

Table 7. Insect loss estimates for Arizona Bt cotton 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 | 6,394 | 5.34% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Beet Armyworm | 11,207 | 9.36% | 0 | 0.0% | 0.0 | \$0.00 | 0.06% | 0.00 | \$0.00 | 0.01% | 29 | \$10,440 | \$0.09 | 0.1% |
| Fall Armyworm | 2,911 | 2.43% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Loopers | 16,689 | 13.94% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cutworms | 0 | 0.00% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cotton Leaf Perforator | 2,814 | 2.35% | 2,329 | 1.9% | 0.5 | \$14.00 | 0.00% | 0.01 | \$0.14 | 0.00% | 0 | \$394 | \$0.00 | 0.0% |
| Saltmarsh Caterpillar | 175 | 0.15% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Lygus | 114,706 | 95.81% | 86,524 | 72.3% | 1.6 | \$24.55 | 3.29% | 1.17 | \$28.72 | 3.15% | 15,465 | \$8,861,850 | \$74.02 | 69.6% |
| Cotton Fleahopper | 71,819 | 59.99% | 19,585 | 16.4% | 0.3 | \$18.75 | 0.19% | 0.05 | \$0.94 | 0.12% | 570 | \$272,530 | \$2.28 | 2.1% |
| Stink Bugs (other than brown stink bug) | 19,872 | 16.60% | 2,329 | 1.9% | 0.5 | \$11.00 | 0.01% | 0.01 | \$0.11 | 0.00% | 10 | \$5,786 | \$0.05 | 0.0% |
| Brown Stink Bug | 26,020 | 21.73% | 3,105 | 2.6% | 0.2 | \$13.33 | 0.56% | 0.01 | \$0.13 | 0.12% | 594 | \$217,309 | \$1.82 | 1.7% |
| Clouded Plant Bug | 0 | 0.00% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Leaf Footed Bugs | 0 | 0.00% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Spider Mites | 19,509 | 16.30% | 11,586 | 9.7% | 1.3 | \$27.17 | 0.23% | 0.12 | \$3.26 | 0.04% | 182 | \$129,120 | \$1.08 | 1.0% |
| Thrips | 112,668 | 94.11% | 18,315 | 15.3% | 0.7 | \$16.43 | 0.01% | 0.10 | \$1.64 | 0.01% | 69 | \$209,937 | \$1.75 | 1.6% |
| Aphids | 17,149 | 14.32% | 4,386 | 3.7% | 0.8 | \$19.33 | 0.19% | 0.03 | \$0.58 | 0.03% | 133 | \$57,827 | \$0.48 | 0.5% |
| Grasshoppers | 7,452 | 6.22% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Banded Winged Whitefly | 1,630 | 1.36% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Silverleaf Whitefly | 91,380 | 76.33% | 35,363 | 29.5% | 1.6 | \$28.64 | 1.30% | 0.46 | \$13.17 | 0.99% | 4,882 | \$2,961,424 | \$24.74 | 23.3% |
| Colaspis beetles | 5,104 | 4.26% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cotton stainers | 2,911 | 2.43% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Crickets | 3,493 | 2.92% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Darkling Beetles | 3,881 | 3.24% | 97 | 0.08% | 1.0 | \$10.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| False Chinch Bug | 4,017 | 3.36% | 2,329 | 1.9% | 0.5 | \$4.00 | 0.00% | 0.01 | \$0.04 | 0.00% | 0 | \$161 | \$0.00 | 0.0% |
| Pale-Striped Flea Beetle | 10,644 | 8.89% | 1,164 | 1.0% | 1.0 | \$10.00 | 0.04% | 0.01 | \$0.10 | 0.00% | 15 | \$6,464 | \$0.05 | 0.1% |
| Potato leafhopper | 10,268 | 8.58% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Thrips, Bean | 582 | 0.49% | 505 | 0.42% | 1.0 | \$0.00 | 0.01% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Boll Weevil | 0 | 0.00% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| TOTAL | | | | | | | | 1.98 | \$48.84 | 4.47% | 21,949 | \$12,733,242 | \$106.36 | |

SUMMARY DATA

| Data Input | | Yield and Management Results | | | Economic Results | | | |
|--------------------------------|---------|---------------------------------------------------|---------|---------------------------------------------------|------------------|--------------------------|--------------|----------|
| State | Arizona | Total Acres | 119,721 | Total Bales Harvested | 386,368 | Foliar Insecticide Costs | \$5,847,063 | \$48.84 |
| Region | West | Total Bales Lost to Insects | 21,949 | Seed Treatment Costs | \$625,461 | In-Furrow Costs | \$57,173 | \$5.22 |
| Year | 2020 | Percent Yield Loss | 4.5% | In-Furrow Costs | \$57,173 | Scouting Costs | \$1,544,484 | \$12.90 |
| Total Acres (Upland) | 119,721 | Yield w/o Insects (lb/acre) | 1,622 | Eradication Costs | \$681,212 | Bt Cotton | \$4,190,234 | \$35.00 |
| Yield / Acre (Upland) | 1,549 | Av. # Applications | 1.98 | Total Costs | \$12,945,627 | Total Costs | \$12,945,627 | \$108.13 |
| Price / lb | \$0.75 | Total Bales lost (all factors) | 104,795 | Yield Loss to Insects | \$7,901,640 | Total Losses + Costs | \$20,847,267 | \$174.13 |
| yield potential (lb/acre) | 1,969 | Total % yield Loss | 21.3% | Transgenic Cotton (arthropods) (# acres) | 119,721 | | | |
| Acres (Pima) | 6,152 | Transgenic Cotton (arthropods) (# acres) | 119,721 | Boll Weevil Eradication (# acres) | 119,721 | | | |
| Yield / Acre (Pima) | 987 | Boll Weevil Eradication (# acres) | 119,721 | Pink Bollworm Eradication (# acres) | 119,721 | | | |
| % Acres Scouted | 96% | # Scouted Acres | 114,721 | Seed Treatments (arthropods) (# acres) | 34,508 | | | |
| Fee / Scouted Acre | \$13.46 | Seed Treatments (arthropods) (# acres) | 34,508 | In-Furrow Applications (# acres) | 5,026 | | | |
| No. times scouted/week | 1.9 | In-Furrow Applications (# acres) | 5,026 | Applications by Air (acres) | 58,491 | | | |
| % acres Transgenic (Bt) Cotton | 100% | Applications by Air (acres) | 58,491 | Applications by Ground (acres) | 73,030 | | | |
| Cost/treated acre (Bt) Cotton | \$35.00 | Applications by Ground (acres) | 73,030 | No. acres with no foliar insecticide applications | 25,267 | | | |
| % acres with seed treatment | 29% | No. acres with no foliar insecticide applications | 25,267 | | | | | |
| Seed trt. cost/ treated acre | \$18.13 | | | | | | | |
| % acres with in-furrow | 4% | | | | | | | |

Table 7. Insect loss estimates for Arizona Bt cotton during 2019, 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 | 36.5% | 43,753 | - | \$35.00 | 0% | 0 | 0.0 |
| Bollgard III | 51.3% | 61,409 | - | \$35.00 | 0% | 0 | 0.0 |
| WideStrike | 5.8% | 6,986 | - | \$35.00 | 0% | 0 | 0.0 |
| WideStrike 3 | 2.4% | 2,915 | - | \$35.00 | 0% | 0 | 0.0 |
| TwinLink | 1.6% | 1,941 | - | \$35.00 | 0% | 0 | 0.0 |
| TwinLink Plus | 2.3% | 2,717 | - | \$35.00 | 0% | 0 | 0.0 |
| Total Bt | 100.0% | 119,721 | - | \$35.00 | 0.0% | 0 | 0.0 |
| Herbicide Traits Only | 0.0% | 0 | - | - | - | - | - |
| Conventional | 1.9% | 2,222 | - | - | - | - | - |
| Organic | 0% | 0 | - | - | - | - | - |
| Total Upland Cotton | 101.9% | 121,943 | - | - | - | - | - |
| Non Upland Cotton | | | | | | | |
| Pima | 5% | 6,152 | - | - | - | - | - |
| Other | - | - | - | - | - | - | - |
| Organic | - | - | - | - | - | - | - |
| Total (all Cotton) | - | 128,095 | - | - | - | - | - |