Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2019.

% loss to other (chemical injury,

weeds, diseases, etc.)

2%

% acres with in-furrow

	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	259,200	90%	224,640	78.0%	1.5	\$20.00	1.50%	1.17	\$23.40	1.35%	11,162	\$9,815,712	\$34.08	24.0%
Beet Armyworm	0	0%	0	0.0%	0.0	\$0.00	0.10%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Fall Armyworm	28,800	10%	5,760	2.0%	1.0	\$11.50	1.00%	0.02	\$0.23	0.10%	827	\$284,496	\$0.99	0.7%
Loopers	2,880	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Cutworms	28,800	10%	43,200	15.0%	1.0	\$6.00	0.10%	0.15	\$0.90	0.01%	83	\$53,808	\$0.19	0.1%
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	288,000	100%	216,000	75.0%	2.2	\$11.00	4.00%	1.65	\$18.15	4.00%	33,072	\$16,339,392	\$56.73	39.9%
Cotton Fleahopper	43,200	15%	0	0.0%	1.0	\$0.00	0.10%	0.00	\$0.00	0.02%	124	\$41,664	\$0.14	0.1%
Stink Bugs (other than	72,000	25%	8,640	3.0%	1.0	\$9.00	1.00%	0.03	\$0.27	0.25%	2,067	\$713,952	\$2.48	1.7%
brown stink bug)														
Brown Stink Bug	115,200	40%	43,200	15.0%	1.0	\$9.00	1.50%	0.15	\$1.35	0.60%	4,961	\$1,822,416	\$6.33	4.4%
Clouded Plant Bug	34,560	12%	2,880	1.0%	1.0	\$9.00	3.00%	0.01	\$0.09	0.36%	2,976	\$1,003,046	\$3.48	2.4%
Leaf Footed Bugs	14,400	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Spider Mites	172,800	60%	129,600	45.0%	1.1	\$12.00	2.25%	0.50	\$6.00	1.35%	11,162	\$4,787,232	\$16.62	11.7%
Thrips	288,000	100%	57,600	20.0%	1.0	\$9.00	1.00%	0.20	\$1.80	1.00%	8,268	\$3,296,448	\$11.45	8.0%
Aphids	244,800	85%	172,800	60.0%	1.1	\$10.00	0.50%	0.66	\$6.60	0.43%	3,514	\$2,796,384	\$9.71	6.8%
Grasshoppers	14,400	5%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Banded Winged	2,880	1%	0	0.0%	0.0	\$0.00	0.00%	0.00	\$0.00	0.00%	0	\$0	\$0.00	0.0%
Whitefly														
Silverleaf Whitefly	2,880	1%	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								4.54	\$58.79	9.46%	78,216	\$40,954,550	\$142.20	

Data	a Input	Yield and Management Results	1	Economic Results			
Mississippi			Total Acres	288,000		Total	Per Acre
MidSouth			Total Bales Harvested	615,000	Foliar Insecticide Costs	\$16,931,520	\$58.79
2019			Total Bales Lost to Insects	78,216	Seed Treatment Costs	\$2,681,280	\$9.31
288,000	In-furrow cost/treated acre	\$12.50	Percent Yield Loss	9.5%	In-Furrow Costs	\$54,000	\$0.19
1,025	% acres in Boll Weevil Eradication	100%	Yield w/o Insects (lb/acre)	1,132	Scouting Costs	\$1,975,680	\$6.86
\$0.70	Cost/acre Boll Weevil Eradication	\$4.00	Av. # Applications	4.54	Eradication Costs	\$1,152,000	\$4.00
1,378	% acres in Pink Bollworm Eradication	0%	Total Bales lost (all factors)	284,915	Bt Cotton	\$9,216,000	\$32.00
0	Cost/acre Pink Bollworm Eradication	\$0.00	Total % yield Loss	34.5%	Total Costs	\$32,010,480	\$111.15
0	% Insect apps by air	20%	Transgenic Cotton (arthropods) (# acres)	288,000	Yield Loss to Insects	\$26,280,576	\$91.25
98%	No. apps by air	1	Boll Weevil Eradication (# acres)	288,000	Total Losses + Costs	\$58,291,056	\$202.40
\$7.00	Cost/app by air	\$7.50	Pink Bollworm Eradication (# acres)	0			
1.5	% insect apps by ground	80%	# Scouted Acres	282,240			
100%	No. apps by ground	2	Seed Treatments (arthropods) (# acres)	282,240			
\$32.00	Cost/app by ground	\$5.50	In-Furrow Applications (# acres)	4,320			
98%	% Loss to weather	15.0%	Applications by Air (acres)	57,600			
\$9.50	% loss to non-arthropods	5.0%	Applications by Ground (acres)	230,400			
	Mississippi MidSouth 2019 288,000 1,025 \$0.70 1,378 0 0 98% \$7.00 1.5 100% \$32.00 98%	MidSouth 2019 288,000 In-furrow cost/treated acre 1,025 % acres in Boll Weevil Eradication \$0.70 Cost/acre Boll Weevil Eradication 1,378 % acres in Pink Bollworm Eradication 0 Cost/acre Pink Bollworm Eradication 0 % Insect apps by air 98% No. apps by air 57.00 Cost/app by air 1.5 % insect apps by ground 100% No. apps by ground No. apps by ground \$32.00 Cost/app by ground \$32.00 Cost/app by ground \$32.00 Cost/app by ground	Mississippi         MidSouth           2019         288,000         In-furrow cost/treated acre         \$12.50           1,025         % acres in Boll Weevil Eradication         100%           \$0.70         Cost/acre Boll Weevil Eradication         \$4.00           1,378         % acres in Pink Bollworm Eradication         0%           0         Cost/acre Pink Bollworm Eradication         \$0.00           0         % Insect apps by air         20%           98%         No. apps by air         1           \$7.00         Cost/app by air         \$7.50           1.5         % insect apps by ground         80%           100%         No. apps by ground         2           \$32.00         Cost/app by ground         \$5.50           98%         % Loss to weather         15.0%	Mississippi MidSouth 2019 288,000 In-furrow cost/treated acre 1,025 80.70 Cost/acre Boll Weevil Eradication 1,378 0 Cost/acre Pink Bollworm Eradication 0 Boll Weevil Eradication 0 Total Bales Lost to Insects 100% Insects (lb/acre) 4.00 Av. # Applications 1,378 Vield W/o Insects (lb/acre) 100% Total Bales lost (all factors) 100% Total Wy yield Loss 11 Boll Weevil Eradication (# acres) 11 Boll Weevil Eradication (# acres) 11.5 Vinsect apps by air 1 Boll Weevil Eradication (# acres) 11.5 Vinsect apps by ground 12 Seed Treatments (arthropods) (# acres) 100% No. apps by ground 12 Seed Treatments (arthropods) (# acres) 100% No. apps by ground 15.0% Applications by Air (acres) 15.0% Applications by Air (acres)	Mississippi         Total Acres         288,000           MidSouth         Total Bales Harvested         615,000           2019         Total Bales Lost to Insects         78,216           288,000         In-furrow cost/treated acre         \$12.50         Percent Yield Loss         9.5%           1,025         % acres in Boll Weevil Eradication         100%         Yield w/o Insects (lb/acre)         1,132           \$0.70         Cost/acre Boll Weevil Eradication         \$4.00         Av. # Applications         4.54           1,378         % acres in Pink Bollworm Eradication         0%         Total Bales lost (all factors)         284,915           0         Cost/acre Pink Bollworm Eradication         \$0.00         Total % yield Loss         34.5%           0         % Insect apps by air         20%         Transgenic Cotton (arthropods) (# acres)         288,000           98%         No. apps by air         1         Boll Weevil Eradication (# acres)         288,000           \$7.00         Cost/app by air         \$7.50         Pink Bollworm Eradication (# acres)         0           1.5         % insect apps by ground         80%         # Scouted Acres         282,240           \$32.00         Cost/app by ground         2         Seed Treatments (arthropods) (# acres) <t< td=""><td>Mississippi MidSouth MidSouth</td><td>Mississippi         MidSouth         Total Acres         288,000         Foliar Insecticide Costs         Total           2019         2019         Total Bales Harvested         615,000         Foliar Insecticide Costs         \$16,931,520           288,000         In-furrow cost/treated acre         \$12.50         Percent Yield Loss         9.5%         In-Furrow Costs         \$2,681,280           1,025         % acres in Boll Weevil Eradication         100%         Yield w/o Insects (lb/acre)         1,132         Scouting Costs         \$1,975,680           \$0.70         Cost/acre Boll Weevil Eradication         \$4.00         Av. # Applications         4.54         Eradication Costs         \$1,152,000           1,378         % acres in Pink Bollworm Eradication         %         Total Bales lost (all factors)         284,915         Bt Cotton         \$9,216,000           0         Cost/acre Pink Bollworm Eradication         \$0.00         Total % yield Loss         34.5%         Total Costs         \$32,010,480           0         % Insect apps by air         20%         Transgenic Cotton (arthropods) (# acres)         288,000         Yield Loss to Insects         \$26,280,576           98%         No. apps by ground         \$7.50         Pink Bollworm Eradication (# acres)         282,240         Total Losses + Costs         \$</td></t<>	Mississippi MidSouth	Mississippi         MidSouth         Total Acres         288,000         Foliar Insecticide Costs         Total           2019         2019         Total Bales Harvested         615,000         Foliar Insecticide Costs         \$16,931,520           288,000         In-furrow cost/treated acre         \$12.50         Percent Yield Loss         9.5%         In-Furrow Costs         \$2,681,280           1,025         % acres in Boll Weevil Eradication         100%         Yield w/o Insects (lb/acre)         1,132         Scouting Costs         \$1,975,680           \$0.70         Cost/acre Boll Weevil Eradication         \$4.00         Av. # Applications         4.54         Eradication Costs         \$1,152,000           1,378         % acres in Pink Bollworm Eradication         %         Total Bales lost (all factors)         284,915         Bt Cotton         \$9,216,000           0         Cost/acre Pink Bollworm Eradication         \$0.00         Total % yield Loss         34.5%         Total Costs         \$32,010,480           0         % Insect apps by air         20%         Transgenic Cotton (arthropods) (# acres)         288,000         Yield Loss to Insects         \$26,280,576           98%         No. apps by ground         \$7.50         Pink Bollworm Eradication (# acres)         282,240         Total Losses + Costs         \$

applications

5.0%

No. acres with no foliar insecticide

2,880

SUMMARY DATA

Table 14. Cotton insect loss estimates for the Hills region of Mississippi during 2019, continued.

					% acres treated	# acres treated	# apps
Upland Cotton	% Acres	# Acres	Total cost/acre	Bt cost/acre	for BW/TBW	for BW/TBW	for BW/TBW
Bollgard II	77.8%	224,064	\$140.00	\$32.00	70%	156,845	1.5
Bollgard III	10.0%	28,800	\$140.00	\$32.00	0%	0	0.1
WideStrike	5.0%	14,400	\$140.00	\$32.00	95%	13,680	2.0
WideStrike 3	6.0%	17,280	\$140.00	\$32.00	5%	864	0.1
TwinLink	0.2%	576	\$140.00	\$32.00	90%	518	2.0
TwinLink Plus	1.0%	2,880	\$140.00	\$32.00	0%	0	0.1
Total Bt	100%	288,000	\$140.00	\$32.00	59.7%	171,907	1.3
Herbicide Traits Only	0.00%	0	\$108.00	-	100%	0	2.0
Conventional	0.00%	0	\$22.00	-	100%	0	2.0
Organic	0.00%	0	\$0.00	-	0%	0	0.0
Total Upland Cotton	100.0%	288,000	\$140.00	\$32.00	59.7%	171,907	1.3
Non Upland Cotton							
Pima	0.0%	0	\$0.00	-	0%	0	0
Other	0.0%	0	\$0.00	-	0%	0	0
Organic	0.0%	0	\$0.00	-	0%	0	0
Total (all Cotton)		288,000	\$140.00	-	59.7%	171,907	1.3