

Table 28. Cotton insect loss estimates for the United States during 2021.

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	6,643,385	65%	886,587	8.7%	1.2	\$20.20	0.65%	0.10	\$2.05	0.42%	164,625	\$89,761,091	\$8.83	9.7%
Beet Armyworm	284,614	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	8	\$3,701	\$0.00	0.0%
Fall Armyworm	627,426	6%	8,624	0.1%	0.9	\$10.43	0.06%	0.00	\$0.01	0.00%	1,546	\$720,397	\$0.07	0.1%
Loopers	352,043	3%	163	0.0%	0.2	\$23.57	0.00%	0.00	\$0.00	0.00%	19	\$8,601	\$0.00	0.0%
Cutworms	308,315	3%	274,290	2.7%	1.0	\$5.66	0.06%	0.03	\$0.15	0.00%	718	\$379,442	\$0.04	0.0%
Cotton Leaf Perforator	64,897	1%	163	0.0%	0.2	\$23.57	0.00%	0.00	\$0.00	0.00%	7	\$3,231	\$0.00	0.0%
Saltmarsh Caterpillar	207,440	2%	1,660	0.0%	1.2	\$20.74	0.00%	0.00	\$0.00	0.00%	11	\$5,703	\$0.00	0.0%
Lygus	6,885,744	68%	2,957,553	29.1%	2.7	\$13.29	1.63%	0.79	\$10.45	1.11%	457,166	\$283,419,807	\$27.87	30.7%
Cotton Fleahopper	6,624,493	65%	1,945,411	19.1%	1.2	\$14.42	1.91%	0.23	\$3.27	1.24%	501,667	\$253,737,270	\$24.95	27.5%
Stink Bugs (other than brown stink bug)	5,739,746	56%	2,226,188	21.9%	1.3	\$9.07	0.97%	0.29	\$2.61	0.55%	204,192	\$109,444,518	\$10.76	11.9%
Brown Stink Bug	3,982,690	39%	1,579,338	15.5%	0.9	\$8.46	0.75%	0.14	\$1.15	0.29%	109,670	\$55,330,460	\$5.44	6.0%
Clouded Plant Bug	1,310,886	13%	297,937	2.9%	0.9	\$7.51	0.36%	0.03	\$0.20	0.05%	17,316	\$8,273,657	\$0.81	0.9%
Leaf Footed Bugs	1,077,917	11%	87,848	0.9%	0.6	\$5.36	0.32%	0.01	\$0.03	0.03%	13,618	\$6,329,824	\$0.62	0.7%
Spider Mites	2,184,076	21%	627,688	6.2%	1.3	\$13.72	0.64%	0.08	\$1.06	0.14%	56,265	\$28,344,365	\$2.79	3.1%
Thrips	8,110,181	80%	3,009,335	29.6%	1.0	\$8.25	0.36%	0.30	\$2.51	0.29%	102,878	\$67,963,089	\$6.68	7.4%
Aphids	5,726,349	56%	929,384	9.1%	0.7	\$8.70	0.15%	0.07	\$0.57	0.08%	27,851	\$16,159,871	\$1.59	1.8%
Grasshoppers	4,184,895	41%	212,312	2.1%	1.0	\$8.20	0.01%	0.02	\$0.18	0.01%	1,807	\$1,587,718	\$0.16	0.2%
Banded Winged Whitefly	283,730	3%	1,557	0.0%	0.1	\$13.30	0.00%	0.00	\$0.00	0.00%	0	\$51	\$0.00	0.0%
Silverleaf Whitefly	674,384	7%	424,033	4.2%	0.7	\$6.36	0.10%	0.03	\$0.18	0.01%	2,581	\$1,314,164	\$0.13	0.1%
Other insect pests*	450,586	4%	19,966	0.2%	0.3	\$9.66	0.05%	0.00057	\$0.01	0.00%	931	\$433,045	\$0.04	0.0%
Boll Weevil	41,528	0%	41,528	0.4%	2.4	\$0.00	0.00%	0.01	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								2.11	\$24.43	4.22%	1,662,876	\$923,220,005	\$90.78	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results	
		Total Acres	10,169,739		Total	Per Acre
Year	2021	Total Bales Harvested	18,298,091		Foliar Insecticide Costs	\$248,455,928
Total Acres (Upland)	10,169,739	Total Bales Lost to Insects	1,662,876		Seed Treatment Costs	\$90,341,434
Yield / Acre (Upland)	861	In-furrow cost/treated acre	\$14.97		Percent Yield Loss	\$13,428,429
Price / lb	\$0.96	% acres in Boll Weevil Eradication	100%		Yield w/o Insects (lb/acre)	\$54,554,370
yield potential (lb/acre)	1,795	Cost/acre Boll Weevil Eradication	\$2.31		Av. # Applications	\$23,967,848
Acres (Pima)	28,428	% acres in Pink Bollworm Eradication	1%		Total Bales lost (all factors)	\$205,649,129
Yield / Acre (Pima)	970	Cost/acre Pink Bollworm Eradication	\$3.75		Total % yield Loss	\$636,397,138
% Acres Scouted	60%	% Insect apps by air	34%		Transgenic Cotton (arthropods) (# acres)	\$769,255,787
Fee / Scouted Acre	\$8.96	No. apps by air	1.6		Boll Weevil Eradication (# acres)	\$1,405,652,925
No. times scouted/week	1.2	Cost/app by air	\$7.64		Pink Bollworm Eradication (# acres)	
% acres Transgenic (Bt) Cotton	91%	% insect apps by ground	77%		# Scouted Acres	6,085,275
Cost/treated acre (Bt) Cotton	\$22.25	No. apps by ground	2.2		Seed Treatments (arthropods) (# acres)	8,911,794
% acres with seed treatment	88%	Cost/app by ground	\$5.91		In-Furrow Applications (# acres)	896,981
Seed trt. cost/ treated acre	\$10.14	% Loss to weather	37.6%		Applications by Air (acres)	3,436,114
% acres with in-furrow	9%	% loss to non-arthropods	3.3%		Applications by Ground (acres)	7,801,754
		% loss to other (chemical injury, weeds, diseases, etc.)	6.0%		No. acres with no foliar insecticide applications	4,281,532

* See individual states for details on "other insect pests".

Table 28. Cotton insect loss estimates for the United States 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	27.1%	2,758,076	\$87.68	\$20.50	16.9%	465,891	0.7
Bollgard III	39.2%	3,987,336	\$93.45	\$25.41	0.5%	19,592	0.1
WideStrike	1.3%	132,585	\$68.26	\$9.80	6.1%	8,115	0.3
WideStrike 3	11.8%	1,204,777	\$84.95	\$18.58	0.9%	10,937	0.2
TwinLink	5.6%	572,580	\$74.48	\$16.21	5.9%	33,634	0.4
TwinLink Plus	5.8%	585,615	\$84.56	\$25.34	0.3%	1,795	0.1
Total Bt	91%	9,240,969	\$88.52	\$22.25	5.8%	539,964	0.0
Herbicide Traits Only	7.7%	783,614	\$30.68	-	1.4%	10,612	0.5
Conventional	1.2%	123,980	\$12.23	-	1.2%	1,431	0.4
Organic	0.2%	21,175	\$11.74	-	0.0%	0	0.0
Total Upland Cotton	100.0%	10,169,739	\$82.97	\$22.25	5.4%	552,007	0.0

See individual states for Pima cotton data.