

 **OxiDate® 2.0**

 **AzaGuard®**

## Manage Spotted Wing Drosophila

### OxiDate 2.0 and AzaGuard for Control of Spotted Wing Drosophila, 2013

**Researcher:** Peter Jentsch et al.,

Cornell University's Hudson Valley Lab, Highland, NY

**Crop:** Blueberry

**Organism:** Spotted Wing Drosophila (*Drosophila suzuki*)

Spotted Wing Drosophila (SWD) is a serious threat to many fruit crops, especially in blueberries, raspberries, strawberries and stone fruits. Damage is caused primarily by female SWD laying eggs underneath the skin of ripening fruits using serrated ovipositors. Fruit contaminated with larvae before or during harvest can significantly reduce marketability. Serrations during oviposition on the fruit also create channels for sour rot and other fungal pathogens to develop.

In 2013 Cornell University conducted a trial to evaluate the effectiveness of AzaGuard and OxiDate 2.0 in preventing SWD incidence. This trial was established following numerous grower reports stating reduced incidence of SWD in blocks sprayed with OxiDate 2.0. OxiDate 2.0 is a broad-spectrum bactericide/fungicide that utilizes a mode-of-action of oxidation, while AzaGuard is a broad-spectrum insecticide/nematicide utilizing a highly concentrated form of azadirachtin. AzaGuard has a dual mode of action, acting primarily as an Insect Growth Regulator (IGR) and its residual formula acts as a repellent. This trial was designed to evaluate the synergistic effect of combining OxiDate2.0 and AzaGuard in managing SWD populations.

**90% Mortality  
Rate Prior to  
Oviposition**

### OxiDate 2.0 Features & Benefits



- EPA registered
- No mutational resistance
- Zero-hour REI
- Active ingredients: hydrogen dioxide and peroxyacetic acid
- Available in 2.5, 30, 55 & 275-gallon containers

### AzaGuard Features & Benefits

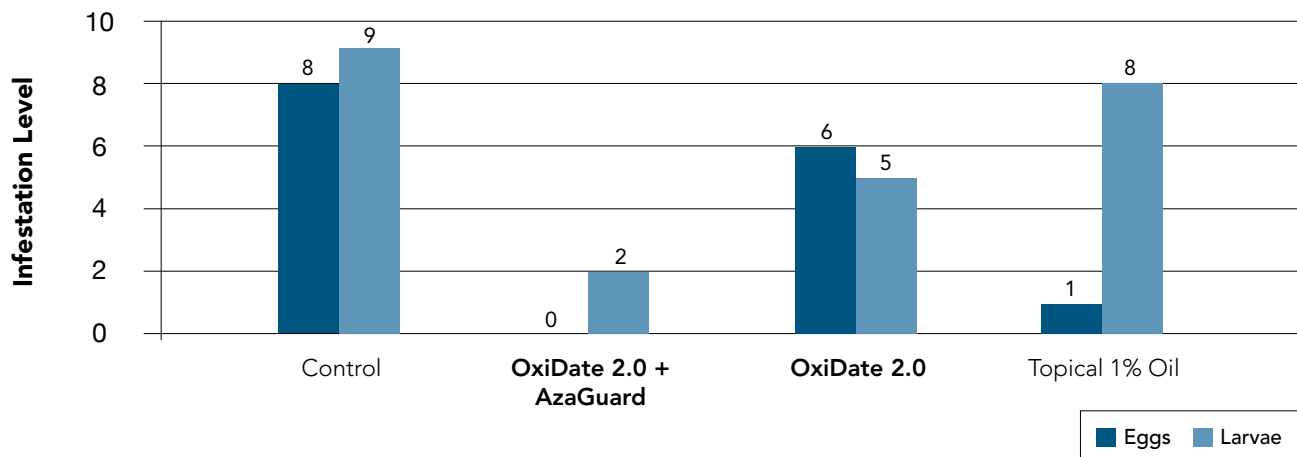


- EPA registered/Labeled for Spotted Wing Drosophila
- Insect growth regulator, anti-feedant, ovi-position deterrent
- Reduced nutrient leaching
- Active ingredients: azadirachtin
- Available in 32 oz. & 1-gallon containers

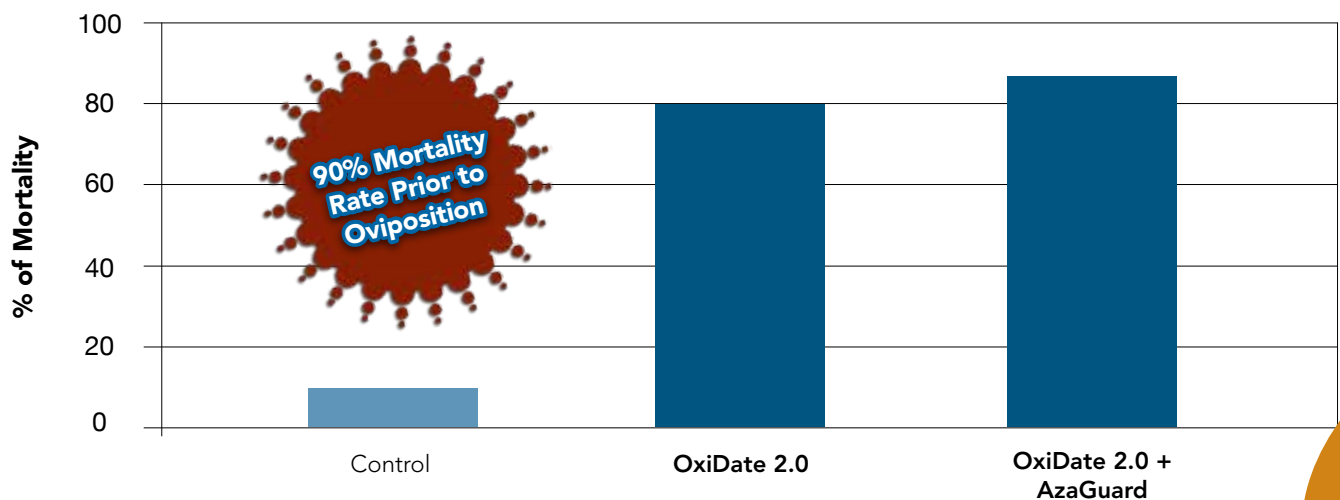
## Summary and Results

Results of this trial matched grower feedback, showing AzaGuard and OxiDate 2.0 treatments resulted in the highest level of SWD reduction of larva and pupa in fruit. This large reduction was seen five days post oviposition. Also, the combination of **AzaGuard and OxiDate 2.0 that was applied to the dental wick for no choice feeding produced a 90% mortality rate in a 24-hour period**. OxiDate 2.0 used in conjunction with AzaGuard increased SWD reduction because it “burns” surface-layer eggs, but also destroys respiratory tubes of eggs laid beneath the fruit surface.

### Oviposition on Blueberries by Treated Adults on Untreated Fruit vs. Untreated Adults on Treated Fruit Comparison



### Percentage of SWD Adult Mortality Feeding on Treated Dental Wick



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