

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2021.

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	219,257	100%	11,182	5.1%	1.0	\$20.00	0.50%	0.05	\$1.00	0.50%	4,572	\$2,413,817	\$11.01	5.8%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	153,480	70%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	4,385	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cotton Leaf Perforator	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	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	186,368	85%	21,926	10.0%	1.0	\$12.00	0.02%	0.10	\$1.20	0.02%	155	\$298,042	\$1.36	0.7%
Cotton Fleahopper	219,257	100%	208,294	95.0%	1.5	\$12.00	2.00%	1.42	\$17.04	2.00%	18,290	\$12,515,339	\$57.08	30.3%
Stink Bugs (other than brown stink bug)	164,443	75%	4,385	2.0%	1.0	\$11.00	0.05%	0.02	\$0.22	0.04%	348	\$203,217	\$0.93	0.5%
Brown Stink Bug	219,257	100%	197,331	90.0%	1.3	\$11.00	3.00%	1.17	\$12.87	3.00%	27,435	\$15,990,638	\$72.93	38.7%
Clouded Plant Bug	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	164,443	75%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	87,703	40%	2,193	1.0%	0.0	\$13.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Thrips	219,257	100%	65,777	30.0%	1.0	\$11.00	1.00%	0.30	\$3.30	1.00%	9,145	\$5,113,148	\$23.32	12.4%
Aphids	219,257	100%	32,889	15.0%	1.0	\$13.00	1.00%	0.15	\$1.95	1.00%	9,145	\$4,817,151	\$21.97	11.6%
Grasshoppers	219,257	100%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged Whitefly	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Silverleaf Whitefly	43,851	20%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Boll Weevil	1,206	0.55%	1,206	0.55%	2.5	\$0.00	0.00%	0.01	\$0.00	0.00%	0	\$0	\$0.00	0.0%
TOTAL					3.22			\$37.58		7.56%	69,090	\$41,351,352	\$188.60	

SUMMARY DATA

Data Input		Yield and Management Results				Economic Results	
	Texas	Total Acres			219,257	Total	Per Acre
State	Texas	Total Acres			219,257		
Region	Central	Total Bales Harvested			593,821	Foliar Insecticide Costs	\$8,239,678
Year	2021	Total Bales Lost to Insects			69,090	Seed Treatment Costs	\$2,302,199
Total Acres (Upland)	219,257	In-furrow cost/treated acre	\$12.00	Percent Yield Loss	7.6%	In-Furrow Costs	\$26,311
Yield / Acre (Upland)	1,300	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,406	Scouting Costs	\$1,754,056
Price / lb	\$1.00	Cost/acre Boll Weevil Eradication	\$5.42	Av. # Applications	3.22	Eradication Costs	\$1,188,373
yield potential (lb/acre)	2,002	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	320,573	Bt Cotton	\$4,773,220
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	35.1%	Total Costs	\$18,283,837
Yield / Acre (Pima)	0	% Insect apps by air	85%	Transgenic Cotton (arthropods) (# acres)	219,257	Yield Loss to Insects	\$33,163,200
% Acres Scouted	80%	No. apps by air	2	Boll Weevil Eradication (# acres)	219,257	Total Losses + Costs	\$51,447,037
Fee / Scouted Acre	\$10.00	Cost/app by air	\$7.00	Pink Bollworm Eradication (# acres)	0		
No. times scouted/week	1.5	% insect apps by ground	40%	# Scouted Acres	175,406		
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	219,257		
Cost/treated acre (Bt) Cotton	\$21.77	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	2,193		
% acres with seed treatment	100%	% Loss to weather	21.5%	Applications by Air (acres)	186,368		
Seed trt. cost/ treated acre	\$10.50	% loss to non-arthropods	1.0%	Applications by Ground (acres)	87,703		
% acres with in-furrow	1.0%	% loss to other (chemical injury, weeds, diseases, etc.)	5.0%	No. acres with no foliar insecticide applications	0		

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2021, 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	27.0%	59,199	\$85.00	\$17.00	18%	10,656	1.0
Bollgard III	60.0%	131,554	\$93.00	\$25.00	0%	0	0.0
WideStrike	0.0%	0	\$68.00	\$5.00	0%	0	0.0
WideStrike 3	10.0%	21,926	\$83.00	\$15.00	0%	0	0.0
TwinLink	1.0%	2,193	\$73.00	\$14.00	18%	395	1.0
TwinLink Plus	2.0%	4,385	\$86.00	\$27.00	0%	0	0.0
Total Bt	100.0%	219,257	\$89.50	\$21.77	5.0%	11,051	0.05
Herbicide Traits Only	0%	0	\$44.00	-	0%	0	0.0
Conventional	0%	0	\$19.00	-	0%	0	0.0
Organic	0%	0	\$19.00	-	0%	0	0.0
Total Upland Cotton	100.0%	219,257	\$89.50	\$21.77	5.0%	11,051	0.05
Non Upland Cotton							
Pima	0%	0	\$65.00	-	0%	0	0.0
Other	0%	0	\$19.00	-	0%	0	0.0
Organic	0%	0	\$65.00	-	0%	0	0.0
Total (all Cotton)		219,257	\$89.50		5.0%	11,051	0.05