

Table 19. Cotton insect loss estimates for Missouri 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	85,000	25%	17,000	5.0%	1.0	\$20.00	1.00%	0.05	\$1.00	0.25%	2,897	\$1,197,448	\$3.52	1.8%
Beet Armyworm	3,400	1%	3,400	1.0%	1.0	\$0.00	0.00%	0.01	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	3,400	1%	3,400	1.0%	1.0	\$0.00	0.00%	0.01	\$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	51,000	15%	34,000	10.0%	1.0	\$6.00	0.00%	0.10	\$0.60	0.00%	0	\$30,600	\$0.09	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	6,800	2%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	340,000	100%	340,000	100.0%	4.0	\$15.00	4.00%	4.00	\$60.00	4.00%	46,353	\$38,199,552	\$112.35	56.2%
Cotton Fleahopper	0	0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Stink Bugs (other than brown stink bug)	340,000	100%	17,000	5.0%	1.0	\$10.00	0.40%	0.05	\$0.50	0.40%	4,635	\$1,949,840	\$5.73	2.9%
Brown Stink Bug	136,000	40%	17,000	5.0%	1.0	\$10.00	0.10%	0.05	\$0.50	0.04%	464	\$246,176	\$0.72	0.4%
Clouded Plant Bug	204,000	60%	204,000	60.0%	4.0	\$10.00	1.00%	2.40	\$24.00	0.60%	6,953	\$7,565,952	\$22.25	11.1%
Leaf Footed Bugs	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	170,000	50%	68,000	20.0%	2.0	\$13.00	0.75%	0.40	\$5.20	0.38%	4,346	\$2,552,864	\$7.51	3.8%
Thrips	340,000	100%	340,000	100.0%	2.0	\$12.50	1.75%	2.00	\$25.00	1.75%	20,280	\$16,287,520	\$47.90	23.9%
Aphids	0	0%	0	0.0%	0.0	\$12.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Grasshoppers	3,400	1%	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	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	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
<b>TOTAL</b>					9.07			\$116.80		7.42%	85,928	\$68,029,952	\$200.09	

**SUMMARY DATA**

Data Input		Yield and Management Results				Economic Results	
State	Missouri	Total Acres	340,000		Total	Per Acre	
Region	Midsouth	Total Bales Harvested	864,167		Foliar Insecticide Costs	\$116.80	
Year	2023	Total Bales Lost to Insects	85,928		Seed Treatment Costs	\$4,080,000	
Total Acres (Upland)	340,000	In-furrow cost/treated acre	\$9.00		In-Furrow Costs	\$918,000	
Yield / Acre (Upland)	1,220	% acres in Boll Weevil Eradication	100%		Scouting Costs	\$3,400,000	
Price / lb	\$0.80	Cost/acre Boll Weevil Eradication	\$1.50		Eradication Costs	\$510,000	
yield potential (lb/acre)	1,636	% acres in Pink Bollworm Eradication	0%		Bt Cotton	\$11,356,000	
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	\$0.00		Total Costs	\$59,976,000	
Yield / Acre (Pima)	0	% Insect apps by air	40%		Yield Loss to Insects	\$32,996,352	
% Acres Scouted	100%	No. apps by air	2		Total Losses + Costs	\$92,972,352	
Fee / Scouted Acre	\$10.00	Cost/app by air	\$11.00		Pink Bollworm Eradication (# acres)	0	
No. times scouted/week	1.5	% insect apps by ground	60%		# Scouted Acres	340,000	
% acres Transgenic (Bt) Cotton	100%	No. apps by ground	4.5		Seed Treatments (arthropods) (# acres)	340,000	
Cost/treated acre (Bt) Cotton	\$33.40	Cost/app by ground	\$6.00		In-Furrow Applications (# acres)	102,000	
% acres with seed treatment	100%	% Loss to weather	12.0%		Applications by Air (acres)	136,000	
Seed trt. cost/ treated acre	\$12.00	% loss to non-arthropods	3.0%		Applications by Ground (acres)	204,000	
% acres with in-furrow	30%	% loss to other (chemical injury, weeds, diseases, etc.)	3.0%		No. acres with no foliar insecticide applications	0	

Table 19. Cotton insect loss estimates for Missouri during 2023, 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	25.0%	85,000	\$110.00	\$24.00	10%	8,500	1.0
Bollgard III	44.0%	149,600	\$115.00	\$26.00	0%	0	0.0
Bollgard III/Thryvon	25.0%	85,000	\$139.00	\$32.00	0%	0	0.0
WideStrike	1.0%	3,400	\$97.00	\$0.00	0%	0	0.0
WideStrike 3	3.0%	10,200	\$105.00	\$24.00	0%	0	0.0
TwinLink	1.0%	3,400	\$100.00	\$0.00	0%	0	0.0
TwinLink Plus	1.0%	3,400	\$110.00	\$24.00	0%	0	0.0
<b>Total Bt</b>	<b>100.0%</b>	<b>340,000</b>	<b>\$119.07</b>	<b>\$33.40</b>	<b>2.5%</b>	<b>8,500</b>	<b>0.0</b>
Herbicide Traits Only	0.0%	0	\$0.00		0%	0	0.0
Conventional	0.0%	0	\$0.00		0%	0	0.0
Organic	0.0%	0	\$0.00		0%	0	0.0
<b>Total Upland Cotton</b>	<b>100.0%</b>	<b>340,000</b>	<b>\$119.07</b>	<b>\$33.40</b>	<b>2.5%</b>	<b>8,500</b>	<b>0.0</b>
Non Upland Cotton							
Pima	0.0%	0	\$0.00		0%	0	0.0
Other	0.0%	0	\$0.00		0%	0	0.0
Organic	0.0%	0	\$0.00		0%	0	0.0
<b>Total (all Cotton)</b>		<b>340,000</b>	<b>\$119.07</b>		<b>2.5%</b>	<b>8,500</b>	<b>0.0</b>

  

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	\$28.00	0%	0	0	95%	80,750	3