



**CROP NEMESIS/
BIOLOGICAL CONTROLS**



Photo credit: Shane F. McEvey, Australian Museum Research Institute

Species: *Drosophila suzukii*

Diet: Soft summer fruits

Size: 2-3.5mm

Concerns: Destroys fruit's commercial value, is spreading worldwide, multiplies very quickly.

Spotted Wing Drosophila (SWD), *Drosophila suzukii*, is a vinegar fruit fly that targets thin skinned fruits such as berries (blackberries, blueberries, raspberries, strawberries), cherries (sweet and tart), grapes, and peaches. SWD females use a serrated ovipositor to insert eggs into healthy fruit, which then hatch into larvae that feed on the fruit.

SWD often has a significant financial impact on growers. Recent estimates show that annual grower financial losses due to SWD in the United States have exceeded \$500 million dollars.



Blueberry farmer Harley Soltes inspects traps daily.

Identify Spotted Wing Drosophila

The first step in any insect management program is the ability to predict pest presence. Adult females live for approximately two weeks and can oviposit as many as 100 eggs per day. Unlike some other fruit flies, SWD can have multiple generations per year. The number of SWD adults that successfully overwinter is directly linked to the severity of winter weather. Detection of adult flies can vary significantly from year to year.

Management

Early detection is critical as threshold for spraying is one captured female. As fruit ripens it becomes increasingly vulnerable. Recently, federal and university entomologists developed very effective scouting and trapping protocols. The results of extension trapping programs are often available online. Growers can also purchase commercially available traps or make their own traps to monitor their fruit production fields. University technical bulletins describe SWD trapping and identification. Since most traps will capture other vinegar flies, accurate identification is necessary.

Your Ally to Control SWD and Help With Insect Resistance Management

Based on results of successful trials, we recommend Grandevo® WDG bioinsecticide as an effective component of a strong IPM program to control SWD.

Grandevo WDG bioinsecticide should be applied on a maximum 7-day interval when adult flies are present. During periods of intense pressure, the interval may need to be 4 or 5 days depending upon whether applications are made consecutively or being used in rotation with other approved insecticides.

Grandevo® WDG Bioinsecticide	Rate
As tank mix partner	2 lbs. per acre
Used alone or in rotation with other approved insecticides	3 lbs. per acre

Use water volumes that allow for thorough crop coverage. Water volumes in excess of 100 gallons per



acre could diminish product effectiveness. Water used for product dilution should have a pH range between 4 and 9.

A quality spreader/sticker is recommended to aid coverage and increase resistance to wash-off, especially in production areas where rainfall is frequent or expected. Shorter application intervals or re-treatment should be considered following rain events. Also in arid areas, a quality spreader will help promote spray coverage. Producers are encouraged to contact Marrone Bio Innovations sales and technical representatives about the suitability of various adjuvants.

In university trials, Grandevo WDG has shown to be effective in controlling SWD, and has the added benefit of delaying insecticide resistance.

“The addition of an adjuvant when spraying Grandevo is important for maximizing canopy coverage and thus optimal exposure to SWD to attain crop protection.”

-Dr. John Wise, Michigan State University



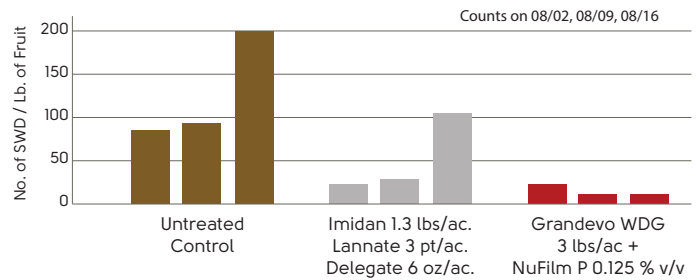
- Improves Insect Resistance Management
- 4-Hour REI & 0-Day PHI
- No Spray Buffer Zone
- Broad tank mix compatibility
- Tolerance Exempt - No MRLs
- Can be applied multiple times



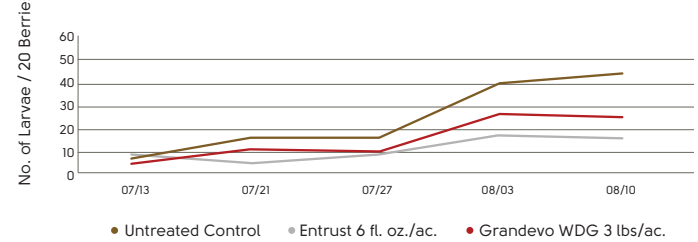
CAN BE USED IN ORGANIC PRODUCTION
NO ACUTE TOXICITY TO ADULT HONEY BEES.



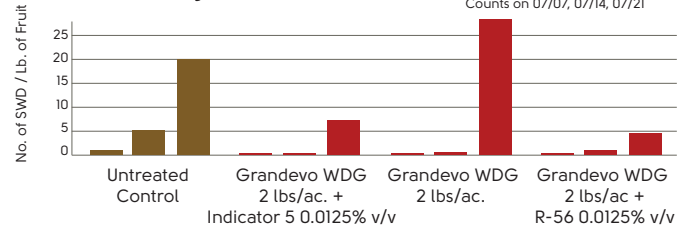
Blueberry



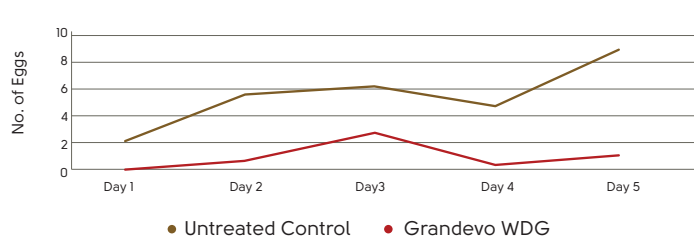
Blackberry



Tart Cherry



Oviposition After Feeding



University Technical Bulletins and Extension Service Information on Spotted Wing Drosophila

University	URL
Oregon State University	http://spottedwing.org/
Michigan State University	http://www.ipm.msu.edu/invasive_species/spotted_wing_drosophila
North Carolina State University	https://swd.ces.ncsu.edu/
University of California	http://ipm.ucanr.edu/PMG/PESTNOTES/pn74158.html
University of Wisconsin	http://labs.russell.wisc.edu/swd/



Works Cited: University of Lincoln, 6/07/2017. <http://www.lincoln.ac.uk/news/2017/06/1364.asp>

ALWAYS READ AND FOLLOW LABEL DIRECTIONS.