

Table 9. Insect loss estimates for Arizona during 2021.

Pest	Acres	% Acres	Acres Treated	% Acres	# of apps /acres treated	Cost of 1 application	% loss /acre	# of apps/ total acres	cost/acre	overall % reduction	Bales lost / pest		Loss + cost	Loss + cost/acre	% Total Loss+Cost
	Infested	Infested		Treated			infested				pest	Loss + cost			
Bollworm/Budworm	10,342	9%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.00%	15	\$6,266	\$0.05	0.0%	
Beet Armyworm	3,917	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
Fall Armyworm	3,043	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
Loopers	4,488	4%	163	0.1%	0.2	\$23.57	0.11%	0.00	\$0.01	0.00%	19	\$8,037	\$0.07	0.1%	
Cutworms	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	1,546	1%	163	0.1%	0.2	\$23.57	0.12%	0.00	\$0.01	0.00%	7	\$3,024	\$0.03	0.0%	
Saltmarsh Caterpillar	2,337	2%	1,660	1.4%	1.2	\$20.74	0.12%	0.02	\$0.35	0.00%	11	\$5,361	\$0.05	0.0%	
Lygus	115,839	99%	87,853	74.8%	1.6	\$26.28	4.02%	1.20	\$31.58	3.97%	17,948	\$11,411,792	\$97.20	77.3%	
Cotton Fleahopper	48,304	41%	1,749	1.5%	0.3	\$29.70	0.25%	0.00	\$0.11	0.10%	464	\$205,984	\$1.75	1.4%	
Stink Bugs (other than brown stink bug)	28,585	24%	0	0.0%	0.0	\$0.00	0.07%	0.00	\$0.00	0.02%	82	\$35,366	\$0.30	0.2%	
Brown Stink Bug	68,158	58%	3,499	3.0%	0.9	\$32.06	0.32%	0.03	\$0.90	0.18%	835	\$422,075	\$3.59	2.9%	
Clouded Plant Bug	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	5,858	5%	3,433	2.9%	0.9	\$12.73	0.13%	0.03	\$0.35	0.01%	29	\$14,385	\$0.12	0.1%	
Spider Mites	37,253	32%	11,492	9.8%	0.9	\$21.09	0.06%	0.09	\$1.87	0.02%	93	\$109,793	\$0.94	0.7%	
Thrips	111,426	95%	13,587	11.6%	0.8	\$12.93	0.16%	0.10	\$1.27	0.15%	671	\$431,397	\$3.67	2.9%	
Aphids	9,723	8%	3,043	2.6%	0.2	\$18.86	0.00%	0.00	\$0.09	0.00%	0	\$896	\$0.01	0.0%	
Grasshoppers	20,409	17%	5,472	4.7%	0.8	\$11.41	0.12%	0.04	\$0.41	0.02%	94	\$48,812	\$0.42	0.3%	
Banded Winged Whitefly	21,529	18%	732	0.6%	0.2	\$28.29	0.00%	0.00	\$0.03	0.00%	0	\$716	\$0.01	0.0%	
Silverleaf Whitefly	84,206	72%	34,164	29.1%	1.1	\$33.59	0.70%	0.33	\$11.08	0.50%	2,273	\$1,915,031	\$16.31	13.0%	
Colaspis beetles	32,402	28%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
Cotton stainers	325	0%	325	0.3%	0.3	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
Crickets	19,990	17%	4,068	3.5%	0.5	\$11.31	0.24%	0.02	\$0.18	0.04%	181	\$81,964	\$0.70	0.6%	
Darkling Beetles	6,558	6%	1,375	1.2%	1.0	\$10.00	0.00%	0.01	\$0.12	0.00%	0	\$768	\$0.01	0.0%	
False Chinch Bug	23,736	20%	325	0.3%	0.4	\$12.26	0.09%	0.00	\$0.01	0.02%	80	\$35,030	\$0.30	0.2%	
Pale-Striped Flea Beetle	31,941	27%	325	0.3%	0.4	\$12.26	0.06%	0.00	\$0.01	0.02%	72	\$31,529	\$0.27	0.2%	
Potato leafhopper	28,931	25%	3,092	2.6%	0.1	\$16.97	0.00%	0.00	\$0.04	0.00%	3	\$2,455	\$0.02	0.0%	
Thrips, Bean	5,044	4%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$147	\$0.00	0.0%	
Cockroaches	4,651	4%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
Mealybugs	1,220	1%	1,220	1.0%	0.5	\$22.63	0.00%	0.00	\$0.11	0.00%	0	\$135	\$0.00	0.0%	
Thrips, Citrus	3,629	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$106	\$0.00	0.0%	
White-marked fleahopper	1,953	2%	1,953	1.7%	0.1	\$16.97	0.01%	0.00	\$0.04	0.00%	1	\$411	\$0.00	0.0%	
Boll Weevil	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%	
TOTAL								1.88	\$48.58	5.06%	22,876	\$14,771,480	\$125.81		

Table 9. Insect loss estimates for Arizona during 2021, continued.

		SUMMARY DATA						
Data Input		Yield and Management Results			Economic Results			
State	Arizona	Total Acres	117,411			Total	Per Acre	
Region	West	Total Bales Harvested	358,432	Foliar Insecticide Costs	\$5,704,066	\$48.58		
Year	2021	Total Bales Lost to Insects	22,876	Seed Treatment Costs	\$1,779,989	\$15.16		
Total Acres (Upland)	117,411	In-furrow cost/treated acre	\$16.44	Percent Yield Loss	5.1%	In-Furrow Costs	\$160,655	\$1.37
Yield / Acre (Upland)	1,465	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,543	Scouting Costs	\$1,990,449	\$16.95
Price / lb	\$0.90	Cost/acre Boll Weevil Eradication	\$3.37	Av. # Applications	1.9	Eradiation Costs	\$835,963	\$7.12
yield potential (lb/acre)	1,849	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	93,809	Bt Cotton	\$5,502,917	\$46.87
Acres (Pima)	8,772	Cost/acre Pink Bollworm Eradication	\$3.75	Total % yield Loss	20.7%	Total Costs	\$15,974,038	\$136.05
Yield / Acre (Pima)	1,004	% Insect apps by air	57%	Transgenic Cotton (arthropods) (# acres)	117,411	Yield Loss to Insects	\$9,882,533	\$84.17
% Acres Scouted	100%	No. apps by air	1.9	Boll Weevil Eradication (# acres)	117,411	Total Losses + Costs	\$25,856,571	\$220.22
Fee / Scouted Acre	\$16.95	Cost/app by air	\$11.70	Pink Bollworm Eradication (# acres)	117,411			
No. times scouted/week	2.0	% insect apps by ground	43%	# Scouted Acres	117,411			
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2.3	Seed Treatments (arthropods) (# acres)	51,846			
Cost/treated acre (Bt) Cotton	\$46.87	Cost/app by ground	\$11.44	In-Furrow Applications (# acres)	9,770			
% acres with seed treatment	44%	% Loss to weather	11.0%	Applications by Air (acres)	66,354			
Seed trt. cost/ treated acre	\$34.33	% loss to non-arthropods	0.0%	Applications by Ground (acres)	49,977			
% acres with in-furrow	8%	% loss to other (chemical injury, weeds, diseases, etc.)	4.6%	No. acres with no foliar insecticide applications	26,575			

Table 9. Cotton insect loss estimates for Arizona Bt cotton during 2021, 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	44.1%	51,822	\$0.00	\$47.18	0%	0	0.0
Bollgard III	44.9%	52,766	\$0.00	\$46.49	0%	0	0.0
WideStrike	3.3%	3,857	\$0.00	\$47.18	0%	0	0.0
WideStrike 3	5.6%	6,569	\$0.00	\$47.18	0%	0	0.0
TwinLink	0.7%	814	\$0.00	\$47.18	0%	0	0.0
TwinLink Plus	1.3%	1,583	\$0.00	\$47.18	0%	0	0.0
Total Bt	100.0%	117,411	\$0.00	\$46.87	0.0%	0	0.0
Herbicide Traits Only	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
Conventional	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
Organic	0.0%	0	\$0.00	-	\$0.00	0	\$0.00
Total Upland Cotton	100.0%	117,411	\$0.00	\$46.87	0.0%	0	0.0
Non Upland Cotton							
Pima	0.0%	8,772	\$0.00	-	0%	0	0.0
Other	0%	0	\$0.00	-	0%	0	0.0
Organic	0%	0	\$0.00	-	0%	0	0.0
Total (all Cotton)		126,183	\$0.00		0.0%	0	0.0