IR4 Biopesticide Update- 2014

CERTIS

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Rendition

Peroxyacetic acid 5.24%

Oxidate 2.0 (crop protection)
StorOx 2.0 (post harvest)
Zerotol 2.0 (T&O)
Sanidate 2.0 (general disinfectant)
TerraClean 5.0 (Soil)

2.6X more concentrated so only need 3.0 pt./100 gal Rendition compared to 8.0 pt./100 gal. Oxidate on tomato. Not NOP approved.
Spores of *Paecilomyces fumosoroseus*\* strain Apopka 97 (Univ. FL).

Naturally-occurring fungus that infects many arthropod hosts:

- Many soft bodied insect and mite pests.
- Infects all life stages (esp. immobile ones)
- Little or no impact on beneficials
- NOP, OMRI, 4 hr. REI, 0 days to harvest, no residue issues, tank mix compatible (but not with fungicides)

\* Also known as *Isaria fumosorosea*
PFR 97 Product Strengths:

- Peppers, other crops - chili thrips *
- Tomatoes, other crops - silverleaf whitefly*
- Citrus - Asian citrus psyllid*, rust mites
- Vegetable crops - western flower thrips*
- Potatoes - potato psyllid
- Various crops - vegetable leaf miner (*Liriomyza spp.*)*

* Indicates IR 4 Biopesticide category priority.
Formulation: Highly concentrated (5x log10) CFU *Bacillus amyloliquefaciens* strain 747 fungicide/bactericide.

Effective on both bacterial and fungal diseases.

Can be applied as a foliar protectant or through the drip for soil borne diseases.

When used foliar use preventatively, usually on a 7-14 day schedule.

When used in soil, start early in the season on a 14-21 day schedule.

Low rate. Rate range 0.25-3 lbs WP, 0.5-6 qts LC, with 0.5 lb or 1 qt/acre the normal “commercial” rates.

NOP, OMRI, 4 hr REI, 0 days to harvest, no residue issues, tank mix compatible.
Double Nickel

Double Nickel Product Strengths:

- Pome fruit- fire blight*, summer diseases
- Stone fruit- brown rot*
- Fruiting vegetables- bacterial leaf spot*
- Grapes- powdery mildew, Botrytis*
- Various crops- Sclerotinia white mold*
- Potato- Rhizoctonia (soil applied)

* Indicates IR 4 Biopesticide category priority.
Granular formulation containing spores of the fungus *Paecilomyces lilacinus* strain 251

- Naturally-occurring beneficial fungus from soil

Inundative release nematicide for control of plant parasitic nematodes that prevent establishment of healthy plants and decrease yield.

- Root knot, sting, root lesion, stubby root, burrowing, reniform, and others

**Attacks all life stages of the nematode (Eggs, immatures, adults)**

**Especially effective on root knot nematode***

Flexible application (chemigation, drench, soil incorporation)

- Zero PHI, 4 hr REI, signal word “Caution”

Very safe environmental and safety profile.

No special certification, documentation, plant setback restrictions required for use.
Insect virus active on both Codling Moth* and Oriental Fruit Moth*

Application Rate 0.5-3.0 fl oz/acre
- 1.0-1.5 fl oz/acre when used alone,
- 0.5 fl oz/acre when mixed with insecticides.
- Make at least two applications of Madex HP per OFM or CM generation.

For use on:
- All pome fruits, stone fruits, and walnuts.

4 hour REI and 0 day PHI, NOP/ OMRI

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Polyoxin D zinc salt 5% (SC) Suspension Concentrate

- Naturally derived from a *Streptomyces sp.*
- **OSO** is a broad spectrum chitin synthase inhibitor, which prevents fungal cell wall formation.
- Best when used preventatively, usually on a 7-14 day schedule.
- Low rate 5% SC formulation. Rate range 3.75-13 oz/acre, with **6.5 oz/acre the normal “commercial” rate.**
- Crops registered:
  - **Tavano**- Strawberries and other berries and small fruit, Grape
  - **Oso**- Brassica, Leafy Vegetables, Fruiting Vegetables, Cucurbits, Onion, Garlic, Potato, Carrots, Legumes, Pome Fruit, Stone Fruit, Citrus

- 4 hr. REI, 0 days to harvest, no residue issues, no special safety equipment required, tank mix compatible. **Not** NOP approved.
Cucurbits- Anthracnose, gummy stem blight, downy mildew*, powdery mildew, southern blight.

Grapes- Powdery mildew, *Botrytis*

Snap beans- *Botrytis* gray mold

Tomato- *Botrytis* gray mold, some activity on late blight

Lettuce- Downy mildew and *Botrytis*

Potato- Early blight

Cranberries- Fruit rots

Strawberry- Anthracnose, *Botrytis*, powdery mildew

Carrots- *Alternaria* (early) leaf blight

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Thank You!

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