Small Fruit Insecticide Update
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Final cancellation order for sulfoxaflor

- “As part of this recent action, EPA has issued an existing stocks provision allowing growers to use sulfoxaflor-containing products they have in hand consistent with directions on the pre-existing product label.”


Closer SC (sulfoxaflor)

- Existing stocks labeled for use on listed sucking insects on pome fruits, strawberry, stone fruit, small fruit vine climbing (except fuzzy kiwifruit) and low growing berry, and tree nuts

Sivanto 200 SL

- Sivanto 200 SL (flupyradifurone) 1.67 lb ai/gallon or 17.09% (Bayer CropScience LP)
- IRAC Mode of Action Group 4D (Nicotinic acetylcholine receptor competitive modulator) – butenolides chemical subgroup
- Bushberry – foliar application
- For aphids, blueberry thrips, and blueberry maggot
- PHI – 3 days
- Minimum interval between applications – 7 days
**Sivanto 200 SL**
- Other crops on label include:
  - Leafy vegetables (except Brassica)
  - Legume vegetables (succulent or dried)
  - Low growing berry (lowbush blueberry, strawberry and others)
  - Pome fruit
  - Root vegetables
  - Small fruit vine (except fuzzy kiwifruit) – grape, gooseberry and others
  - Tuberous and corm vegetables
  - Tree nut

**Sivanto Prime**
- Sivanto Prime will be replacing Sivanto 200 SL
- It is essentially the same product and the result of a new global marketing initiative by Bayer CropScience

**Sivanto Prime Honey Bee-Safe Profile**
- Low intrinsic toxicity to adult and immature stages of honey bees
- No adverse effects on foraging honey bees, their foraging activity, brood and colony development, hive vitality and honey bee health or on over-wintering colonies when used according to label instructions

http://www.sivanto.com/sivanto-documents.html

**Life Cycle of the Spotted Wing Drosophila**
*Drosophila suzuki* (Matsumura)
- Eggs 12-72 hours
- 350+ eggs in a lifetime
- Pupation 4-15 days inside or outside of fruit
- Three Larval instars 3-7 days
- Adults 20-30 days

**Spotted wing drosophila oviposition on blueberry**
- Pair of breathing tubes from each egg

**Spotted wing drosophila lava and damaged blueberry**
- Caudal spiracles of larva
- Oviposition wound used as a larval breathing hole
Making a Spotted Wing Drosophila Trap

- Use a 32 oz clear plastic cup with lid
- Punch, drill or use soldering iron to make 12 holes (3/16")
- Knot ends of a nylon cord in two of the holes like a bucket handle
- Make a mixture of 4 tablespoons sugar, 2 tablespoons yeast, and 32 oz water (single trap, use 2/3 Tbsp sugar, 1/3 Tbsp yeast, 5.25 water)
- http://ncsmallfruitpm.blogspot.com/search/label/SWD
- Add 5.25 fl oz to your clear plastic cup, refrigerate the rest
- Mark fluid level with magic marker on outside of cup
- Add 1-2 drops of unscented dish soap to break surface tension of solution
- Add lid and deploy in the field

Information courtesy of H. Burnack, NCSU

Commercial Lures for SWD

- Trece and Scentry lures are just as effective as sugar, water and yeast but easier to use

Spotted Wing Drosophila (SWD) in Wine Grapes and Bunch Grapes

- SWD is not as serious a pest on grapes with most damage being seen on soft or damaged fruit
- Wine grapes can likely sustain greater injury than fresh market grapes

Spotted Wing Drosophila (SWD) in Wine Grapes and Bunch Grapes

- While risk begins at veraison, risk increases significantly when fruit reach 15 degrees Brix
- In North Carolina, not much spraying is being done for SWD on wine and bunch grapes
SWD and Strawberries

- Even though some SWD can be found in strawberries in May and June, it is not a big enough problem for most growers to do much spraying.

Southern Highbush Blueberries and SWD

- In North Carolina, growers are not detecting SWD in southern highbush blueberries.
- SWD usually doesn't show up in damaging numbers until later in rabbiteye blueberry season (early July and later).

Spotted Wing Drosophila Control for Commercial Fruit Production

Pyrethroid, spinosyn, organophosphate, & the anthranilic diamide class (Group 28 cyazypyr (DuPont Exeril 0.83 SE) for blueberries only) insecticides effective against SWD with weekly treatments starting at ripening (fruit coloring) to as close to harvest as the label allows.

- Rotation of insecticides with different Modes of Action
- Efficacy reduced in rainy conditions so reapply in the event of rain.
- Sanitation, harvest and fruit destruction, may reduce infestation.

H. Burrack, NCSU

2015 Southeast Regional Organic Blueberry Pest Management Guide

A Guide for Managing Diseases, Insects, Weeds and Wildlife in Blueberries in the Southeast

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Recommendations are based on a combination of the applicator’s labeled performance plus current research and extension data. Because environmental conditions and personal application methods vary widely, suggested use does not imply that performance of the pesticide will always result in the benefits and/or economic advantage indicated on the label. This publication is updated annually. Specific crops and application methods may be under the pesticide label, and there are strict rules to change to a newer version. Always read and follow label directions carefully. The pesticide label information on this guide must be used in the field.
African Fig Fly (AFF)

- Originally from Africa, this invasive drosophilid was found in Brazil in 1999 and Florida in 2005 and since then it has been found in 11 additional states (Pfeiffer 2013) plus Tennessee (Knox, Davidson, & Dickson Counties) in 2013 (found in grapes & raspberries in Knox Co.)

- Not sure how much damage it causes since its ovipositor is not nearly as large and serrated as with the spotted wing drosophila
- They may attack fruit wounded by SWD or damaged by other means
- Dr. D. G. Pfeiffer has found more AFF larvae emerging from grapes so its importance as a grape pest is undetermined

Questions?
Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.
UT Extension provides equal opportunities in programs and employment.