“SMALL BUGS” FEEDING ON PISTACHIOS

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Pistachio Pest Management: The Early Years (70’s)

- No Dormant Spray
- No Foliar/Bloom Diseases
- N.O.W. Only Major Insect
- No Nematode Problems
Pistachios in the 1980’s:

- Plant Bugs Cause Lesion
- Alternaria, Botryosphaeria, Botrytis Fungal Blights
Pistachios in the 1990’s:

- Rising Soft Scale Populations
- Increasing Plant Bug Treatments
Lygus Adult

Identified by pronounced, yellow scutellum
Lygus Nymphs

Note five dots on “back”
Adult Neurocolpus

Mottled brown, no distinguishing markings
Neurocolpus nymph

Reflected and two-tone antenna, Thicker first segment

Aphid-shaped body
Adult Calocoris  Note two dots behind eyes
Phytocoris Adult

Pronounced eyes, multi grey colors
Phytocoris nymph

Reflected antenna, slender body, multi shades of grey & brown
Phytocoris relativus life cycle based on weekly beating tray monitoring of female pistachio trees receiving no insecticide treatment. Averages represent six trees in each of six replications.

Average phytocoris per six beats

- **Adults**
- **3rd & 4th**
- **2nd**
- **1st**

Sample dates (trees beat weekly)
Phytocoris Lab Feeding Studies
(Continued)

8. Soft scale eggs
9. N.O.W. eggs alone
10. 3rd instar soft scale alone
11. Phytocoris
12. Adult soft scale crusted over alone
13. Psosids
14. Thrips
Average number of filled nuts per cluster remaining at harvest for on-year trees after 0% to 80% nut removal. Adjustment performed on four dates during the season. Harvested 8/30/96.

Filled Nuts at Harvest for Adjusted Clusters

<table>
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<tr>
<th>Date</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
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<td>5/1/96</td>
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<td>5.5</td>
<td>5.5</td>
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<td>a</td>
<td>a</td>
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<td>7/9/96</td>
<td>a</td>
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<td>a</td>
<td>6.9</td>
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<tr>
<td>8/6/96</td>
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<td>a</td>
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<td>a</td>
<td>7.6</td>
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</table>

Percent Removal
Results from monitoring male (‘Peters’) and female (‘Kerman’) pistachio trees for Phytocoris and soft scale.

Number Phytocoris

- Beat Tray (b)
- Trunk (a)
- Bands (b)

Number Crawlers

- 12-Inch Twigs (a)

Male | Female
---|---

a | b
CONCLUSION:

RESEARCH SUGGESTS THAT NUT LOSS FROM SMALL PLANT BUG FEEDING PRIOR TO SHELL HARDENING (EARLY JUNE) DOES REDUCE PISTACHIO YIELD DUE TO COMPENSATION BY RETAINED NUTS THAT WOULD OTHERWISE ABSCISE (FALL OFF).

ORCHARD FACTORS WHICH MIGHT REDUCE THIS COMPENSATORY EFFECT:

1. SIGNIFICANT AND SUSTAINED WATER STRESS DURING STAGE I.

2. DISEASES AFFECTING PLANT HEALTH

3. NUTRITIONAL DEFICIENCIES AFFECTING FRUIT SET (BORON AND ZINC)
THANK YOU!

QUESTIONS?

BOB’S WEBPAGE:  http//: CEKINGS.UCDAVIS.EDU