

Table 11. Cotton insect loss estimates for California upland cotton during 2023.

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	256	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	256	2.0%	128	1.0%	1.0	\$19.00	0.20%	0.01	\$0.19	0.00%	2	\$769	\$0.06	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	384	3.0%	192	1.5%	1.0	\$19.00	0.20%	0.02	\$0.38	0.01%	3	\$1,226	\$0.10	0.0%
Cutworms	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	0	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	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	10,880	85.0%	10,240	80.0%	2.5	\$30.00	12.00%	2.00	\$60.00	10.20%	5,837	\$2,754,120	\$215.17	92.8%
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)	384	3.0%	256	2.0%	1.0	\$18.00	0.03%	0.02	\$0.36	0.00%	1	\$498	\$0.04	0.0%
Brown Stink 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%
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	10,880	85.0%	7,680	60.0%	1.0	\$22.00	0.08%	0.60	\$13.20	0.07%	39	\$157,656	\$12.32	5.3%
Thrips	3,200	25.0%	1,280	10.0%	1.0	\$13.00	0.05%	0.10	\$1.30	0.01%	7	\$6,680	\$0.52	0.2%
Aphids	2,560	20.0%	1,280	10.0%	1.0	\$25.00	0.04%	0.10	\$2.50	0.01%	5	\$8,200	\$0.64	0.3%
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	3,840	30.0%	1,920	15.0%	1.3	\$36.00	0.20%	0.20	\$7.20	0.06%	34	\$39,888	\$3.12	1.3%
Boll Weevil														
TOTAL								3.05	\$85.13	10.36%	5,928	\$2,969,037	\$231.96	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
State	California	Total Acres			Total	Per Acre	
Region	West	Total Bales Harvested			45,013	\$85.13	
Year	2023	Total Bales Lost to Insects			5,928	\$8.10	
Total Acres (Upland)	12,800	In-furrow cost/treated acre	\$18.00	Percent Yield Loss	10.4%	\$0.54	
Yield / Acre (Upland)	1,688	% acres in Boll Weevil Eradication	0%	Yield w/o Insects (lb/acre)	1,883	\$14.25	
Price / lb	\$0.75	Cost/acre Boll Weevil Eradication	\$0.00	Av. # Applications	3.05	\$2.00	
yield potential (lb/acre)	2,146	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	12,224	\$40.95	
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	\$2.00	Total % yield Loss	21.4%	\$150.97	
Yield / Acre (Pima)	-	% Insect apps by air	65%	Transgenic Cotton (arthropods) (# acres)	11,647	\$166.73	
% Acres Scouted	95%	No. apps by air	2	Boll Weevil Eradication (# acres)	0	\$317.69	
Fee / Scouted Acre	\$15.00	Cost/app by air	\$19.00	Pink Bollworm Eradication (# acres)	12,800		
No. times scouted/week	1.5	% insect apps by ground	55%	# Scouted Acres	12,160		
% acres Transgenic (Bt) Cotton	91%	No. apps by ground	2.5	Seed Treatments (arthropods) (# acres)	11,520		
Cost/treated acre (Bt) Cotton	\$45.00	Cost/app by ground	\$16.00	In-Furrow Applications (# acres)	384		
% acres with seed treatment	90%	% Loss to weather	8.0%	Applications by Air (acres)	8,320		
Seed trt. cost/ treated acre	\$9.00	% loss to non-arthropods	0.0%	Applications by Ground (acres)	7,040		
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%	No. acres with no foliar insecticide applications	512		

Table 11. Cotton insect loss estimates for California upland cotton during 2023, 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	13.09%	1,676	-	\$45.00	0%	0	0.0
Bollgard III	7.86%	1,006	-	\$45.00	0%	0	0.0
Bollgard III/Thryvon	0.00%	0	-	\$45.00	0%	0	0.0
WideStrike	48.49%	6,207	-	\$45.00	0%	0	0.0
WideStrike 3	6.98%	893	-	\$45.00	0%	0	0.0
TwinLink	4.36%	558	-	\$45.00	0%	0	0.0
TwinLink Plus	10.21%	1,307	-	\$45.00	0%	0	0.0
Total Bt	91.0%	11,647	-	\$45.00	0.0%	0	0.0
Herbicide Traits Only	4.8%	615	-			0	
Conventional	4.2%	538	-			0	
Organic	0.0%	0	-			0	
Total Upland Cotton	100.0%	12,800	-	\$45.00	0.0%	0	0.0

Upland Cotton	Thryvon Bt cost/acre	% acres treated for Thrips	# acres treated for Thrips	# apps for Thrips	% acres treated for Lygus	# acres treated for Lygus	# apps for Lygus
Bollgard III/Thryvon	\$0	0%	0	0	0%	0	0