

Table 8. Cotton insect loss estimates for California Upland 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	1,100	2%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Beet Armyworm	4,125	8%	1,100	2%	1.0	\$11.30	0.0%	0.02	\$0.23	0.00%	0	\$932	\$0.02	0.0%
Fall Armyworm	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	2,750	5%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	550	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	550	1%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	41,250	75%	35,750	65%	2.0	\$21.60	5.5%	1.30	\$28.08	4.13%	9,406	\$5,131,394	\$93.30	79.5%
Cotton Fleahopper	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	4,400	8%	1,100	2%	1.0	\$16.00	0.5%	0.02	\$0.32	0.04%	91	\$39,846	\$0.72	0.6%
Brown Stink Bug	1,100	2%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Clouded Plant Bug	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	33,000	60%	16,500	30%	1.0	\$17.50	1.0%	0.30	\$5.25	0.60%	1,368	\$751,093	\$13.66	11.6%
Thrips	16,500	30%	5,500	10%	1.0	\$9.00	0.5%	0.10	\$0.90	0.15%	342	\$159,311	\$2.90	2.5%
Aphids	8,250	15%	11,000	20%	1.0	\$20.00	1.0%	0.20	\$4.00	0.15%	342	\$177,461	\$3.23	2.8%
Grasshoppers	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	19,250	35%	13,750	25%	1.2	\$33.00	0.0%	0.30	\$9.90	0.00%	0	\$190,575	\$3.47	3.0%
Boll Weevil	0	0%	0	0%	0.0	\$0.00	0.0%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								2.24	\$48.68	5.07%	11,549	\$6,450,612	\$117.28	

SUMMARY DATA

Data Input			Yield and Management Results			Economic Results		
State	California		Total Acres	55,000		Total	Per Acre	
Region	West		Total Bales Harvested	198,229	Foliar Insecticide Costs	\$2,677,180	\$48.68	
Year	2019		Total Bales Lost to Insects	11,549	Seed Treatment Costs	\$365,750	\$6.65	
Total Acres (Upland)	55,000	In-furrow cost/treated acre	\$21.00	Percent Yield Loss	5.1%	In-Furrow Costs	\$57,750	\$1.05
Yield / Acre (Upland)	1,730	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,822	Scouting Costs	\$627,000	\$11.40
Price / lb	\$0.88	Cost/acre Boll Weevil Eradication	\$0.00	Av. # Applications	2.24	Eradication Costs	\$110,000	\$2.00
yield potential (lb/acre)	1,990	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	27,055	Bt Cotton	\$0	\$0.00
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	\$2.00	Total % yield Loss	11.9%	Total Costs	\$3,837,680	\$69.78
Yield / Acre (Pima)	-	% Insect apps by air	70%	Transgenic Cotton (arthropods) (# acres)	50,287	Yield Loss to Insects	\$4,878,298	\$88.70
% Acres Scouted	95%	No. apps by air	1.2	Boll Weevil Eradication (# acres)	0	Total Losses + Costs	\$8,715,978	\$158.47
Fee / Scouted Acre	\$12.00	Cost/app by air	\$16.00	Pink Bollworm Eradication (# acres)	55,000			
No. times scouted/week	1.5	% insect apps by ground	60%	# Scouted Acres	52,250			
% acres Transgenic (Bt) Cotton	91%	No. apps by ground	1.5	Seed Treatments (arthropods) (# acres)	52,250			
Cost/treated acre (Bt) Cotton	\$0.00	Cost/app by ground	\$13.00	In-Furrow Applications (# acres)	2,750			
% acres with seed treatment	95%	% Loss to weather	2.2%	Applications by Air (acres)	38,500			
Seed trt. cost/ treated acre	\$7.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	33,000			
% acres with in-furrow	5%	% loss to other (chemical injury, weeds, diseases, etc.)	4.6%	No. acres with no foliar insecticide applications	0			

Table 8. Cotton insect loss estimates for California Upland 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	20.4%	11,231	-	-	-	-	-
Bollgard III	0.0%	0	-	-	-	-	-
WideStrike	44.7%	24,569	-	-	-	-	-
WideStrike 3	11.3%	6,193	-	-	-	-	-
TwinLink	12.3%	6,787	-	-	-	-	-
TwinLink Plus	2.7%	1,507	-	-	-	-	-
Total Bt	91.4%	50,287	-	-	-	-	-
Herbicide Traits Only	8.6%	4,719	-	-	-	-	-
Conventional	0.0%	0	-	-	-	-	-
Organic	0	0	-	-	-	-	-
Total Upland Cotton	100.0%	55,006	-	-	-	-	-
Non Upland Cotton							
Pima	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Organic	-	-	-	-	-	-	-
Total (all Cotton)							