Table 10. Cotton insect loss estimates for Arkansas during 2018.

	Acres	% Acres		% Acres	# of apps	Cost of 1	% loss /acre	# of apps/		overall %	Bales lost /		Loss +	% Total
Pest	Infested	Infested	Acres Treated	Treated	/acres treated	application	infested	total acres	cost/acre	reduction	pest	Loss + cost	cost/acre	Loss+Cost
Bollworm/Budworm	485,000	100.0%	431,350	88.9%	1.5	\$22.00	4.16%	1.33	\$29.35	4.16%	84,699	\$42,693,452	\$88.03	30.9%
Beet Armyworm	1,910	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	87,450	18.0%	0	0.0%	0.0	\$7.09	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Loopers	0	0.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	169,750	35.0%	68,350	14.1%	1.0	\$18.00	0.00%	0.14	\$2.54	0.00%	0	\$430,605	\$0.89	0.3%
Cotton Leaf Perforator	0	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	72,750	15.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Lygus	485,000	100.0%	485,000	100.0%	4.7	\$20.00	4.14%	4.70	\$93.94	4.14%	84,329	\$73,894,701	\$152.36	53.4%
Cotton Fleahopper	436,500	90.0%	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	388,000	80.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
brown stink bug)														
Brown Stink Bug	388,000	80.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Clouded Plant Bug	194,750	40.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Leaf Footed Bugs	72,750	15.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	330,700	68.0%	184,450	38.0%	1.7	\$20.00	1.77%	0.66	\$13.12	1.21%	24,583	\$12,597,186	\$25.97	9.1%
Thrips	485,000	100.0%	305,700	63.0%	1.0	\$13.00	0.50%	0.63	\$8.19	0.50%	10,186	\$7,396,677	\$15.25	5.3%
Aphids	427,700	88.0%	77,150	15.9%	1.0	\$20.00	0.00%	0.16	\$3.18	0.00%	0	\$1,360,703	\$2.81	1.0%
Grasshoppers	58,050	12.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged	67,600	14.0%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Whitefly														
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%
TOTAL								7.62	\$150.32	10.00%	203,798	\$138,373,324	\$285.31	

SUMMARY DATA

Data Input				Yield and Management Results	Economic Results			
State	Arkansas			Total Acres	485,000		Total	Per Acre
Region	Mid-South			Total Bales Harvested	1,263,021	Foliar Insecticide Costs	\$72,903,003	\$150.32
Year	2018			Total Bales Lost to Insects	203,798	Seed Treatment Costs	\$5,759,375	\$11.88
Total Acres (Upland)	485,000	In-furrow cost/treated acre	100%	Percent Yield Loss	10.0%	In-Furrow Costs	\$1,480,100	\$3.05
Yield / Acre (Upland)	1,250	% acres in Boll Weevil Eradication	\$3.00	Yield w/o Insects (lb/acre)	1,389	Scouting Costs	\$4,850,000	\$10.00
Price / lb	\$0.70	Cost/acre Boll Weevil Eradication	0%	Av. # Applications	7.62	Eradication Costs	\$1,455,000	\$3.00
yield potential (lb/acre)	2,016	% acres in Pink Bollworm Eradication	\$0.00	Total Bales lost (all factors)	767,917	Bt Cotton	\$0	\$0.00
Acres (Pima)	0	Cost/acre Pink Bollworm Eradication	80%	Total % yield Loss	38.0%	Total Costs	\$86,447,478	\$178.24
Yield / Acre (Pima)	0	% Insect apps by air	3.9	Transgenic Cotton (arthropods) (# acres)	0	Yield Loss to Insects	\$68,476,046	\$141.19
% Acres Scouted	100%	No. apps by air	\$10.00	Boll Weevil Eradication (# acres)	485,000	Total Losses + Costs	\$154,923,524	\$319.43
Fee / Scouted Acre	\$10.00	Cost/app by air	100%	Pink Bollworm Eradication (# acres)	0			
No. times scouted/week	1.5	% insect apps by ground	3.8	# Scouted Acres	485,000			
% acres Transgenic (Bt) Cotton	0%	No. apps by ground	\$7.00	Seed Treatments (arthropods) (# acres)	460,750			
Cost/treated acre (Bt) Cotton	\$0.00	Cost/app by ground	18.0%	In-Furrow Applications (# acres)	77,900			
% acres with seed treatment	95%	% Loss to weather	5.0%	Applications by Air (acres)	388,000			
Seed trt. cost/ treated acre	\$12.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	485,000			
% acres with in-furrow	16%	% loss to other (chemical injury,	5.0%	No. acres with no foliar insecticide	0			
		weeds, diseases, etc.)		applications				

Table 10. Cotton insect loss estimates for Arkansas 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	92.0%	446,200	\$112.00	\$35.00	85%	379,270	1.5
Bollgard III	1.0%	4,850	\$112.00	\$35.00	0%	0	0.0
WideStrike	3.0%	14,550	\$97.00	\$35.00	100%	14,550	2.0
WideStrike 3	1.0%	4,850	\$112.00	\$35.00	2%	97	0.5
TwinLink	1.0%	4,850	\$112.00	\$35.00	85%	4,123	1.5
TwinLink Plus	0.5%	2,425	\$112.00	\$35.00	0%	0	0.0
Total Bt	98.5%	477,725	\$111.54	\$35.00	83.3%	398,040	1.5
Herbicide Traits Only	0.0%	0	\$0.00	-	0%	0	0.0
Conventional	1.5%	7,275	\$26.00	-	100%	7,275	2.0
Organic	0.0%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	485,000	\$109.14	\$35.00	83.6%	405,315	1.5
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
Total (all Cotton)		485,000	\$109.14		83.6%	405,315	1.5