Table 11. Cotton insect loss estimates for Pima cotton in California during 2017.

| | 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 | 4,160 | 2.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Beet Armyworm | 20,800 | 10.0% | 2,080 | 1.0% | 1.0 | \$12.00 | 0.00% | 0.01 | \$0.12 | 0.00% | 0 | \$2,496 | \$0.01 | 0.0% |
| Fall Armyworm | 0 | 0.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Loopers | 20,800 | 10.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cutworms | 2,080 | 1.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Cotton Leaf Perforator | 6,240 | 3.0% | 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 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Lygus | 205,920 | 99.0% | 176,800 | 85.0% | 3.0 | \$18.00 | 10.00% | 2.55 | \$45.90 | 9.90% | 79,494 | \$62,871,696 | \$302.27 | 77.7% |
| Cotton Fleahopper | 0 | 0.0% | 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) | 20,800 | 10.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Brown Stink Bug | 6,240 | 3.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Clouded Plant Bug | 0 | 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 | 0 | 0.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Spider Mites | 124,800 | 60.0% | 62,400 | 30.0% | 1.0 | \$12.00 | 0.00% | 0.30 | \$3.60 | 0.00% | 0 | \$449,280 | \$2.16 | 0.6% |
| Thrips | 104,000 | 50.0% | 2,080 | 1.0% | 1.0 | \$6.00 | 0.00% | 0.01 | \$0.06 | 0.00% | 0 | \$6,240 | \$0.03 | 0.0% |
| Aphids | 166,400 | 80.0% | 135,200 | 65.0% | 2.0 | \$8.00 | 3.00% | 1.30 | \$10.40 | 2.40% | 19,271 | \$14,680,672 | \$70.58 | 18.1% |
| Grasshoppers | 0 | 0.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Banded Winged | 0 | 0.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| Whitefly | U | 0.0% | U | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | U | φU | \$0.00 | 0.076 |
| Silverleaf Whitefly | 104,000 | 50.0% | 72,800 | 35.0% | 2.0 | \$40.00 | 0.00% | 0.70 | \$28.00 | 0.00% | 0 | \$2,912,000 | \$14.00 | 3.6% |
| Boll Weevil | 0 | 0.0% | 0 | 0.0% | 0.0 | \$0.00 | 0.00% | 0.00 | \$0.00 | 0.00% | 0 | \$0 | \$0.00 | 0.0% |
| TOTAL | | | | | | | | 4.87 | \$88.08 | 12.30% | 98,765 | \$80,922,384 | \$389.05 | |

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| | | Data Input | | Yield and Management | Ecoi | Economic Results | | | |
|--------------------------------|------------|--------------------------------------|--------|--|---------|--------------------------|--------------|----------|--|
| State | California | - | | Total Acres | 208,000 | | Total | Per Acre | |
| Region | West | | | Total Bales Harvested | 665,600 | Foliar Insecticide Costs | \$18,320,640 | \$88.08 | |
| Year | 2017 | | | Total Bales Lost to Insects | 98,765 | Seed Treatment Costs | - | - | |
| Total Acres (Pima) | 208,000 | In-furrow cost/treated acre | - | Percent Yield Loss | 12.3% | In-Furrow Costs | - | - | |
| Yield / Acre (Pima) | 1,536 | % acres in Boll Weevil Eradication | 0% | Yield w/o Insects (lb/acre) | 1,751 | Scouting Costs | \$2,265,120 | \$10.89 | |
| Price / lb | \$1.40 | Cost/acre Boll Weevil Eradication | \$0.00 | Av. # Applications | 4.87 | Eradication Costs | \$1,435,200 | \$6.90 | |
| yield potential (lb/acre) | 1,853 | % acres in Pink Bollworm Eradication | 100% | Total Bales lost (all factors) | 142,928 | Bt Cotton | - | - | |
| Acres (Upland) | - | Cost/acre Pink Bollworm Eradication | \$6.90 | Total % yield Loss | 17.8% | Total Costs | \$22,020,960 | \$105.87 | |
| Yield / Acre (Upland) | - | % Insect apps by air | 80% | Transgenic Cotton (arthropods) (# acres) | - | Yield Loss to Insects | \$66,370,080 | \$319.09 | |
| % Acres Scouted | 99% | No. apps by air | - | Boll Weevil Eradication (# acres) | 0 | Total Losses + Costs | \$88,391,040 | \$424.96 | |
| Fee / Scouted Acre | \$11.00 | Cost/app by air | - | Pink Bollworm Eradication (# acres) | 208,000 | | | | |
| No. times scouted/week | 1 | % insect apps by ground | 20% | # Scouted Acres | 205,920 | | | | |
| % acres Transgenic (Bt) Cotton | - | No. apps by ground | - | Seed Treatments (arthropods) (# acres) | - | | | | |
| Cost/treated acre (Bt) Cotton | - | Cost/app by ground | - | In-Furrow Applications (# acres) | - | | | | |
| % acres with seed treatment | - | % Loss to weather | 2.0% | Applications by Air (acres) | 166,400 | | | | |
| Seed trt. cost/ treated acre | - | % loss to non-arthropods | 0.0% | Applications by Ground (acres) | 41,600 | | | | |
| % acres with in-furrow | - | % loss to other (chemical injury, | 3.5% | No. acres with no foliar insecticide | 416 | | | | |
| | | weeds, diseases, etc.) | | applications | | | | | |

Table 11. Cotton insect loss estimates for Pima cotton in California during 2017, continued.

| Pima Cotton | % Acres | # Acres | Total cost/acre | Bt cost/acre | % acres treated for BW/TBW | # acres treated for BW/TBW | # apps for BW/TBW | % of Population Bollworm |
|-----------------------|---------|---------|-----------------|--------------|----------------------------|-------------------------------|----------------------|-----------------------------|
| Herbicide Traits Only | 87.0% | 180,960 | - | - | - | - | - | - |
| Conventional | 12.8% | 26,624 | - | - | - | - | - | - |
| Organic | 0.2% | 416 | - | - | = | = | - | = |
| Total Pima Cotton | 100.0% | 208,000 | - | - | - | - | - | - |