pima)	0	% Insect apps by air	15%	Transgenic Cotton (arthropods) (# acres)	360,000	Yield Loss to Insects	\$22,422,816
% Acres Scouted	70%	No. apps by air	2	Boll Weevil Eradication (# acres)	36,000	Total Losses + Costs	\$59,214,816
Fee / Scouted Acre	\$8.50	Cost/app by air	\$6.50	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1	% insect apps by ground	85%	# Scouted Acres	252,000		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	324,000		
Cost/treated acre (Bt) Cotton	\$32.28	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	36,000		
% acres with seed treatment	90%	% Loss to weather	19.0%	Applications by Air (acres)	54,000		
Seed trt. cost/ treated acre	\$14.00	% loss to non-arthropods	4.0%	Applications by Ground (acres)	306,000		
% acres with in-furrow	10%	% loss to other (chemical injury, weeds, diseases, etc.)	4.0%	No. acres with no foliar insecticide applications	0		

Table 1. Cotton insect loss estimates for South Alabama 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	54.0%	194,400	\$60.00	\$35.00	5%	9,720	1.0
Bollgard III	28.0%	100,800	\$63.00	\$35.00	0%	0	0.0
WideStrike	2.0%	7,200	\$45.00	\$15.00	65%	4,680	1.5
WideStrike 3	14.0%	50,400	\$48.00	\$18.00	1%	504	0.0
TwinLink	0.0%	0	\$0.00	\$0.00	0%	0	0.0
TwinLink Plus	2.0%	7,200	\$60.00	\$38.00	0%	0	0.0
Total Bt	100.0%	360,000	\$58.86	\$32.28	4.1%	14,904	0.6
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	0.0%	0	\$0.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	360,000	\$58.86	\$32.28	4.1%	14,904	0.6
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)		360,000	\$58.86	-	4.1%	14,904	0.6