Table 10. Cotton insect loss estimates for upland cotton in California 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	1,800	2.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Beet Armyworm	9,000	10.0%	900	1.0%	1.0	$12.00	0.00%	0.01	$0.12	0.00%	0	$1,080	$0.01	0.0%
Fall Armyworm	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Loopers	9,000	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cutworms	900	1.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Cotton Leaf Perforator	2,700	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Saltmarsh Caterpillar	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Lygus	89,100	99.0%	67,500	75.0%	3.0	$18.00	8.00%	2.25	$40.50	7.92%	29,017	$16,840,302	$187.11	77.0%
Cotton Fleahopper	0	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)	9,000	10.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Brown Stink Bug	2,700	3.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Clouded Plant Bug	0	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	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Spider Mites	54,000	60.0%	45,000	50.0%	1.0	$12.00	0.00%	0.50	$6.00	0.00%	0	$324,000	$3.60	1.5%
Thrips	89,100	99.0%	4,500	5.0%	1.0	$6.00	0.00%	0.05	$0.30	0.00%	0	$26,730	$0.30	0.1%
Aphids	72,000	80.0%	58,500	65.0%	2.0	$8.00	2.00%	1.30	$10.40	1.60%	5,862	$3,421,872	$38.02	15.6%
Grasshoppers	0	0.0%	0	0.0%	0.0	$0.00	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	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
Silverleaf Whitefly	45,000	50.0%	31,500	35.0%	2.0	$40.00	0.00%	0.70	$28.00	0.00%	0	$1,260,000	$14.00	5.8%
Boll Weevil	0	0.0%	0	0.0%	0.0	$0.00	0.00%	0.00	$0.00	0.00%	0	$0	$0.00	0.0%
TOTAL								4.81	$85.32	9.52%	34,879	$21,873,984	$243.04	

SUMMARY DATA

Data Input				Yield and Management Results		Economic Results		
State	California			Total Acres	90,000		Total	Per Acre
Region	West			Total Bales Harvested	315,000	Foliar Insecticide Costs	$7,678,800	$85.32
Year	2017			Total Bales Lost to Insects	34,879	Seed Treatment Costs	-	-
Total Acres (Upland)	90,000	In-furrow cost/treated acre	-	Percent Yield Loss	9.5%	In-Furrow Costs	-	-
Yield / Acre (Upland)	1,680	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,857	Scouting Costs	$1,069,200	$11.88
Price / lb	$0.95	Cost/acre Boll Weevil Eradication	$0.00	Av. # Applications	4.81	Eradication Costs	$621,000	$6.90
yield potential (lb/acre)	1,954	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	51,366	Bt Cotton	-	-
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	$6.90	Total % yield Loss	14.0%	Total Costs	$9,369,000	$104.10
Yield / Acre (Pima)	-	% Insect apps by air	80%	Transgenic Cotton (arthropods) (# acres)	70,020	Yield Loss to Insects	$15,904,824	$176.72
% Acres Scouted	99%	No. apps by air	-	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	$25,273,824	$280.82
Fee / Scouted Acre	$12.00	Cost/app by air	-	Pink Bollworm Eradication (# acres)	90,000			
No. times scouted/week	1	% insect apps by ground	-	# Scouted Acres	89,100			
% acres Transgenic (Bt) Cotton	-	No. apps by ground	-	Seed Treatments (arthropods) (# acres)	-			
Cost/treated acre (Bt) Cotton	-	Cost/app by ground	-	In-Furrow Applications (# acres)	-			
% acres with seed treatment	-	% Loss to weather	1.0%	Applications by Air (acres)	72,000			
Seed trt. cost/ treated acre	-	% loss to non-arthropods	0.0%	Applications by Ground (acres)	-			
% acres with in-furrow	-	% loss to other (chemical injury, weeds, diseases, etc.)	3.5%	No. acres with no foliar insecticide applications	180			

Table 10. Cotton insect loss estimates for upland cotton in California 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	9.6%	8,649	-	-	-	-	-	-
Bollgard III	0.0%	0	-	-	-	-	-	-
WideStrike	40.8%	36,720	-	-	-	-	-	-
WideStrike 3	0.6%	495	-	-	-	-	-	-
TwinLink	25.2%	22,671	-	-	-	-	-	-
TwinLink Plus	1.7%	1,485	-	-	-	-	-	-
Total Bt	77.8%	70,020	-	-	-	-	-	-
Herbicide Traits Only	19.5%	17,532	-	-	-	-	-	-
Conventional	2.7%	2,448	-	-	-	-	-	-
Organic	0.0%	0	-	-	-	-	-	-
Total Upland Cotton	100.0%	90,000	-	-	-	-	-	-