

Table 9. Insect loss estimates for Arizona upland cotton during 2022.

| 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 | 1,732 | 2% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Beet Armyworm | 1,746 | 2% | 0 | 0.0% | 0.0 | \$0.00 | 0.04% | 0.00 | \$0.00 | 0.00% | 3 | \$1,121 | \$0.01 | 0.0% |
| Fall Armyworm | 703 | 1% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Loopers | 973 | 1% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cutworms | 141 | 0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cotton Leaf Perforator | 422 | 0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Saltmarsh Caterpillar | 422 | 0% | 248 | 0.3% | 1.0 | \$22.91 | 0.00% | 0.00 | \$0.06 | 0.00% | 0 | \$44 | \$0.00 | 0.0% |
| Lygus | 93,102 | 100% | 57,848 | 62.0% | 1.60 | \$28.04 | 1.90% | 0.99 | \$27.85 | 1.90% | 7,786 | \$5,582,755 | \$59.80 | 79.8% |
| Cotton Fleahopper | 47,333 | 51% | 2,429 | 2.6% | 0.6 | \$10.92 | 0.02% | 0.01 | \$0.16 | 0.01% | 49 | \$26,621 | \$0.29 | 0.4% |
| Stink Bugs (other than brown stink bug) | 13,217 | 14% | 2,555 | 2.7% | 0.2 | \$18.33 | 0.09% | 0.00 | \$0.08 | 0.01% | 52 | \$20,835 | \$0.22 | 0.3% |
| Brown Stink Bug | 33,169 | 36% | 4,367 | 4.7% | 0.2 | \$19.70 | 0.19% | 0.01 | \$0.16 | 0.07% | 277 | \$111,673 | \$1.20 | 1.6% |
| Clouded Plant Bug | 1,406 | 2% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Leaf Footed Bugs | 3,149 | 3% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Spider Mites | 20,538 | 22% | 13,438 | 14.4% | 1.0 | \$19.87 | 0.10% | 0.15 | \$2.94 | 0.02% | 89 | \$94,733 | \$1.01 | 1.4% |
| Thrips | 93,360 | 100% | 6,961 | 7.5% | 0.8 | \$12.07 | 0.06% | 0.06 | \$0.71 | 0.06% | 254 | \$163,349 | \$1.75 | 2.3% |
| Aphids | 10,373 | 11% | 471 | 0.5% | 0.2 | \$10.00 | 0.00% | 0.00 | \$0.01 | 0.00% | 0 | \$86 | \$0.00 | 0.0% |
| Grasshoppers | 27,436 | 29% | 881 | 0.9% | 1.5 | \$13.57 | 0.22% | 0.01 | \$0.19 | 0.06% | 266 | \$107,388 | \$1.15 | 1.5% |
| Banded Winged Whitefly | 17,544 | 19% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Silverleaf Whitefly | 59,707 | 64% | 20,162 | 21.6% | 1.3 | \$30.05 | 0.36% | 0.28 | \$8.43 | 0.23% | 947 | \$867,041 | \$9.29 | 12.4% |
| Colaspis beetles | 17,673 | 19% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cotton stainers | 7,031 | 8% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Crickets | 18,018 | 19% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Darkling Beetles | 4,085 | 4% | 616 | 0.7% | 0.0 | \$18.33 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| False Chinch Bug | 4,380 | 5% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Pale-Striped Flea Beetle | 27,604 | 30% | 2,224 | 2.4% | 1.1 | \$13.75 | 0.02% | 0.03 | \$0.35 | 0.01% | 21 | \$17,727 | \$0.19 | 0.3% |
| Potato leafhopper | 24,050 | 26% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Thrips (Bean) | 3,544 | 4% | 2,044 | 2.2% | 0.1 | \$9.16 | 0.00% | 0.00 | \$0.02 | 0.00% | 0 | \$143 | \$0.00 | 0.0% |
| Mealybugs | 1,055 | 1% | 1,395 | 1.5% | 0.9 | \$24.06 | 0.04% | 0.01 | \$0.34 | 0.00% | 2 | \$999 | \$0.01 | 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 | | | | | | | | 1.57 | \$41.30 | 2.37% | 9,746 | \$6,994,515 | \$74.92 | |

SUMMARY DATA

| Data Input | | Yield and Management Results | | | Economic Results | | | |
|--------------------------------|---------|--|---------|---|------------------|-----------------------|--------------|----------|
| State | Arizona | Total Acres | 93,360 | | Total | Per Acre | | |
| Region | West | Total Bales Harvested | 337,956 | Foliar Insecticide Costs | \$3,855,958 | \$41.30 | | |
| Year | 2022 | Total Bales Lost to Insects | 9,746 | Seed Treatment Costs | \$547,002 | \$5.86 | | |
| Total Acres (Upland) | 93,360 | Percent Yield Loss | 2.4% | In-Furrow Costs | \$50,317 | \$0.54 | | |
| Yield / Acre (Upland) | 1,738 | Yield w/o Insects (lb/acre) | 1,780 | Scouting Costs | \$1,478,047 | \$15.83 | | |
| Price / lb | \$0.80 | Av. # Applications | 1.6 | Eradication Costs | \$825,405 | \$8.84 | | |
| yield potential (lb/acre) | 2,111 | Total Bales lost (all factors) | 72,585 | Bt Cotton | \$4,701,077 | \$50.35 | | |
| Acres (Pima) | 0 | Total % yield Loss | 17.7% | Total Costs | \$11,457,807 | \$122.73 | | |
| Yield / Acre (Pima) | 0 | % Insect apps by air | 41% | Transgenic Cotton (arthropods) (# acres) | 93,360 | Yield Loss to Insects | \$3,742,277 | \$40.08 |
| % Acres Scouted | 98% | No. apps by air | 1.1 | Boll Weevil Eradication (# acres) | 93,360 | Total Losses + Costs | \$15,200,083 | \$162.81 |
| Fee / Scouted Acre | \$16.13 | Cost/app by air | \$9.66 | Pink Bollworm Eradication (# acres) | 93,360 | | | |
| No. times scouted/week | 1.9 | % insect apps by ground | 61% | # Scouted Acres | 91,649 | | | |
| % acres Transgenic (Bt) Cotton | 100% | No. apps by ground | 1.7 | Seed Treatments (arthropods) (# acres) | 33,159 | | | |
| Cost/treated acre (Bt) Cotton | \$50.35 | Cost/app by ground | \$10.89 | In-Furrow Applications (# acres) | 2,215 | | | |
| % acres with seed treatment | 36% | % Loss to weather | 8.0% | Applications by Air (acres) | 38,737 | | | |
| Seed trt. cost/ treated acre | \$16.50 | % loss to non-arthropods | 0.0% | Applications by Ground (acres) | 57,066 | | | |
| % acres with in-furrow | 2% | % loss to other (chemical injury, weeds, diseases, etc.) | 7.3% | No. acres with no foliar insecticide applications | 31,334 | | | |

Table 9. Insect loss estimates for Arizona upland cotton during 2022, 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 | 15.0% | 14,027 | - | \$51.50 | 0% | 0 | 0.0 |
| Bollgard III | 77.4% | 72,240 | - | \$50.00 | 0% | 0 | 0.0 |
| WideStrike | 1.5% | 1,384 | - | \$0.00 | 0% | 0 | 0.0 |
| WideStrike 3 | 3.1% | 2,897 | - | \$68.33 | 0% | 0 | 0.0 |
| TwinLink | 3.0% | 2,812 | - | \$60.00 | 0% | 0 | 0.0 |
| TwinLink Plus | 0.0% | 0 | - | \$0.00 | 0% | 0 | 0.0 |
| Total Bt Cotton | 100.0% | 93,360 | - | \$50.35 | 0.0% | 0 | 0.0 |