

Table 6. Cotton insect loss estimates for Arizona Bt 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	16,528	11.0%	380	0.2%	1.0	\$20.00	0.04%	0.00	\$0.00	0.00%	26	\$9,360	\$0.06	0.0%
Beet Armyworm	18,296	12.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	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	17,725	12.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	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	190	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Saltmarsh Caterpillar	11,309	7.0%	380	0.2%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	146,722	96.0%	123,431	81.0%	2.1	\$25.24	4.07%	1.67	\$42.15	3.92%	25,630	\$15,411,040	\$101.15	78.0%
Cotton Fleahopper	65,541	43.0%	9,298	6.1%	0.3	\$0.00	0.04%	0.02	\$0.00	0.02%	105	\$37,800	\$0.25	0.2%
Stink Bugs (other than brown stink bug)	55,433	36.0%	3,795	2.5%	0.5	\$19.00	0.07%	0.01	\$0.19	0.02%	157	\$67,052	\$0.44	0.3%
Brown Stink Bug	59,937	39.0%	4,459	2.9%	1.7	\$19.00	0.38%	0.05	\$0.95	0.15%	974	\$407,581	\$2.68	2.1%
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	57,431	38.0%	27,438	18.0%	1.0	\$15.88	0.18%	0.18	\$2.86	0.07%	444	\$323,948	\$2.13	1.6%
Thrips	152,359	100.0%	12,023	7.9%	0.9	\$17.83	0.03%	0.07	\$1.25	0.03%	170	\$251,394	\$1.65	1.3%
Aphids	8,641	6.0%	636	0.4%	1.0	\$9.67	0.00%	0.00	\$0.00	0.00%	0	\$0	\$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	24,725	16.0%	569	0.4%	2.0	\$30.00	0.04%	0.01	\$0.30	0.01%	46	\$23,977	\$0.16	0.1%
Silverleaf Whitefly	123,419	81.0%	63,693	41.8%	1.4	\$29.66	0.59%	0.57	\$16.91	0.48%	3,105	\$3,204,441	\$21.03	16.2%
Darkling Beetle	16,740	11.0%	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	\$9.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$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%	26	\$9,360	\$0.06	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%
<b>TOTAL</b>								<b>2.58</b>	<b>\$64.60</b>	<b>4.69%</b>	<b>30,683</b>	<b>\$19,745,953</b>	<b>\$129.60</b>	

**SUMMARY DATA**

Data Input		Yield and Management Results			Economic Results			
State	Arizona	Total Acres	152,359	Total Bales Harvested	502,851	Foliar Insecticide Costs	Total	Per Acre
Region	West	Total Bales Lost to Insects	30,683	Seed Treatment Costs	\$897,012	\$5.89		
Year	2018	Percent Yield Loss	4.7%	In-Furrow Costs	\$35,198	\$0.23		
Total Acres (Upland)	152,359	Yield w/o Insects (lb/acre)	1,662	Scouting Costs	\$1,954,780	\$12.83		
Yield / Acre (Upland)	1,584	Av. # Applications	2.58	Eradication Costs	\$1,061,942	\$6.97		
Price / lb	\$0.75	Total Bales lost (all factors)	152,748	Bt Cotton	\$3,225,048	\$21.17		
yield potential (lb/acre)	2,059	Total % yield Loss	23.4%	Total Costs	\$17,016,672	\$111.69		
Acres (Pima)	-	Transgenic Cotton (arthropods) (# acres)	149,931	Yield Loss to Insects	\$11,045,880	\$72.50		
Yield / Acre (Pima)	-	Boll Weevil Eradication (# acres)	152,359	Total Losses + Costs	\$28,062,552	\$184.19		
% Acres Scouted	97%	Pink Bollworm Eradication (# acres)	152,359					
Fee / Scouted Acre	\$13.27	# Scouted Acres	147,357					
No. times scouted/week	1.9	Seed Treatments (arthropods) (# acres)	46,964					
% acres Transgenic (Bt) Cotton	98%	In-Furrow Applications (# acres)	2,366					
Cost/treated acre (Bt) Cotton	\$21.51	Applications by Air (acres)	89,061					
% acres with seed treatment	31%	Applications by Ground (acres)	72,440					
Seed trt. cost/ treated acre	\$19.10	No. acres with no foliar insecticide applications	24,425					
% acres with in-furrow	2%							

Table 6. Cotton insect loss estimates for Arizona Bt 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	49.1%	74,753	-	\$34.83	-	0	-
Bollgard III	37.6%	57,346	-	\$34.83	-	0	-
WideStrike	4.4%	6,778	-	\$34.83	-	0	-
WideStrike 3	3.6%	5,415	-	\$34.83	-	0	-
TwinLink	1.5%	2,278	-	\$34.83	-	0	-
TwinLink Plus	2.2%	3,361	-	\$34.83	-	0	-
<b>Total Bt</b>	<b>98.4%</b>	<b>149,931</b>	<b>\$0.00</b>	<b>\$34.83</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
Herbicide Traits Only	1.0%	1,494	-	-	-	0	-
Conventional	0.6%	934	-	-	-	0	-
Organic	0%	0	-	-	-	0	-
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>152,359</b>	<b>\$0.00</b>	<b>\$34.83</b>	<b>0.0%</b>	<b>0</b>	<b>0.0</b>
<b>Non Upland Cotton</b>							
Pima	9.2%	13,989	-	-	-	0	-
Other	0%	0	-	-	-	0	-
Organic	0%	0	-	-	-	0	-
<b>Total (all Cotton)</b>		<b>166,348</b>				<b>0</b>	