Table 28. Cotton insect loss estimates for the High Plains area of Texas 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	3,504,000	80%	876,000	20.0%	1.0	$15.00	1.000%	0.20	$3.00	0.80%	146,000	$59,568,000	$13.60	73.6%
Beet Armyworm	438,000	10%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Fall Armyworm	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	438,000	10%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	219	0%	0	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	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	87,600	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Fleahopper	219,000	5%	43,800	1.0%	1.0	$10.00	0.005%	0.01	$0.10	0.00%	0	$21,900	$0.01	0.0%
Stink Bugs (other than brown stink bug)	219	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	43,800	1%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Thrips	4,380,000	100%	2,190,000	50.0%	1.0	$9.00	0.005%	0.50	$4.50	0.01%	913	$20,016,768	$4.57	24.7%
Aphids	1,752,000	40%	219,000	5.0%	1.0	$15.00	0.002%	0.05	$0.75	0.00%	183	$1,375,488	$0.31	1.7%
Grasshoppers	43,800	1%	219	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Banded Winged Whitefly	87,600	2%	0	0.0%	0.0	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	0	0%	0	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	$0.00	0.000%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								0.76	$8.35	0.81%	147,096	$80,982,156	$18.49	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	Texas			Total Acres	4,380,000		Total	Per Acre
Region	Central			Total Bales Harvested	6,798,125	Foliar Insecticide Costs	$36,573,000	$8.35
Year	2017			Total Bales Lost to Insects	147,096	Seed Treatment Costs	$35,040,000	$8.00
Total Acres (Upland)	4,380,000	In-furrow cost/treated acre	$15.00	Percent Yield Loss	0.8%	In-Furrow Costs	$1,971,000	$0.45
Yield / Acre (Upland)	745	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	751	Scouting Costs	$7,665,000	$1.75
Price / lb	$0.70	Cost/acre Boll Weevil Eradication	$1.50	Av. # Applications	0.76	Eradication Costs	$6,570,000	$1.50
yield potential (lb/acre)	2,000	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	11,462,095	Bt Cotton	$24,659,400	$5.63
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	$0.00	Total % yield Loss	62.8%	Total Costs	$112,478,400	$25.68
Yield / Acre (Pima)	0	% Insect apps by air	25%	Transgenic Cotton (arthropods) (# acres)	3,241,200	Yield Loss to Insects	$49,424,256	$11.28
% Acres Scouted	25%	No. apps by air	0.25	Boll Weevil Eradication (# acres)	4,380,000	Total Losses + Costs	$161,902,656	$36.96
Fee / Scouted Acre	$7.00	Cost/app by air	$7.50	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1	% insect apps by ground	75%	# Scouted Acres	1,095,000			
% acres Transgenic (Bt) Cotton	74%	No. apps by ground	0.75	Seed Treatments (arthropods) (# acres)	3,504,000			
Cost/treated acre (Bt) Cotton	$7.61	Cost/app by ground	$5.00	In-Furrow Applications (# acres)	131,400			
% acres with seed treatment	80%	% Loss to weather	40.0%	Applications by Air (acres)	1,095,000			
Seed trt. cost/ treated acre	$10.00	% loss to non-arthropods	2.0%	Applications by Ground (acres)	3,285,000			
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	20.0%	No. acres with no foliar insecticide applications	3,504,000			

Table 28. Cotton insect loss estimates for the High Plains area of Texas 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	32.0%	1,401,600	$60.00	$7.00	1%	14,016	1.0	100%
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	5.0%	219,000	$50.00	$7.00	2%	4,380	1.0	100%
WideStrike 3	8.0%	350,400	$65.00	$12.00	0%	0	0.0	100%
TwinLink	28.0%	1,226,400	$60.00	$7.00	1%	12,264	1.0	100%
TwinLink Plus	1.0%	43,800	$65.00	$12.00	0%	0	0.0	100%
Total Bt	74%	3,241,200	$59.93	$7.61	0.9%	30,660	0.9	100%
Herbicide Traits Only	20%	876,000	$25.00	-	50%	438,000	1.0	100%
Conventional	5%	219,000	$20.00	-	50%	109,500	1.0	100%
Organic	1%	43,800	$20.00	-	0%	0	0.0	0%
Total Upland Cotton	100.0%	4,380,000	$50.55	$7.61	13.2%	578,160	0.9	100.0%
Non Upland Cotton								
Pima	0%	0	-	-	-	-	-	-
Other	0%	0	-	-	-	-	-	-
Organic	0%	0	-	-	-	-	-	-
Total (all Cotton)		4,380,000	$50.55		13.2%	578,160	0.9	