

Table 23. Cotton insect loss estimates for South Carolina during 2017.

| 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                        | 240,000        | 100%             | 72,000        | 30.0%           | 1.0                      | \$9.00                | 1.25%                 | 0.30                   | \$2.70         | 1.25%               | 7,500             | \$3,240,000         | \$13.50          | 24.9%             |
| Beet Armyworm                           | 12,000         | 5%               | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00         | 0.00%               | 0                 | \$0                 | \$0.00           | 0.0%              |
| Fall Armyworm                           | 24,000         | 10%              | 1,200         | 0.5%            | 1.0                      | \$10.00               | 0.00%                 | 0.01                   | \$0.10         | 0.00%               | 0                 | \$2,400             | \$0.01           | 0.0%              |
| Loopers                                 | 2,400          | 1%               | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00         | 0.00%               | 0                 | \$0                 | \$0.00           | 0.0%              |
| Cutworms                                | 24,000         | 10%              | 12,000        | 5.0%            | 1.0                      | \$6.50                | 0.05%                 | 0.05                   | \$0.33         | 0.01%               | 30                | \$18,168            | \$0.08           | 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                                   | 240,000        | 100%             | 24,000        | 10.0%           | 1.0                      | \$7.50                | 0.05%                 | 0.10                   | \$0.75         | 0.05%               | 300               | \$283,680           | \$1.18           | 2.2%              |
| Cotton Fleahopper                       | 216,000        | 90%              | 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) | 240,000        | 100%             | 216,000       | 90.0%           | 1.5                      | \$7.50                | 1.50%                 | 1.35                   | \$10.13        | 1.50%               | 9,000             | \$5,540,400         | \$23.09          | 42.5%             |
| Brown Stink Bug                         | 240,000        | 100%             | 48,000        | 20.0%           | 1.0                      | \$9.00                | 0.05%                 | 0.20                   | \$1.80         | 0.05%               | 300               | \$535,680           | \$2.23           | 4.1%              |
| Clouded Plant Bug                       | 2,400          | 1%               | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00         | 0.00%               | 0                 | \$0                 | \$0.00           | 0.0%              |
| Leaf Footed Bugs                        | 216,000        | 90%              | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00         | 0.00%               | 0                 | \$0                 | \$0.00           | 0.0%              |
| Spider Mites                            | 240,000        | 100%             | 24,000        | 10.0%           | 1.0                      | \$12.00               | 0.05%                 | 0.10                   | \$1.20         | 0.05%               | 300               | \$391,680           | \$1.63           | 3.0%              |
| Thrips                                  | 240,000        | 100%             | 192,000       | 80.0%           | 1.0                      | \$7.00                | 0.70%                 | 0.80                   | \$5.60         | 0.70%               | 4,200             | \$2,795,520         | \$11.65          | 21.5%             |
| Aphids                                  | 240,000        | 100%             | 24,000        | 10.0%           | 1.0                      | \$8.00                | 0.00%                 | 0.10                   | \$0.80         | 0.00%               | 0                 | \$192,000           | \$0.80           | 1.5%              |
| Grasshoppers                            | 240,000        | 100%             | 2,400         | 1.0%            | 1.0                      | \$9.00                | 0.00%                 | 0.01                   | \$0.09         | 0.00%               | 0                 | \$21,600            | \$0.09           | 0.2%              |
| Banded Winged Whitefly                  | 180,000        | 75%              | 0             | 0.0%            | 0.0                      | \$0.00                | 0.00%                 | 0.00                   | \$0.00         | 0.00%               | 0                 | \$0                 | \$0.00           | 0.0%              |
| Silverleaf Whitefly                     | 24,000         | 10%              | 2,400         | 1.0%            | 1.0                      | \$15.00               | 0.00%                 | 0.01                   | \$0.15         | 0.00%               | 0                 | \$3,600             | \$0.02           | 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>                            |                |                  |               |                 |                          |                       |                       | <b>3.03</b>            | <b>\$23.64</b> | <b>3.61%</b>        | <b>21,630</b>     | <b>\$13,024,728</b> | <b>\$54.27</b>   |                   |

**SUMMARY DATA**

| Data Input                     |                |  | Yield and Management Results                      |         |  | Economic Results         |          |
|--------------------------------|----------------|--|---|---------|--|--------------------------|----------|
| State                          | South Carolina |  | Total Acres                                       | 240,000 |  | Total                    | Per Acre |
| Region                         | Southeast      |  | Total Bales Harvested                             | 470,000 |  | Foliar Insecticide Costs | \$23.64  |
| Year                           | 2017           |  | Total Bales Lost to Insects                       | 21,630  |  | Seed Treatment Costs     | \$11.05  |
| Total Acres (Upland)           | 240,000        | In-furrow cost/treated acre                              | Percent Yield Loss                                | 3.6%    |  | In-Furrow Costs          | \$2.25   |
| Yield / Acre (Upland)          | 940            | % acres in Boll Weevil Eradication                       | Yield w/o Insects (lb/acre)                       | 975     |  | Scouting Costs           | \$5.25   |
| Price / lb                     | \$0.72         | Cost/acre Boll Weevil Eradication                        | Av. # Applications                                | 3.03    |  | Eradication Costs        | \$1.25   |
| yield potential (lb/acre)      | 1,200          | % acres in Pink Bollworm Eradication                     | Total Bales lost (all factors)                    | 177,630 |  | Bt Cotton                | \$19.23  |
| Acres (Pima)                   | 0              | Cost/acre Pink Bollworm Eradication                      | Total % yield Loss                                | 29.6%   |  | Total Costs              | \$62.67  |
| Yield / Acre (Pima)            | 0              | % Insect apps by air                                     | Transgenic Cotton (arthropods) (# acres)          | 240,096 |  | Yield Loss to Insects    | \$31.15  |
| % Acres Scouted                | 75%            | No. apps by air  | Boll Weevil Eradication (# acres)                 | 240,000 |  | Total Losses + Costs     | \$93.82  |
| Fee / Scouted Acre             | \$7.00         | Cost/app by air  | Pink Bollworm Eradication (# acres)               | 0       |  |                          |          |
| No. times scouted/week         | 1              | % insect apps by ground                                  | # Scouted Acres                                   | 180,000 |  |                          |          |
| % acres Transgenic (Bt) Cotton | 100%           | No. apps by ground                                       | Seed Treatments (arthropods) (# acres)            | 204,000 |  |                          |          |
| Cost/treated acre (Bt) Cotton  | \$19.22        | Cost/app by ground                                       | In-Furrow Applications (# acres)                  | 36,000  |  |                          |          |
| % acres with seed treatment    | 85%            | % Loss to weather  | Applications by Air (acres)                       | 24,000  |  |                          |          |
| Seed trt. cost/ treated acre   | \$13.00        | % loss to non-arthropods                                 | Applications by Ground (acres)                    | 228,000 |  |                          |          |
| % acres with in-furrow         | 15%            | % loss to other (chemical injury, weeds, diseases, etc.) | No. acres with no foliar insecticide applications | 600     |  |                          |          |

Table 23. Cotton insect loss estimates for South Carolina during 2017, continued.

| Upland Cotton              | % Acres     | # Acres        | Total cost/acre | Bt cost/acre   | % acres treated<br>for BW/TBW | # acres treated<br>for BW/TBW | # apps<br>for BW/TBW | % of Population<br>Bollworm |
|----------------------------|-------------|----------------|-----------------|----------------|-------------------------------|-------------------------------|----------------------|-----------------------------|
| Bollgard II                | 89.8%       | 215,520        | \$90.00         | \$20.00        | 10%                           | 21,552                        | 1.0                  | 100%                        |
| Bollgard III               | 0.0%        | 0              | -               | -              | -                             | -                             | -                    | -                           |
| WideStrike                 | 1.5%        | 3,576          | \$85.00         | \$10.00        | 50%                           | 1,788                         | 1.5                  | 100%                        |
| WideStrike 3               | 6.3%        | 15,144         | \$91.00         | \$10.00        | 10%                           | 1,514                         | 1.0                  | 100%                        |
| TwinLink                   | 2.4%        | 5,856          | \$91.00         | \$20.00        | 10%                           | 586                           | 0.0                  | 100%                        |
| TwinLink Plus              | 0.0%        | 0              | -               | -              | -                             | -                             | -                    | -                           |
| <b>Total Bt</b>            | <b>100%</b> | <b>240,096</b> | <b>\$90.01</b>  | <b>\$19.22</b> | <b>10.6%</b>                  | <b>25,440</b>                 | <b>1.0</b>           | <b>100.0%</b>               |
| Herbicide Traits Only      | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| Conventional               | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| Organic                    | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| <b>Total Upland Cotton</b> | <b>100%</b> | <b>240,096</b> | <b>\$90.01</b>  | <b>\$19.22</b> | <b>10.6%</b>                  | <b>25,440</b>                 | <b>1.0</b>           | <b>100.0%</b>               |
| Non Upland Cotton          |             |                |                 |                |                               |                               |                      |                             |
| Pima                       | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| Other                      | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| Organic                    | 0%          | 0              | -               | -              | -                             | -                             | -                    | -                           |
| <b>Total (all Cotton)</b>  |             | <b>240,096</b> | <b>\$90.01</b>  |                | <b>10.6%</b>                  | <b>25,440</b>                 | <b>1.0</b>           |                             |