

## CDFA's Protocol in Response to HLB Briefing Sheet

### Protocol for HLB-Positive Citrus Tree in Your Own Grove

The grower will be notified by CDFA and asked to:

1. Apply foliar insecticides to the infected tree.
2. After the infected tree has been treated, it must be properly removed and destroyed.
  - If the grower does not have the ability to remove the tree, it will be removed by CDFA.
  - Proper tree removal methods:
    - Cutting the tree down and burning it on site
    - Grinding
    - Chipping
    - Cutting up the tree and double bagging it and disposing of it at a landfill by deep burial
    - The stump of an HLB-positive tree also must be removed
3. Apply foliar and systemic insecticides to all host plants on the property.
  - If the grower does not show proof of treatment, CDFA or the CAC will treat the property.
  - The grower will be billed for the treatment and a lien will be issued on the property.
  - Consult "Information for Citrus Growers/Grove Managers in an Asian Citrus Psyllid (ACP) Bulk Citrus Regional Quarantine Zone or Huanglongbing (HLB) Quarantine Area" document. Available on CitrusInsider.org and CDFA.ca.gov/plant/ACP.

A list of products and use rates recommended by the University of California, Integrated Pest Management Program and agreed upon by CDFA are provided below:

It is incumbent upon the user to follow all label directions when using any of the products listed below. Retrieve the California Department of Pesticide Regulation to obtain product and label information: www.cdpr.ca.gov  When applying by ground, use 100-200 gallons per acre (gpa) water volume for mature trees. Adjust water volume for young trees as necessary. When applying by air, use 3-25 gpa water volume depending upon conditions used.									
Products listed below are subject to change:									
Product	EPA No.	Active Ingredient	Treatment Method	Rate per Acre	Rate of Active Ingredient	PHI	REI	Maximum Amount per Crop Season	Minimum Application Volume by Air
Acara	100-938	25% Imidacloprid	Soil	4.0 - 5.5 fl oz	0.063 - 0.086 lb ai	0 day	12h	11 oz maximum per season	3 gpa
Admire Pro <sup>3,4</sup>	264-827	4.6 lb ai/gal imidacloprid	foliar	7 fl oz	0.25 lb ai per acre	0 day	12h	14 oz	25 gpa
Seythrold AL	264-849	1 lb ai/gal beta-cyfluthrin	foliar	3.2 - 6.4 fl oz	0.025 - 0.050 lb ai beta-cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Danitol 2.4 EC Spray	59639-35	2.4 lb ai/gal fenpropathrin	foliar	16 - 21.3 fl oz	0.3 - 0.4 lb ai fenpropathrin	1 day	24h	21.3 oz	5 gpa
Lannate LC <sup>2</sup>	352-384	methomyl	foliar	1.5 - 3 pints	0.45 - 0.9 lb ai methomyl	1 day	72h	5 pints, 4 appl. per season	15 gpa
Lannate SP <sup>2</sup>	352-342	methomyl	foliar	0.5 - 1.0 lb	0.45 - 0.9 lb ai methomyl	1 day	72h	3 pints, 4 appl. per season	15 gpa
Leverage 360	264-1104	1 lb ai/gal beta-cyfluthrin + 2 lb ai/gal imidacloprid	foliar	3.2 - 6.4 fl oz	0.025 - 0.050 lb ai beta-cyfluthrin + 0.05 - 0.1 lb ai imidacloprid	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Mustang	279-3126	17.1% by weight zeta cypermethrin	foliar	4.3 oz	0.05 lb ai zeta cypermethrin	1 day	12h	17.2 fl oz appl. 14 days apart	10 gpa
Tombstone	34704-512	2 lb ai/gal cyfluthrin	foliar	3.2 - 6.4 fl oz	0.10 lb ai cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Tombstone Helix	34704-978	2 lb ai/gal cyfluthrin	foliar	3.2 - 6.4 fl oz	0.10 lb ai cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa

<sup>1</sup>Product to be used during citrus bloom.

<sup>2</sup>Do not use if a soil imidacloprid treatment has been applied to the orchard in the same season.

<sup>3</sup>Any 4F formulation of imidacloprid may be used at a rate of 8 oz

<sup>4</sup>Any 4.6F formulation of imidacloprid may be used at a rate of 7 oz

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**Protocol for HLB-Positive Citrus Tree in Your Own Grove (Cont.)**

4. Via qPCR, CDFA will test the entire border row closest to where the HLB-positive tree was found.
5. CDFA will also use qPCR to test the row bordering the detection twice a year during late spring and late fall (peak titer).

**Protocol for CLas-Infected Nymph in Your Own Grove**

1. The grower will be notified by CDFA about the detection. The tree where the positive nymph was collected will be considered exposed to CLas.
2. Through the Food and Ag Code, CDFA has the authority to declare the tree as a "nuisance" and issue an abatement if the tree is not removed by the grower.
3. The grower should apply both foliar and systemic insecticides to all HLB host material within 400 meters of the detection.
  - o It is critical to follow best practices and seek advice from the UC ANR on how to protect groves from HLB.
4. A quarantine will not be established on the detection of a positive nymph.
5. Via qPCR, CDFA will test the entire border row closest to where the CLas-positive nymph was found.
6. CDFA will also use qPCR to test the row bordering the detection twice a year during late spring and late fall (peak titer).

**Protocol for CLas-Infected Adult Psyllid in Your Own Grove**

1. The grower will be notified by CDFA about the detection.
2. The grower should apply both foliar and systemic insecticides to all HLB host material within 400 meters of the detection.
  - o It is critical to follow best practices and seek advice from the UC ANR on how to protect groves from HLB.
3. A quarantine will not be established on the detection of a positive psyllid.
4. Via qPCR, CDFA will test the entire border row closest to where the CLas-positive ACP was found.
5. CDFA will also use qPCR to test the row bordering the detection twice a year during late spring and late fall (peak titer).

**HLB-Positive Tree Within 400M of Your Grove, But Not In Your Grove**

The grower will be notified by CDFA or the county's grower liaison and asked to:

1. Apply both foliar and systemic insecticides to all HLB host material of the block/grove that a portion of falls within 400 meters of the detection.
  - o If the grower does not show proof of treatment, CDFA or the CAC will treat the property.
  - o The grower will be billed for the treatment and a lien will be issued on the property.
  - o Consult "Information for Citrus Growers/Grove Managers in an Asian Citrus Psyllid (ACP) Bulk Citrus Regional Quarantine Zone or Huanglongbing (HLB) Quarantine Area" document.

## CDFA's Protocol in Response to HLB Briefing Sheet

A list of products and use rates recommended by the University of California, Integrated Pest Management Program and agreed upon by CDFA are provided below:

It is incumbent upon the user to follow all label directions when using any of the products listed below. Reference the California Department of Pesticide Regulation to obtain product and label information: www.cdpr.ca.gov When applying by ground, use 100-200 gallons per acre (gpa) water volume for mature trees. Adjust water volume for young trees as necessary. When applying by air, use 5-25 gpa water volume depending upon pesticide used. Products listed below are subject to change.									
Product	EPA No.	Active Ingredient	Treatment Method	Rate per Acre	Rate of Active Ingredient	PHI	REI	Maximum Amount per Crop Season	Minimum Application Volume by Air
Actara	100-598	25% thiamethoxam	foliar	4.0 - 5.5 fl oz	0.062 - 0.086 lb ai thiamethoxam	0 day	12h	15 oz maximum per season	5 gpa
Admirer Pro <sup>3A</sup>	264-827	4.6 lb ai/gal Imidacloprid	foliar	7 fl oz	0.25 lb ai per acre	0 day	12h	14 oz	25 gpa
Saythroid XL	264-840	1 lb ai/gal beta-cyfluthrin	foliar	3.2 - 3.4 fl oz	0.025 - 0.050 lb ai beta-cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Danitol 2.4 EC Spray	59639-35	2.4 lb ai/gal fenpropathrin	foliar	16 - 21.3 fl oz	0.3 - 0.4 lb ai fenpropathrin	1 day	24h	21.3 oz	5 gpa
Lannate IV <sup>4</sup>	352-284	methomyl	foliar	1.5 - 3 pints	0.05 - 0.09 lb ai methomyl	2 day	72h	3 pints, 4 appl. per season	15 gpa
Lannate or <sup>5</sup>	352-342	methomyl	foliar	0.5 - 1.0 lb	0.45 - 0.9 lb ai methomyl	1 day	72h	3 pints, 4 appl. per season	15 gpa
Leverage 360	264-1294	1 lb ai/gal beta-cyfluthrin + 1 lb ai/gal imidacloprid	foliar	2.2 - 3.4 fl oz	0.025 - 0.050 lb ai beta-cyfluthrin + 0.25 - 0.1 lb ai imidacloprid	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Mustang	279-3126	17.1% by weight zeta-cypermethrin	foliar	4.3 oz	0.05 lb ai zeta-cypermethrin	1 day	12h	17.2 fl oz appl. 14 days apart	10 gpa
Tomatoche	34704-112	2 lb ai/gal cyfluthrin	foliar	3.2 - 6.4 fl oz	0.10 lb ai cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa
Tomatoche Kelos	34704-978	2 lb ai/gal cyfluthrin	foliar	3.2 - 6.4 fl oz	0.10 lb ai cyfluthrin	0 day	12h	6.4 fl oz of cyfluthrin or beta-cyfluthrin	25 gpa

<sup>1</sup>Product to be used during citrus bloom.

<sup>2</sup>Do not use if a soil imidacloprid treatment has been applied to the orchard in the same season.

<sup>3</sup>Any 4F formulation of imidacloprid may be used at a rate of 8 oz

<sup>4</sup>Any 4.6F formulation of imidacloprid may be used at a rate of 7 oz

2. Via qPCR, CDFA will test the entire border row of the grove that has any part of the grove within 400 meters of an HLB detection.
3. The perimeter is to be tested twice a year during late spring and late fall (periods of peak titer) with a direct testing method.

### CLas-Infected ACP/Nymph Within 400M of Your Grove, But Not In Your Grove

1. The grower will be notified by CDFA or the county's grower liaison about the detection.
2. The grower should apply both foliar and systemic insecticides to all HLB host material within 400 meters of the detection. It is critical to follow best practices and seek advice from the UC ANR on how to protect groves from HLB.
3. Via qPCR, CDFA will test the entire border row of the grove that has any part of the grove within 400 meters of an HLB detection.
4. The perimeter is to be tested twice a year during late spring and late fall (periods of peak titer) with a direct testing method.

