

Table 28. Cotton insect loss estimates for the United States during 2020.

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	4,129,408	50%	1,548,842	18.6%	1.2	\$21.16	2.01%	0.23	\$4.79	0.99%	272,573	\$107,629,194	\$12.90	18.5%
Beet Armyworm	76,012	1%	832	0.0%	1.0	\$11.53	0.02%	0.00	\$0.00	0.00%	50	\$16,141	\$0.00	0.0%
Fall Armyworm	209,000	3%	10,800	0.1%	0.9	\$11.30	0.21%	0.00	\$0.01	0.01%	1,657	\$537,063	\$0.06	0.1%
Loopers	69,487	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	293,561	4%	288,150	3.5%	1.0	\$5.42	0.03%	0.03	\$0.19	0.00%	381	\$177,899	\$0.02	0.0%
Cotton Leaf Perforator	98,395	1%	2,329	0.0%	0.5	\$14.00	0.00%	0.00	\$0.00	0.00%	0	\$339	\$0.00	0.0%
Saltmarsh Caterpillar	19,075	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	4,833,526	58%	2,623,697	31.5%	2.8	\$13.85	1.66%	0.90	\$12.40	0.96%	300,779	\$156,906,879	\$18.81	26.9%
Cotton Fleahopper	3,413,565	41%	1,705,215	20.4%	1.2	\$11.56	1.73%	0.24	\$2.80	0.71%	232,681	\$84,562,330	\$10.14	14.5%
Stink Bugs (other than brown stink bug)	3,959,391	47%	2,052,884	24.6%	1.3	\$9.00	1.22%	0.31	\$2.78	0.58%	159,481	\$62,414,571	\$7.48	10.7%
Brown Stink Bug	3,194,020	38%	1,565,449	18.8%	1.0	\$8.70	0.96%	0.18	\$1.57	0.37%	104,492	\$38,688,215	\$4.64	6.6%
Clouded Plant Bug	1,080,109	13%	92,622	1.1%	1.0	\$9.31	0.22%	0.01	\$0.10	0.03%	8,802	\$2,947,395	\$0.35	0.5%
Leaf Footed Bugs	767,837	9%	114,538	1.4%	0.8	\$7.98	0.14%	0.01	\$0.09	0.01%	2,510	\$877,518	\$0.11	0.2%
Spider Mites	2,404,622	29%	736,132	8.8%	1.2	\$13.39	0.69%	0.10	\$1.39	0.20%	62,995	\$23,640,190	\$2.83	4.1%
Thrips	7,795,538	93%	2,441,936	29.3%	1.0	\$8.86	0.57%	0.30	\$2.68	0.53%	154,586	\$70,739,431	\$8.48	12.1%
Aphids	4,349,695	52%	1,285,127	15.4%	1.0	\$12.33	0.23%	0.15	\$1.89	0.12%	40,627	\$21,317,101	\$2.56	3.7%
Grasshoppers	1,323,140	16%	144,531	1.7%	0.9	\$8.44	0.02%	0.02	\$0.14	0.00%	633	\$389,107	\$0.05	0.1%
Banded Winged Whitefly	247,763	3%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	989,087	12%	487,531	5.8%	1.3	\$13.00	0.67%	0.08	\$0.99	0.08%	22,309	\$8,166,185	\$0.98	1.4%
Other insect pests*	293,000	4%	66,703	0.8%	0.2	\$1.19	0.92%	0.00	\$0.00	0.03%	11,432	\$3,685,610	\$0.44	0.6%
Boll Weevil	167,330	2%	222,981	2.7%	1.0	\$0.04	0.25%	0.03	\$0.00	0.01%	1,801	\$580,735	\$0.07	0.1%
TOTAL								2.59	\$31.82	4.63%	1,377,789	\$583,275,905	\$69.93	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
		Total Acres			Total	Per Acre	
Year	2020	Total Bales Harvested	8,341,270		Foliar Insecticide Costs	\$265,441,234	\$31.82
Total Acres (Upland)	8,341,270	Total Bales Lost to Insects	1,377,789		Seed Treatment Costs	\$70,445,247	\$8.45
Yield / Acre (Upland)	885	Percent Yield Loss	4.6%		In-Furrow Costs	\$9,836,149	\$1.18
Price / lb	\$0.67	Yield w/o Insects (lb/acre)	928		Scouting Costs	\$49,827,765	\$5.97
yield potential (lb/acre)	1,684	Av. # Applications	2.590811529		Eradication Costs	\$18,858,837	\$2.26
Acres (Pima)	63,722	Total Bales lost (all factors)	14,307,299		Bt Cotton	\$168,814,535	\$20.24
Yield / Acre (Pima)	933	Total % yield Loss	45.6%		Total Costs	\$583,223,768	\$69.92
% Acres Scouted	68%	Transgenic Cotton (arthropods) (# acres)	7,811,303		Yield Loss to Insects	\$444,116,889	\$53.24
Fee / Scouted Acre	\$8.78	Boll Weevil Eradication (# acres)	8,104,670		Total Losses + Costs	\$1,027,340,657	\$123.16
No. times scouted/week	1.2	Pink Bollworm Eradication (# acres)	161,321				
% acres Transgenic (Bt) Cotton	94%	# Scouted Acres	5,675,328				
Cost/treated acre (Bt) Cotton	\$21.61	Seed Treatments (arthropods) (# acres)	7,019,756				
% acres with seed treatment	84%	In-Furrow Applications (# acres)	757,153				
Seed trt. cost/ treated acre	\$10.04	Applications by Air (acres)	2,749,057				
% acres with in-furrow	9%	Applications by Ground (acres)	6,479,674				
		No. acres with no foliar insecticide applications	2,527,391				

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

Table 28. Cotton insect loss estimates for the United States during 2020, 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	41.3%	3,444,567	\$86.07	\$20.61	23.8%	820,075	0.8
Bollgard III	30.1%	2,511,315	\$90.83	\$23.96	0.4%	9,762	0.1
WideStrike	1.7%	144,657	\$66.53	\$8.93	22.9%	33,087	0.4
WideStrike 3	15.9%	1,325,626	\$88.57	\$21.32	1.4%	18,095	0.3
TwinLink	1.6%	134,690	\$74.28	\$18.84	9.6%	12,960	0.4
TwinLink Plus	3.0%	250,448	\$79.43	\$22.18	0.2%	598	0.1
Total Bt	94%	7,811,303	\$87.24	\$21.61	11.5%	894,577	0.1
Herbicide Traits Only	4.3%	360,759	\$33.21	-	1.0%	3,763	0.3
Conventional	1.7%	143,289	\$10.48	-	11.6%	16,558	0.6
Organic	0.3%	22,077	\$6.63	-	1.1%	236	0.1
Total Upland Cotton	100.0%	8,337,427	\$83.37	\$21.61	11.0%	915,134	0.1

See individual states for Pima cotton data.