

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2020.

| 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                        | 242,876        | 100%             | 43,718        | 18.0%           | 1.0                      | \$21.00               | 2.00%                 | 0.18                   | \$3.78    | 2.00%               | 20,199            | \$7,511,025  | \$30.93          | 22.3%             |
| 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                           | 12,144         | 5%               | 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                                | 7,286          | 3%               | 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                                   | 206,445        | 85%              | 12,144        | 5.0%            | 1.0                      | \$12.00               | 0.02%                 | 0.05                   | \$0.60    | 0.02%               | 172               | \$180,008    | \$0.74           | 0.5%              |
| Cotton Fleahopper                       | 242,876        | 100%             | 218,588       | 90.0%           | 1.5                      | \$12.00               | 2.00%                 | 1.35                   | \$16.20   | 2.00%               | 20,199            | \$10,527,545 | \$43.35          | 31.2%             |
| Stink Bugs (other than brown stink bug) | 233,161        | 96%              | 7,286         | 3.0%            | 1.0                      | \$11.00               | 1.00%                 | 0.03                   | \$0.33    | 0.96%               | 9,696             | \$3,241,718  | \$13.35          | 9.6%              |
| Brown Stink Bug                         | 242,876        | 100%             | 145,726       | 60.0%           | 1.0                      | \$11.00               | 3.00%                 | 0.60                   | \$6.60    | 3.00%               | 30,299            | \$11,492,575 | \$47.32          | 34.1%             |
| 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                        | 182,157        | 75%              | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00    | 0.00%               | 0                 | \$0          | \$0.00           | 0.0%              |
| Spider Mites                            | 170,013        | 70%              | 7,286         | 3.0%            | 1.0                      | \$13.00               | 0.00%                 | 0.03                   | \$0.39    | 0.00%               | 0                 | \$66,305     | \$0.27           | 0.2%              |
| Thrips                                  | 242,876        | 100%             | 48,575        | 20.0%           | 1.0                      | \$11.00               | 0.00%                 | 0.20                   | \$2.20    | 0.00%               | 0                 | \$534,327    | \$2.20           | 1.6%              |
| Aphids                                  | 230,732        | 95%              | 12,144        | 5.0%            | 1.0                      | \$13.00               | 0.00%                 | 0.05                   | \$0.65    | 0.00%               | 0                 | \$149,976    | \$0.62           | 0.4%              |
| Grasshoppers                            | 242,876        | 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                     | 48,575         | 20%              | 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>                            |                |                  |               |                 |                          |                       |                       | 2.49                   | \$30.75   | 7.98%               | 80,565            | \$33,703,479 | \$138.77         |                   |

**SUMMARY DATA**

| Data Input                     |         | Yield and Management Results                             |                             |   |                          | Economic Results      |              |          |
|--------------------------------|---------|--|-----------------------------|---|--------------------------|-----------------------|--------------|----------|
|                                | Texas   | Total Acres  |                             |   |                          | Total                 | Per Acre     |          |
| State                          | Texas   | 242,876  | Total Bales Harvested       | 565,699   | Foliar Insecticide Costs | \$7,468,437           | \$30.75      |          |
| Region                         | Central |  | Total Bales Lost to Insects | 80,565  | Seed Treatment Costs     | \$2,307,322           | \$9.50       |          |
| Year                           | 2020    |  | Percent Yield Loss          | 8.0%  | In-Furrow Costs          | \$29,145              | \$0.12       |          |
| Total Acres (Upland)           | 242,876 | In-furrow cost/treated acre                              | \$12.00                     | Yield w/o Insects (lb/acre)                       | 1,215                    | Scouting Costs        | \$1,943,008  | \$8.00   |
| Yield / Acre (Upland)          | 1,118   | % acres in Boll Weevil Eradication                       | 100%                        | Av. # Applications                                | 2.49                     | Eradication Costs     | \$1,131,802  | \$4.66   |
| Price / lb                     | \$0.68  | Cost/acre Boll Weevil Eradication                        | \$4.66                      | Total Bales lost (all factors)                    | 444,150                  | Bt Cotton             | \$4,762,792  | \$19.61  |
| yield potential (lb/acre)      | 1,996   | % acres in Pink Bollworm Eradication                     | 0%                          | Total % yield Loss                                | 44.0%                    | Total Costs           | \$17,642,506 | \$72.64  |
| Acres (Pima)                   | 0       | Cost/acre Pink Bollworm Eradication                      | \$0.00                      | Transgenic Cotton (arthropods) (# acres)          | 242,876                  | Yield Loss to Insects | \$26,296,416 | \$108.27 |
| Yield / Acre (Pima)            | 0       | % Insect apps by air                                     | 60%                         | Boll Weevil Eradication (# acres)                 | 242,876                  | Total Losses + Costs  | \$43,938,922 | \$180.91 |
| % Acres Scouted                | 80%     | No. apps by air  | 2                           | Pink Bollworm Eradication (# acres)               | 0                        |                       |              |          |
| Fee / Scouted Acre             | \$10.00 | Cost/app by air  | \$7.00                      | # Scouted Acres                                   | 194,301                  |                       |              |          |
| No. times scouted/week         | 1.5     | % insect apps by ground                                  | 40%                         | Seed Treatments (arthropods) (# acres)            | 242,876                  |                       |              |          |
| % acres Transgenic (Bt) Cotton | 100%    | No. apps by ground                                       | 3                           | In-Furrow Applications (# acres)                  | 2,429                    |                       |              |          |
| Cost/treated acre (Bt) Cotton  | \$19.61 | Cost/app by ground                                       | \$5.50                      | Applications by Air (acres)                       | 145,726                  |                       |              |          |
| % acres with seed treatment    | 100%    | % Loss to weather  | 31.0%                       | Applications by Ground (acres)                    | 97,150                   |                       |              |          |
| Seed trt. cost/ treated acre   | \$9.50  | % loss to non-arthropods                                 | 3.0%                        | No. acres with no foliar insecticide applications | 0                        |                       |              |          |
| % acres with in-furrow         | 1.0%    | % loss to other (chemical injury, weeds, diseases, etc.) | 2.0%                        |   |                          |                       |              |          |

Table 23. Cotton insect loss estimates for the Blacklands-Winter Garden area of Texas during 2020, 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                | 37.0%         | 89,864         | \$83.00         | \$16.00        | 42%                        | 37,294                     | 1.0               |
| Bollgard III               | 40.0%         | 97,150         | \$91.00         | \$23.00        | 0%                         | 0                          | 0.0               |
| WideStrike                 | 1.0%          | 2,429          | \$70.00         | \$0.00         | 100%                       | 2,429                      | 1.0               |
| WideStrike 3               | 16.0%         | 38,860         | \$91.00         | \$20.00        | 5%                         | 1,943                      | 1.0               |
| TwinLink                   | 2.0%          | 4,858          | \$78.00         | \$18.50        | 43%                        | 2,065                      | 1.0               |
| TwinLink Plus              | 4.0%          | 9,715          | \$82.00         | \$23.00        | 0%                         | 0                          | 0.0               |
| <b>Total Bt</b>            | <b>100.0%</b> | <b>242,876</b> | <b>\$87.21</b>  | <b>\$19.61</b> | <b>18.0%</b>               | <b>43,730</b>              | <b>0.18</b>       |
| Herbicide Traits Only      | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| Conventional               | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| Organic                    | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| <b>Total Upland Cotton</b> | <b>100.0%</b> | <b>242,876</b> | <b>\$87.21</b>  | <b>\$19.61</b> | <b>18.0%</b>               | <b>43,730</b>              | <b>0.18</b>       |
| <b>Non Upland Cotton</b>   |               |                |                 |                |                            |                            |                   |
| Pima                       | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| Other                      | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| Organic                    | 0%            | 0              | \$0.00          | -              | 0%                         | 0                          | 0.0               |
| <b>Total (all Cotton)</b>  |               | <b>242,876</b> | <b>\$87.21</b>  | <b>-</b>       | <b>18.0%</b>               | <b>43,730</b>              | <b>0.18</b>       |