Applaud® IGR provides highly effective control of citricola scale and cottony cushion scale in citrus trees. The active ingredient, buprofezin, is extremely effective against the crawler and nymph stages of the scales by inhibiting chitin biosynthesis.

**Key Benefits**
- Not disruptive to most beneficial insects including Aphytis.
- Short PHI of 3 days does not interfere with harvest of crops.
- Unique mode of action makes it an excellent rotational tool for insecticide resistance management.
- Controls nymphal stages of scales – reducing damaging honeydew production.
- Vapor activity of Applaud helps the product get to tough insect hiding places.
- Also controls California red scale (see reverse side).
- No known scale resistant populations to Applaud.

**Timing of Sampling and Spraying**
- **Citricola scale crawlers** – Sample females on twigs in May. Spray at crawler emergence in June.
- **Citricola scale nymphs** – Sample nymphs on leaves from July to September. Spray nymphs from July to September.
- **Cottony cushion scale nymphs** – Sample nymphs on the leaves in June. Spray the nymphs from mid-June to July.

**Recommended Use Rates**
- 34.5-46 oz/acre. Lower rates are effective on crawlers, use higher rates on nymphs.
- Use a minimum of 750 gpa on nymphs for mature trees.
- Proper coverage is essential for optimum scale control. Tractor speeds of 1.25 mph and higher volumes of water may be necessary to assure better coverage.
- Addition of oil will enhance control of scales.

**Use Information**
- Reentry interval – 12 hours
- Pre harvest interval – 3 days
- Group 16 insecticide

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**Efficacy of Applaud Against Populations of Citricola Scale in 'Parent' Navel Orange Trees**

| Efficacy of Applaud Against Populations of Citricola Scale in 'Parent' Navel Orange Trees |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Mean Number of Citricola Scale per Leaf or Twig |
| Pre-Application Counts (8/24/07)² | Final Evaluation (8/20/08)² |
| Lorsban 4E 12.0 pt | Applaud 70DF 46 oz + NR 415 oil | Assail 30 SG 13.3 oz + NR 415 oil |

²Mean number of citricola crawlers from 10 leaves per tree
²Mean number of citricola adult females from 5 twigs per tree
Application date: 09/13/07
Treatments were diluted in 500 gallons of water per acre and applied using an air blast sprayer.

Grafton-Cardwell, Elizabeth E., University of California Riverside, Lindcove Research and Extension Center, 2007

See reverse for additional information >
Control of California Red Scale

Use Information
- Applaud is most effective on the crawler stage and white cap stage of red scale.
- The best spray timing is at early crawler emergence.
- Recommended use rate for red scale control: 46 oz/acre.
- Adequate coverage is critical for control.

Spray Timing

<table>
<thead>
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<th></th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
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</thead>
<tbody>
<tr>
<td>Red Scale - 1st Crawler</td>
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<tr>
<td>Red Scale - 2nd Crawler</td>
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</tbody>
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Efficacy of Applaud on Red Scale in Citrus
Application Timing - First Generation Crawler

- Applaud 46 oz
- Esteem 16 fl oz
- Movento 10 fl oz
- Untreated

Treatments with the same letter do not differ statistically
Spray Volume: 500 gpa
NiS 0.25% V/V
LSD P<0.0001
Harvest Evaluation in October

Sawtooth Research, Ivanhoe, CA, 2010

Toxicity of Citrus Insecticides to Aphitis Adults in Citrus

- Untreated
- Applaud 46 oz
- Assail 13.3 oz
- Lorsban Adv 12 pt

Grafton-Cardwell, Elizabeth E., University of California Riverside, Lindcove Research and Extension Center, 2009

Life Cycle of Red Scale

- Applaud is most effective on the crawler stage and white cap stage of red scale.
- The best spray timing is at early crawler emergence.
- Recommended use rate for red scale control: 46 oz/acre.
- Adequate coverage is critical for control.

Sawtooth Research, Ivanhoe, CA, 2009

Insect Growth Regulator

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APPL-C1101