

Table 7. Insect loss estimates for Arizona Bt 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	6,314	10.22%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Beet Armyworm	2,890	4.68%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	65	0.11%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	3,678	5.95%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	78	0.13%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	130	0.21%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	1,055	1.71%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	51,663	83.64%	15,482	25.1%	1.23	\$33.86	1.37%	0.3080	\$10.43	1.15%	2,869	\$1,640,476	\$26.56	58.2%
Cotton Fleahopper	17,458	28.27%	251	0.4%	0.2	\$17.25	0.05%	0.0009	\$0.02	0.01%	35	\$13,711	\$0.22	0.5%
Stink Bugs (other than brown stink bug)	9,296	15.05%	0	0.0%	0.0	\$0.00	0.11%	0.0000	\$0.00	0.02%	40	\$15,360	\$0.25	0.5%
Brown Stink Bug	18,441	29.86%	0	0.0%	0.0	\$0.00	0.13%	0.0000	\$0.00	0.04%	98	\$37,632	\$0.61	1.3%
Clouded Plant Bug	33	0.05%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	2,828	4.58%	0	0.0%	0.0	\$0.00	0.02%	0.0000	\$0.00	0.00%	3	\$1,152	\$0.02	0.0%
Spider Mites	9,853	15.95%	484	0.8%	1.0	\$24.50	0.10%	0.0078	\$0.19	0.02%	40	\$17,243	\$0.28	0.6%
Thrips	61,766	100.00%	948	1.5%	0.8	\$18.33	0.21%	0.0128	\$0.23	0.21%	536	\$220,318	\$3.57	7.8%
Aphids	2,545	4.12%	0	0.0%	0.0	\$0.00	0.02%	0.0000	\$0.00	0.00%	3	\$1,152	\$0.02	0.0%
Grasshoppers	26,302	42.58%	3,637	5.9%	1.1	\$19.14	0.53%	0.0664	\$1.27	0.23%	569	\$251,928	\$4.08	8.9%
Banded Winged Whitefly	10,044	16.26%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	42,797	69.29%	8,459	13.7%	1.1	\$39.19	0.30%	0.1475	\$5.78	0.21%	519	\$446,671	\$7.23	15.9%
Cockroaches	0	0.00%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Colaspis beetles	10,799	17.48%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton stainers	11,977	19.39%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Crickets	11,053	17.90%	1,801	2.9%	0.8	\$19.00	0.50%	0.0219	\$0.42	0.09%	223	\$90,231	\$1.46	3.2%
Darkling Beetles	3,339	5.41%	746	1.2%	1.0	\$20.00	0.02%	0.0121	\$0.24	0.00%	3	\$1,960	\$0.03	0.1%
False Chinch Bug	4,350	7.04%	99	0.2%	1.0	\$25.00	0.61%	0.0016	\$0.04	0.04%	108	\$41,646	\$0.67	1.5%
Mealybugs	456	0.74%	621	1.0%	0.8	\$50.00	0.01%	0.0080	\$0.40	0.00%	0	\$182	\$0.00	0.0%
Other Armyworms	0	0.00%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Pale-Striped Flea Beetle	26,741	43.29%	608	1.0%	0.6	\$13.25	0.06%	0.0062	\$0.08	0.02%	60	\$25,237	\$0.41	0.9%
Potato leafhopper	22,477	36.39%	3,431	5.56%	0.3	\$20.00	0.01%	0.0183	\$0.37	0.00%	10	\$12,067	\$0.20	0.4%
Thrips (Bean)	664	1.07%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips (Citrus)	130	0.21%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.0000	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								0.6115	\$19.47	2.04%	5,116	\$2,816,966	\$45.61	

Table 7. Insect loss estimates for Arizona Bt upland cotton during 2023, continued.

SUMMARY DATA							
Data Input		Yield and Management Results			Economic Results		
State	Arizona	Total Acres	61,766			Total	Per Acre
Region	West	Total Bales Harvested	194,885	Foliar Insecticide Costs	\$1,202,428	\$19.47	
Year	2023	Total Bales Lost to Insects	5,116	Seed Treatment Costs	\$728,107	\$11.79	
Total Acres (Upland)	61,766	In-furrow cost/treated acre	\$4.88	Percent Yield Loss	\$44,935	\$0.73	
Yield / Acre (Upland)	1,515	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	\$1,029,433	\$16.67	
Price / lb	\$0.80	Cost/acre Boll Weevil Eradication	\$6.22	Av. # Applications	\$767,751	\$12.43	
yield potential (lb/acre)	1,947	% acres in Pink Bollworm Eradication	100%	Total Bales lost (all factors)	\$3,075,947	\$49.80	
Acres (Pima)	15,460	Cost/acre Pink Bollworm Eradication	\$6.22	Total % yield Loss	\$6,848,601	\$110.88	
Yield / Acre (Pima)	825	% Insect apps by air	30%	Transgenic Cotton (arthropods) (# acres)	\$1,964,544	\$31.81	
% Acres Scouted	100%	No. apps by air	1.58	Boll Weevil Eradication (# acres)	\$8,813,145	\$142.69	
Fee / Scouted Acre	\$16.67	Cost/app by air	\$12.55	Pink Bollworm Eradication (# acres)			
No. times scouted/week	1.92	% insect apps by ground	26%	# Scouted Acres	61,766		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	1.19	Seed Treatments (arthropods) (# acres)	28,694		
Cost/treated acre (Bt) Cotton	\$49.80	Cost/app by ground	\$14.27	In-Furrow Applications (# acres)	9,217		
% acres with seed treatment	46%	% Loss to weather	13.6%	Applications by Air (acres)	18,348		
Seed trt. cost/ treated acre	\$25.38	% loss to non-arthropods	0.0%	Applications by Ground (acres)	15,959		
% acres with in-furrow	15%	% loss to other (chemical injury, weeds, diseases, etc.)	6.5%	No. acres with no foliar insecticide applications	37,430		

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	7.6%	4,686	-	\$49.80	0	0	0
Bollgard III	76.7%	47,372	-	\$49.80	0	0	0
Bollgard III/Thryvon		0	-		0	0	0
WideStrike	7.7%	4,752	-	\$49.80	0	0	0
WideStrike 3	4.5%	2,808	-	\$49.80	0	0	0
TwinLink	0.0%	0	-		0	0	0
TwinLink Plus	3.5%	2,148	-	\$49.80	0	0	0
Total Bt	100.0%	61,766	-	\$49.80	0.0%	0	0.0
Herbicide Traits Only	0	0			0	0	0
Conventional	0	0			0	0	0
Organic	0	0			0	0	0
Total Upland Cotton	100.0%	61,766	-	\$49.80	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							