Pink Bollworm Program

Silverleaf Whitefly Report

Sampling Period: 9/21/2020 – 10/02/2020

Prepared By: Emily Schoenborn

Source: USDA-ARS
I. Introduction
The seventh round of sampling for the silverleaf whitefly (SLWF) surveys began on Monday, September 21, 2020. Program personnel collected samples from designated sites at 10 percent of all cotton fields in each county of the San Joaquin Valley. The Program has a total of 154 SLWF sampling sites with 12 sites in Kern County, 37 sites in Kings County, 11 sites in Tulare County, 40 sites in Fresno County, 2 sites in Madera County, and 52 sites in Merced County. At each site one leaf sample from 10 different cotton plants was collected for a total of 10 leaves per site.

II. Kern County
During the seventh round of sampling, 120 leaves were collected from 12 sites within Kern County.
A total of 25 leaves from twelve sites contained SLWF nymphs:
- eleven sites had leaves within the 1-5 nymphs/leaf range;
- seven sites had leaves within the 6-49 nymphs/leaf range; and
- two sites had leaves within the 50+ nymphs/leaf range (Table 1).
A total of 28 leaves from twelve sites contained aphids:
- twelve sites had leaves within the 1-5 aphids/leaf range;
- seven sites had leaves within the 6-49 aphids/leaf range (Table 2).
None of the twelve sites had leaves with sooty mold or honeydew. None of the 12 sites had leaves with armyworm, mites, or other whitefly species (Table 3).

III. Kings County
During the seventh round of sampling, 370 leaves were collected from 37 sites within Kings County.
A total of 63 leaves from 32 sites contained SLWF nymphs:
- 31 sites had leaves within the 1-5 nymphs/leaf range;
- 13 sites had leaves within the 6-49 nymphs/leaf range; and
- one site had leaves within the 50+ nymphs/leaf range (Table 1).
A total of 96 leaves from 36 sites contained aphids:
- 35 sites had leaves within the 1-5 aphids/leaf range;
▪ 19 sites had leaves within the 6-49 aphids/leaf range; and
▪ four sites had leaves within the 50+ aphids/leaf range (Table 2).

None of the 37 sites had leaves with sooty mold or honeydew. None of the 37 sites had leaves with armyworm, mites, or other whitefly species (Table 3).

IV. Tulare County
During the seventh round of sampling, 100 leaves were collected from ten sites within Tulare County. Leaves were not collected at one site due to defoliation and therefore, only 100 leaves were collected during the seventh round of sampling rather than the 110 leaves that were collected during previous rounds of sampling.

A total of 26 leaves from eight sites contained SLWF nymphs:
▪ eight sites had leaves within the 1-5 nymphs/leaf range;
▪ five sites had leaves within the 6-49 nymphs/leaf range; and
▪ one site had leaves within the 50+ nymphs/leaf range (Table 1).

A total of 50 leaves from nine sites contained aphids:
▪ nine sites had leaves within the 1-5 aphids/leaf range;
▪ seven sites had leaves within the 6-49 aphids/leaf range; and
▪ five sites had leaves within the 50+ range (Table 2).

Four of the ten sites had leaves with sooty mold, whereas none of the sites had leaves with honeydew. None of the ten sites had leaves with mites, armyworm, or other whitefly species (Table 3).

V. Fresno County
During the seventh round of sampling, 400 leaves were collected from 40 sites within Fresno County.

A total of 117 leaves from 22 site contained SLWF nymphs:
▪ 19 sites had leaves within the 1-5 nymphs/leaf range;
▪ nine sites had leaves within the 6-49 nymphs/leaf range; and
▪ five sites had leaves within the 50+ range (Table 1).

A total of 65 leaves from 14 sites contained aphids:
▪ twelve sites had leaves within the 1-5 aphids/leaf range;
▪ four sites had leaves within the 6-49 aphids/leaf range; and
▪ one site had leaves within the 50+ range (Table 2).

None of the 40 sites had leaves with honeydew or sooty mold. None of the sites had leaves with mites, other whitefly species, or armyworm (Table 3).

VI. Madera County
During the seventh round of sampling, 20 leaves were collected from two sites within Madera County.

A total of four leaves from two sites contained SLWF nymphs:
▪ three sites had leaves within the 1-5 nymphs/leaf range; and
▪ one site had leaves within the 6-49 nymphs/leaf range (Table 1).

Zero of the two sites had leaves that contained aphids (Table 2). None of the two sites had leaves with mites, armyworm, or other whitefly species (Table 3).

VII. Merced County
During the seventh round of sampling, 520 leaves were collected from 52 sites within Merced County.

A total of 122 leaves from 29 sites contained SLWF nymphs:
▪ 28 sites had leaves within the 1-5 nymphs/leaf range;
▪ ten sites had leaves within the 6-49 nymphs/leaf range; and
▪ four sites had leaves within the 50+ range (Table 1).

A total of 153 leaves from 35 sites contained aphids:
▪ 35 sites had leaves within the 1-5 aphids/leaf range; and
▪ ten sites had leaves within the 6-49 aphids/leaf range (Table 2).

None of the 52 sites had leaves with honeydew or sooty mold. None of the 52 sites had leaves with mites, armyworm, or other whitefly species (Table 3).
VIII. Tables and Graphs

Table 1: SLWF Leaf Count for the Sampling Period

<table>
<thead>
<tr>
<th>County</th>
<th>Sample Sites</th>
<th>No. Leaves in Each Range of Nymphs Per Leaf</th>
<th># Leaves</th>
<th>% Leaves w/ SLWF nymphs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern</td>
<td>12</td>
<td>95 15 8 2</td>
<td>120</td>
<td>21%</td>
</tr>
<tr>
<td>Kings</td>
<td>37</td>
<td>307 46 15 2</td>
<td>370</td>
<td>17%</td>
</tr>
<tr>
<td>Tulare</td>
<td>10</td>
<td>74 19 6 1</td>
<td>100</td>
<td>26%</td>
</tr>
<tr>
<td>Fresno</td>
<td>40</td>
<td>283 62 33 22</td>
<td>400</td>
<td>29%</td>
</tr>
<tr>
<td>Madera</td>
<td>2</td>
<td>16 3 1 0</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>Merced</td>
<td>52</td>
<td>398 79 20 23</td>
<td>520</td>
<td>23%</td>
</tr>
<tr>
<td>Totals</td>
<td>153</td>
<td>1173 224 83 50</td>
<td>1530</td>
<td>23%</td>
</tr>
</tbody>
</table>

Table 2: Aphids Leaf Count for the Sampling Period

<table>
<thead>
<tr>
<th>County</th>
<th>Sample Sites</th>
<th>No. Leaves in Each Range of Aphids Per Leaf</th>
<th># Leaves</th>
<th>% Leaves w/ aphids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern</td>
<td>12</td>
<td>92 19 9 0</td>
<td>120</td>
<td>23%</td>
</tr>
<tr>
<td>Kings</td>
<td>37</td>
<td>274 63 27 6</td>
<td>370</td>
<td>26%</td>
</tr>
<tr>
<td>Tulare</td>
<td>10</td>
<td>50 25 17 8</td>
<td>100</td>
<td>50%</td>
</tr>
<tr>
<td>Fresno</td>
<td>40</td>
<td>335 37 18 10</td>
<td>400</td>
<td>16%</td>
</tr>
<tr>
<td>Madera</td>
<td>2</td>
<td>20 0 0 0</td>
<td>20</td>
<td>0%</td>
</tr>
<tr>
<td>Merced</td>
<td>52</td>
<td>367 117 36 0</td>
<td>520</td>
<td>29%</td>
</tr>
<tr>
<td>Totals</td>
<td>153</td>
<td>1,138 261 107 24</td>
<td>1,530</td>
<td>26%</td>
</tr>
</tbody>
</table>
Figure 1: Percent of Leaves Collected Containing SLWF and Aphids for Sampling Period
Figure 2: Comparison of Present and Past Years’ Seventh Round of Sampling: Percent of Leaves Collected Containing SLWF

![Graph showing comparison of SLWF percentages across regions and years]

Figure 3: Comparison of Present and Past Years’ Seventh Round of Sampling: Percent of Leaves Collected Containing Aphids

![Graph showing comparison of aphid percentages across regions and years]
Table 3: Percent of Sample Sites Containing Leaves with Other Pests

<table>
<thead>
<tr>
<th>County</th>
<th>Other Whitefly</th>
<th>Mites</th>
<th>Armyworm</th>
<th>Honeydew</th>
<th>Sooty Mold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Kings</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Tulare</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>36%</td>
</tr>
<tr>
<td>Fresno</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Madera</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Merced</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Figure 4: Percent of Sample Sites Containing Leaves with Other Pests

PERCENT OF SAMPLE SITES CONTAINING LEAVES WITH OTHER PESTS

- Other Whitefly
- Mites
- Armyworm
- Honeydew
- Sooty Mold
Figure 5: Percent of Leaves Containing SLWF and Aphids in Kern County

![Graph showing percent of leaves containing SLWF and aphids in Kern County over different periods.]

Figure 6: Percent of Leaves Containing SLWF and Aphids in Tulare County

![Graph showing percent of leaves containing SLWF and aphids in Tulare County over different periods.]

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Figure 7: Percent of Leaves Containing SLWF and Aphids in Kings County

![Graph showing percent of leaves containing SLWF and aphids in Kings County over different seasons.]

Figure 8: Percent of Leaves Containing SLWF and Aphids in Fresno County

![Graph showing percent of leaves containing SLWF and aphids in Fresno County over different seasons.]

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Figure 9: Percent of Leaves Containing SLWF and Aphids in Madera County

![Chart showing percent of leaves containing SLWF and aphids in Madera County.]

Figure 10: Percent of Leaves Containing SLWF and Aphids in Merced County

![Chart showing percent of leaves containing SLWF and aphids in Merced County.]

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