

Table 7. Cotton insect loss estimates for Arizona Upland during 2018.

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	20,892	13.0%	3,260	2.1%	1.0	\$20.11	0.13%	0.02	\$0.42	0.02%	113	\$49,572	\$0.32	0.2%
Beet Armyworm	20,310	13.0%	1,091	0.7%	0.0	\$0.00	0.02%	0.00	\$0.00	0.00%	19	\$6,703	\$0.04	0.0%
Fall Armyworm	7,590	5.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	19,504	12.0%	1,091	0.7%	0.0	\$0.00	0.01%	0.00	\$0.00	0.00%	9	\$3,218	\$0.02	0.0%
Cutworms	0	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	1,868	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	12,988	8.0%	380	0.2%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	151,086	96.0%	126,311	80.6%	2.1	\$24.54	4.03%	1.69	\$41.42	3.88%	26,026	\$15,627,100	\$99.71	77.6%
Cotton Fleahopper	69,905	45.0%	9,298	5.9%	0.2	\$0.00	0.04%	0.01	\$0.00	0.02%	105	\$37,926	\$0.24	0.2%
Stink Bugs (other than brown stink bug)	57,111	36.0%	3,795	2.4%	0.5	\$18.47	0.06%	0.01	\$0.22	0.02%	156	\$68,532	\$0.44	0.3%
Brown Stink Bug	61,700	39.0%	4,459	2.8%	1.6	\$18.47	0.37%	0.05	\$0.85	0.14%	972	\$402,611	\$2.57	2.0%
Clouded Plant Bug	0	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	569	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	61,795	39.0%	29,402	18.8%	1.0	\$15.43	0.17%	0.19	\$2.90	0.07%	462	\$345,255	\$2.20	1.7%
Thrips	156,723	100.0%	13,114	8.4%	0.9	\$17.34	0.02%	0.08	\$1.37	0.02%	167	\$275,280	\$1.76	1.4%
Aphids	8,641	6.0%	636	0.4%	1.0	\$9.40	0.00%	0.00	\$0.04	0.00%	0	\$320	\$0.00	0.0%
Grasshoppers	1,006	1.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	26,403	17.0%	569	0.4%	1.9	\$29.16	0.04%	0.01	\$0.21	0.01%	45	\$21,679	\$0.14	0.1%
Silverleaf Whitefly	127,784	82.0%	66,573	42.5%	1.4	\$28.84	0.57%	0.59	\$16.95	0.46%	3,119	\$3,288,655	\$20.98	16.3%
Darkling Beetle	18,419	12.0%	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	35,598	23.0%	171	0.1%	0.5	\$8.75	0.00%	0.00	\$0.00	0.00%	0	\$165	\$0.00	0.0%
Empoasca Leafhoppers	18,068	12.0%	0	0.0%	0.0	\$0.00	0.03%	0.00	\$0.00	0.00%	22	\$8,053	\$0.05	0.0%
Mealybugs	76	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL								2.65	\$64.37	4.65%	31,217	\$20,135,069	\$128.48	

SUMMARY DATA

Data Input		Yield and Management Results			Economic Results			
State	Arizona	Total Acres	170,712	Total Bales Harvested	514,065	Foliar Insecticide Costs	Total	Per Acre
Region	West	Total Bales Lost to Insects	31,217	Seed Treatment Costs	\$872,032	\$5.56		
Year	2018	Percent Yield Loss	4.7%	In-Furrow Costs	\$67,016	\$0.43		
Total Acres (Upland)	156,723	Yield w/o Insects (lb/acre)	1,651	Scouting Costs	\$1,977,271	\$12.62		
Yield / Acre (Upland)	1,574	Av. # Applications	2.6	Eradication Costs	\$1,092,360	\$6.97		
Price / lb	\$0.75	Total Bales lost (all factors)	156,716	Bt Cotton	\$5,222,603	\$33.32		
yield potential (lb/acre)	2,054	Total % yield Loss	23.4%	Total Costs	\$19,319,515	\$123.27		
Acres (Pima)	13,989	Transgenic Cotton (arthropods) (# acres)	149,931	Yield Loss to Insects	\$11,237,983	\$71.71		
Yield / Acre (Pima)	1,129	Boll Weevil Eradication (# acres)	156,723	Total Losses + Costs	\$30,557,498	\$194.98		
% Acres Scouted	96%	Pink Bollworm Eradication (# acres)	156,723					
Fee / Scouted Acre	\$13.18	# Scouted Acres	149,975					
No. times scouted/week	2.0	Seed Treatments (arthropods) (# acres)	46,964					
% acres Transgenic (Bt) Cotton	96%	In-Furrow Applications (# acres)	4,564					
Cost/treated acre (Bt) Cotton	\$34.83	Applications by Air (acres)	92,552					
% acres with seed treatment	30%	Applications by Ground (acres)	73,749					
Seed trt. cost/ treated acre	\$18.57	No. acres with no foliar insecticide applications	25,953					
% acres with in-furrow	3%							

Table 7. Cotton insect loss estimates for Arizona Upland during 2018, 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	47.7%	74,753	\$0.00	\$34.83	0%	0	0.0
Bollgard III	36.6%	57,346	\$0.00	\$34.83	0%	0	0.0
WideStrike	4.3%	6,778	\$0.00	\$34.83	0%	0	0.0
WideStrike 3	3.5%	5,415	\$0.00	\$34.83	0%	0	0.0
TwinLink	1.5%	2,278	\$0.00	\$34.83	0%	0	0.0
TwinLink Plus	2.1%	3,361	\$0.00	\$34.83	0%	0	0.0
Total Bt	95.7%	149,931	\$0.00	\$34.83	0.0%	0	0.0
Herbicide Traits Only	1.0%	1,567	\$0.00	-	0%	0	0.0
Conventional	0.6%	934	\$0.00	-	0%	0	0.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	97.2%	152,359	\$0.00	\$34.83	0.0%	0	0.0
Non Upland Cotton							
Pima	8.9%	13,989	\$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)		166,348	\$0.00			0	