

Table 7. Insect loss estimates for Arizona Bt cotton during 2022.

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	1,462	1.71%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Beet Armyworm	1,477	1.73%	0	0.0%	0.0	\$0.00	0.04%	0.00	\$0.00	0.00%	4	\$1,536	\$0.02	0.0%
Fall Armyworm	703	0.82%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	703	0.82%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	141	0.16%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	422	0.49%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	422	0.49%	248	0.3%	1.0	\$25.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	85,349	99.75%	57,027	66.7%	1.61	\$27.65	1.89%	1.07	\$29.58	1.88%	7,129	\$5,262,316	\$61.50	79.6%
Cotton Fleahopper	44,117	51.56%	2,375	2.8%	0.6	\$11.00	0.02%	0.02	\$0.22	0.01%	38	\$24,298	\$0.28	0.4%
Stink Bugs (other than brown stink bug)	11,659	13.63%	2,555	3.0%	0.2	\$20.00	0.10%	0.00	\$0.00	0.01%	49	\$18,816	\$0.22	0.3%
Brown Stink Bug	29,436	34.40%	4,367	5.1%	0.2	\$21.50	0.18%	0.01	\$0.22	0.06%	239	\$98,105	\$1.15	1.5%
Clouded Plant Bug	1,406	1.64%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	2,812	3.29%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	20,066	23.45%	13,087	15.3%	1.0	\$19.95	0.10%	0.16	\$3.19	0.02%	91	\$98,996	\$1.16	1.5%
Thrips	85,560	100.00%	6,961	8.1%	0.8	\$13.17	0.07%	0.06	\$0.79	0.07%	254	\$165,128	\$1.93	2.5%
Aphids	10,239	11.97%	417	0.5%	0.1	\$10.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	25,217	29.47%	881	1.0%	1.5	\$14.81	0.24%	0.02	\$0.30	0.07%	269	\$110,767	\$1.29	1.7%
Banded Winged Whitefly	16,011	18.71%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	53,423	62.44%	19,175	22.4%	1.3	\$29.75	0.38%	0.29	\$8.63	0.24%	898	\$805,737	\$9.42	12.2%
Colaspis beetles	17,673	20.66%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton stainers	7,031	8.22%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Crickets	18,018	21.06%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Darkling Beetles		4.77%		0.72%	1.0	\$20.00	0.00%							
False Chinch Bug	4,380	5.12%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Pale-Striped Flea Beetle	27,604	32.26%	2,224	2.6%	1.0	\$15.00	0.02%	0.03	\$0.45	0.01%	23	\$21,254	\$0.25	0.3%
Potato leafhopper	24,050	28.11%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips (Bean)	3,544	4.14%	2,044	2.39%	0.1	\$10.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Mealybugs	1,055	1.23%	1,395	1.6%	1.0	\$26.25	0.04%	0.02	\$0.53	0.00%	0	\$554	\$0.01	0.0%
Boll Weevil	0	0.00%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								1.68	\$43.90	2.37%	8,994	\$6,607,507	\$77.23	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results	
State	Arizona	Total Acres		85,560	Total	Per Acre
Region	West	Total Bales Harvested		311,548	Foliar Insecticide Costs	\$3,755,875 \$43.90
Year	2022	Total Bales Lost to Insects		8,994	Seed Treatment Costs	\$456,469 \$5.34
Total Acres (Upland)	85,560	Percent Yield Loss	\$24.79	2.4%	In-Furrow Costs	\$54,904 \$0.64
Yield / Acre (Upland)	1,748	Yield w/o Insects (lb/acre)	100%	1,790	Scouting Costs	\$1,348,131 \$15.76
Price / lb	\$0.80	Cost/acre Boll Weevil Eradication	\$4.18	1.68	Eradication Costs	\$756,445 \$8.84
yield potential (lb/acre)	2,125	% acres in Pink Bollworm Eradication	100%	67,162	Bt Cotton	\$4,311,063 \$50.39
Acres (Pima)	-	Cost/acre Pink Bollworm Eradication	\$4.66	17.7%	Total Costs	\$10,682,887 \$124.86
Yield / Acre (Pima)	-	% Insect apps by air	44%	85,560	Yield Loss to Insects	\$3,453,696 \$40.37
% Acres Scouted	98%	No. apps by air	1.2	85,560	Total Losses + Costs	\$14,136,583 \$165.22
Fee / Scouted Acre	\$16.08	Cost/app by air	\$9.65	85,560		
No. times scouted/week	1.9	% insect apps by ground	64%	85,560		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	1.8	25,359		
Cost/treated acre (Bt) Cotton	\$50.39	Cost/app by ground	\$10.61	2,215		
% acres with seed treatment	30%	% Loss to weather	8.0%	37,628		
Seed trt. cost/ treated acre	\$18.00	% loss to non-arthropods	0.0%	55,159		
% acres with in-furrow	3%	% loss to other (chemical injury, weeds, diseases, etc.)	7.3%	26,142		

Table 7. Insect loss estimates for Arizona Bt cotton during 2022, 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	16.4%	14,027	-	\$51.50	0%	0	0.0
Bollgard III	75.3%	64,440	-	\$50.00	0%	0	0.0
WideStrike	1.6%	1,384	-	-	0%	0	0.0
WideStrike 3	3.4%	2,897	-	\$68.33	0%	0	0.0
TwinLink	3.3%	2,812	-	\$60.00	0%	0	0.0
TwinLink Plus	0.0%	0	-	-	0%	0	0.0
Total Bt Cotton	100.0%	85,560	-	\$50.39	0.0%	0	0.0