



#### INSIDE THIS ISSUE

- 2 Spotted Wing Drosophila
- 4 Selecting Raspberries
- 4 Spring/Summer Calendar
- 7 2012 Berry Update
- 8 Sold-out Listing and Shipping Policies & Receiving Tips

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## Greetings from Nourse Farms!

Shortly after receiving this newsletter we will have all of our asparagus roots, currants, elderberries, gooseberries, raspberries and half of our strawberry plants packed and waiting for shipment. Over the last two months we have received many requests to ship plants early as customers feel their conditions are favorable. I would like to suggest that customers consider past weather events, most notably the Easter freeze of 2007. This season is very similar. I am concerned that history could repeat itself during the upcoming Easter weekend. Not all growers are aware that newly planted stock is sensitive to cold and can be damaged or killed as temperatures drop below 25°F in the first week and 20°F anytime after planting.



*Nate, Mary and Tim Nourse*

In 2008 one of the most devastating pests known to berries was imported into the United States. In three short years Spotted Wing Drosophila has been identified in almost every berry growing area in the U.S. and a few places in Canada. It arrived at Nourse Farms sometime before Labor Day 2011 and cost us a round of harvest. We were fortunate that no fruits were sold with larvae inside, but some of our customers were not so lucky. This pest will over-winter and pose a threat to berry harvests in 2012. It is manageable for conventional growers and in most cases, organic growers. I strongly suggest that berry growers become familiar with this pest, as it will affect most mid-summer berries and all fall berries.

Our staff has been honing their berry-growing skills this winter and is ready to assist with any need that may arise. They are excited to share their knowledge of growing and caring for plants. Whatever your issue we will help you find a solution and give our best recommendation.

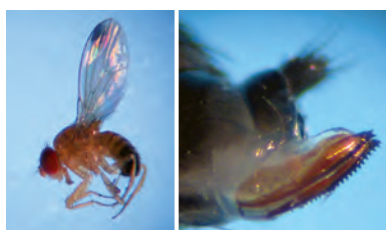
All the best for your 2012 growing season!



# Spotted Wing Drosophila

## A New Challenge for the Berry Industries

**S**potted wing drosophila, *Drosophila suzukii*, (SWD) is a vinegar fly that has become a new pest for North American berry growers. After initial detections in California in 2008, it has spread across the continent, with detections in 28 U.S. states (Figure 1) and a few Canadian provinces. It has now been found in most of the major fruit producing regions in these areas, and management tactics are being rapidly developed, tested, and implemented in fruit crops. In Michigan and regions with similar climates, this pest is most active in late summer and fall when its populations build and they infest berries during the harvest season. SWD can infest fruit when they start to ripen and throughout the ripening period, with a preference for soft-skinned fruit such as most berries and cherries. The softer skin and flesh allows the female fly to cut her way into the fruit to lay her eggs using the serrated ovipositor. These eggs hatch in a day or two and develop into 2-3 mm long white larvae, then affecting berry quality and marketing.



Left: SWD male with characteristic spots on the wings.

Right: Close-up of the sharp egg-laying apparatus the female uses to cut into fruits and deposit her eggs.

### **The first step in managing SWD in fruit farms is to make sure that you have an active monitoring program, and to keep clear records.**

Basic traps can be made from a plastic container with ¼ inch holes for flies to enter and containing apple cider vinegar to lure the flies. A 2011 study in Michigan has also found that traps baited with a yeast and sugar solution caught more SWD early in the season, so these may help with early warning. Traps can be made at home and there are various online guides to trap construction. Traps should be hung in the shade in the fruit zone, and for strawberries a shorter trap can be made to avoid tipping over when it is down in the fruit zone where catches will be greatest. Some scouts are attaching this design to a stake to prevent tip-over and make them easier to find. Adding a drop of unscented dish soap per trap to the liquid makes sure the flies fall into the liquid. Our current

monitoring traps have ten holes drilled or melted into the sides of the trap just under the lid, with an inch depth of liquid. Change this weekly for greatest activity, and when checked the liquid can be poured through a mesh to collect the insects. Trapped insects can then be sorted on a tray to see if they are SWD. Male SWD have distinctive dots on the wings (see photo below), while the females have a thick and serrated egg laying device (see photo below). A hand lens will be needed to see this female feature. Although the small hole size reduces captures of other insects, there is still the potential for catching other non-SWD vinegar flies. Training in how to identify SWD from other insects will be very helpful for growers, scouts, or consultants checking for this insect. If in doubt, take samples to a local Extension office or diagnostic center for assistance.

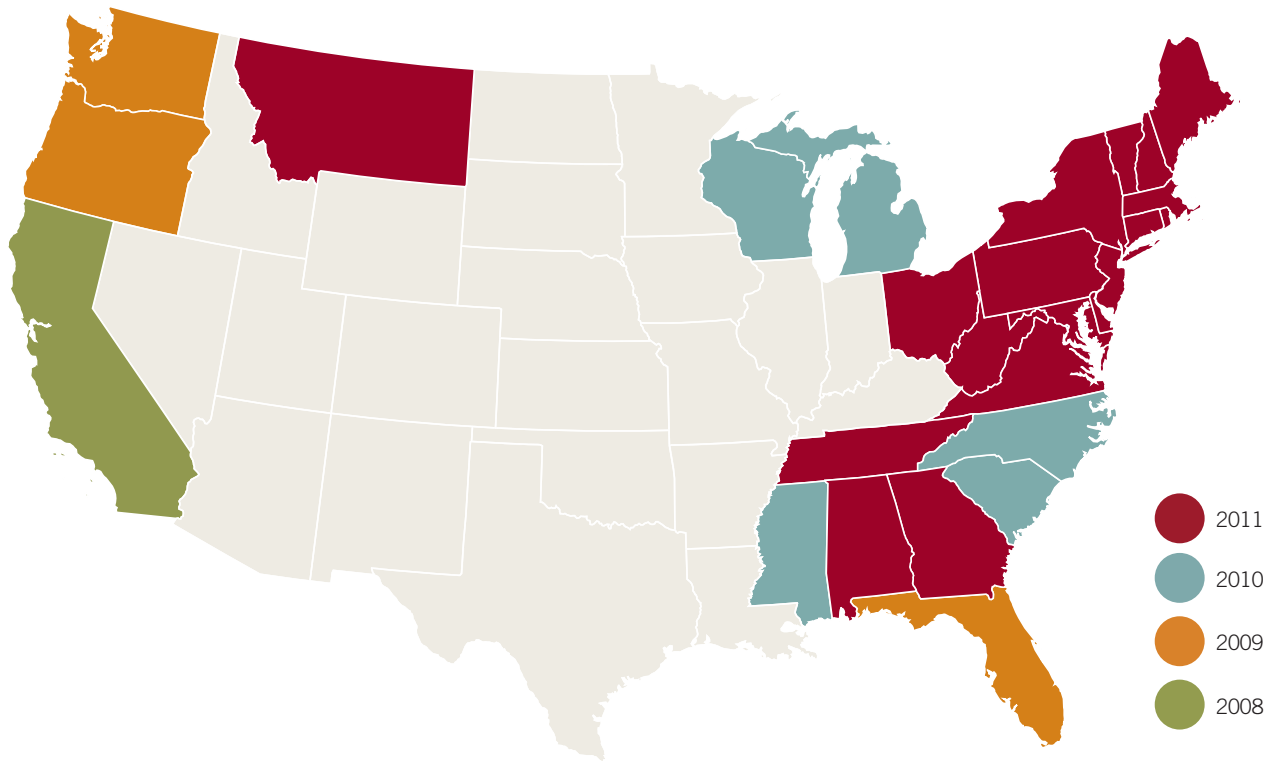
### **Weekly checking of traps is essential for detecting first SWD activity.**

Once SWD flies are detected, protection of susceptible fruit that are ripening or ripe will be needed to stop this pest from laying eggs into berries. For some crops this creates a significant challenge because of 1) the need for excellent coverage of fruit to achieve high protection, 2) the long period of activity of SWD through the extended ripening period of some fruit crops, 3) the zero tolerance for contamination by larvae in most fresh or processed fruit. Once flies are detected, fruit can also be sampled using a salt solution that forces larvae out of the berries. Make a solution of 1-2 cups of salt per gallon of water. Sample multiple fruit from an area to be checked, place in a ziplock bag with the solution and wait for an hour. Larvae will exit the fruit and will be visible on the surface. There is currently no easy way to separate SWD larvae from those of other vinegar flies, except for letting them develop into adult flies. But, late season infestation by any vinegar flies is undesirable.

### **Entomologists in the U.S., Canada, and Europe have a significant focus on gaining a better understanding of SWD biology and are also developing integrated pest management programs for this insect.**

However, a complete IPM program is still some way off, and management approaches are currently quite dependent on insecticides. There is no economic threshold for SWD, there is

**Figure 1.** U.S. states with confirmed detections of SWD, and the first year detected (by H. Burrack, NCSU Entomology).



little evidence of biological control agents being active against this pest in the U.S. yet, and SWD has exhibited significant potential for rapid population increase. As a result, detection of SWD in traps or larvae during ripening should trigger a decision to implement chemical controls to protect ripening fruit. These should be applied to protect fruit using a sprayer setup that will ensure fruit get well covered. Evaluations of the available insecticide options registered in berry crops indicate that organophosphates (e.g. Malathion, Imidan), pyrethroids (e.g. Mustang Max, Brigade), or spinosyns (e.g. Delegate, Entrust) are the most effective groups of insecticides, providing 5-10 days protection. For organic growers, effective chemical insecticide options are limited to Entrust and Pyganic, and these provide relatively short residual control. Insecticides will have different re-entry intervals, pre-harvest intervals, and durations of residual control in different crops, so it is important that you check the local recommendations for your region and the restrictions on the labels well before you approach harvest season. Making a plan now will pay dividends if/when SWD is detected in your farm. It would also be prudent to consider neighboring farms and develop a local or regional strategy among neighboring growers so that you share information to ensure local farms are not becoming infested and creating hot-spots.

**SWD is a new invasive pest and information on its management is changing quickly.** I therefore advise growers to keep in close communication with your local IPM resources such as extension educators, researchers, scouts, and crop advisors. Some states have monitoring networks that will alert growers when SWD activity starts. For MSU's available information on SWD, take a look at our website at [www.ipm.msu.edu/SWD.htm](http://www.ipm.msu.edu/SWD.htm) where fact sheets, management guides, and survey information is being posted. There is also timely and regionally-relevant information posted online by Oregon State University, University of California, Washington State University, and North Carolina State University.

Visit the MSU Berry Crops Entomologists online at [www.isaacslab.ent.msu.edu](http://www.isaacslab.ent.msu.edu).

## SWD BASICS

**1**

Monitor with traps to know when present.

**2**

Timing of insecticide sprays begins with first color.

**3**

Cultural controls include removal of cull fruit from field and harvesting all ripe fruit EVERY TIME!

**4**

Use and rotate labeled insecticides on a 5-7 day schedule.





# Choose Wisely.

Tips for Selecting Raspberries by Nate Nourse

**Before making the decision to purchase a raspberry variety, I often ask growers what their goals are.**

**Do you want something for wholesale, retail, or pick-your-own?**

**Do you want summer production, fall production, or both?**

**Will you produce berries with or without protected structures and/or trellis?**

**Where are they located, in the cold of zone 3 or the heat of zone 7?**

These questions will allow me to suggest a variety to fit their situation and should be considered in the selection process.

As a new premise to the selection process, there are several primocane varieties that offer very good summer production with the normal fall season production. These varieties are true everbearers and are the first I recommend for high tunnel production. There are also some varieties sold as summer bearers that produce a late fall harvest. The variety Prelude is a great example.

Trellis systems can boost production by 20-30% and the swing arm trellis can help blackberries grow in more northern climates. Research has shown that planting blackberries in a real greenhouse will help facilitate survival through the winters in zones 3, 4 and 5. High tunnels with trellis can double production potentials for all varieties.

Consequently, just choosing a variety because it tastes good will not always deliver successful results. It is very important to know your soil, starting with a soil test. As with all raspberries, planting in a rich, well drained soil with drip irrigation will yield the best results. Too many raspberry growers still plant on flat beds. Raised beds are always superior for any variety. Trellising is not an expense, it is an investment. On average, a good trellis and pruning effort will yield 50% more berries. Like most things in life a little extra effort will yield more successful harvests.

**Nourse Farms offers over 20 varieties of Raspberries for 2012 including Red, Gold, Black, and Purple. We also offer 8 varieties of blackberries.**

## Important Raspberry Terminology

**Primocane** A perennial raspberry that bears fruit on first-year canes. Also known as everbearing, they can produce berries the following summer on canes that survived the winter. While berries are produced, not every variety will yield fresh market quality.

**Florican** A perennial raspberry that bears fruit on the second-year canes that survived the winter.

**Commercial Everbearer** A primocane variety that produces two marketable crops per year. Varieties include Prelude, Himbo Top™ (RAFZAQU variety), Joan J, and Polka.

## SPRING / SUMMER

### Tours, Seminars & Field Days

#### MARCH

March 6-7, 2012

#### Illinois Small Fruit School

#### Mt. Vernon Holiday Inn, Mt. Vernon, IL

This school is open to commercial small fruit and strawberry growers across the state.

<http://web.extension.illinois.edu/state/newsdetail.cfm?NewsID=16583>.

March 7, 2012

#### Penn State Strawberry/Bramble School

#### Penn State Extension-Adams County, Gettysburg, PA

The Strawberry / Bramble School 2012 covers everything you wanted to know about strawberry, raspberry, and blackberry production in one intensive day.

For more information call: 717-263-9226 x230, or e-mail: [extensionCVENT@ag.psu.edu](mailto:extensionCVENT@ag.psu.edu)

#### AUGUST

Week of August 13, 2012

#### NASGA Summer Tour in Nova Scotia, Canada

Details to come soon at [www.nasga.org](http://www.nasga.org)

#### GENERAL INFORMATION

#### UMass Amherst Extension

Please check website for event announcements: <http://extension.umass.edu/fruitadvisor/>

# TRIPLE K IRRIGATION



NEW & USED IRRIGATION EQUIPMENT

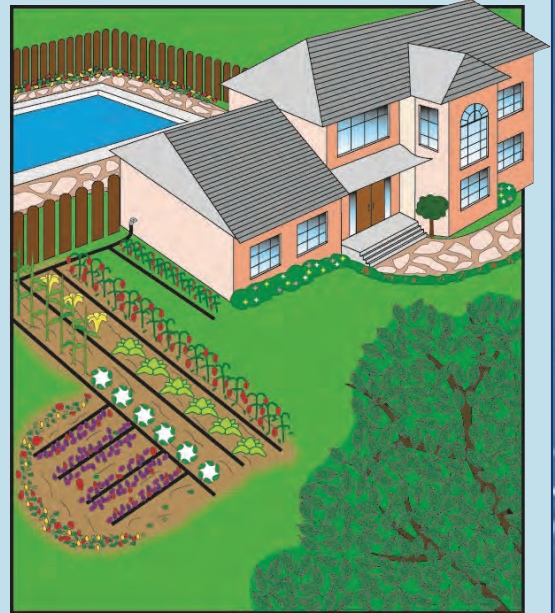


## Irri-Gator

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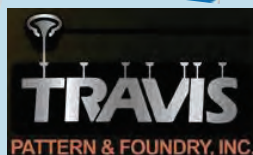
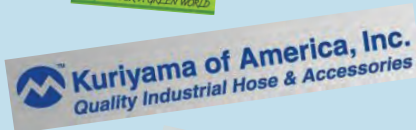
Please visit [www.GardensGrownRight.com](http://www.GardensGrownRight.com) for more information, to view the simplicity of our drip kit being installed or to order an Irri-Gator Drip Irrigation Kit as well as a large variety of gardening supplies. Save 10% if promo code "NOURSE" is entered at checkout.

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# Cultivators for Berries *and* Vegetables



Hillside Cultivator Model CS is constructed with a strong frame and hydraulics for adjusting the distance between the cultivator gangs



Rolling Cultivators are great for uprooting weeds and cutting through plant residue



The PTO powered Eco Weeders are best for weeding between plants dramatically reducing hand work



Hillside Cultivator Telescoping Frame for cultivating between blueberries or raspberries



Uproot weeds very close to the edges of plastic mulch, ridge soil along raised beds

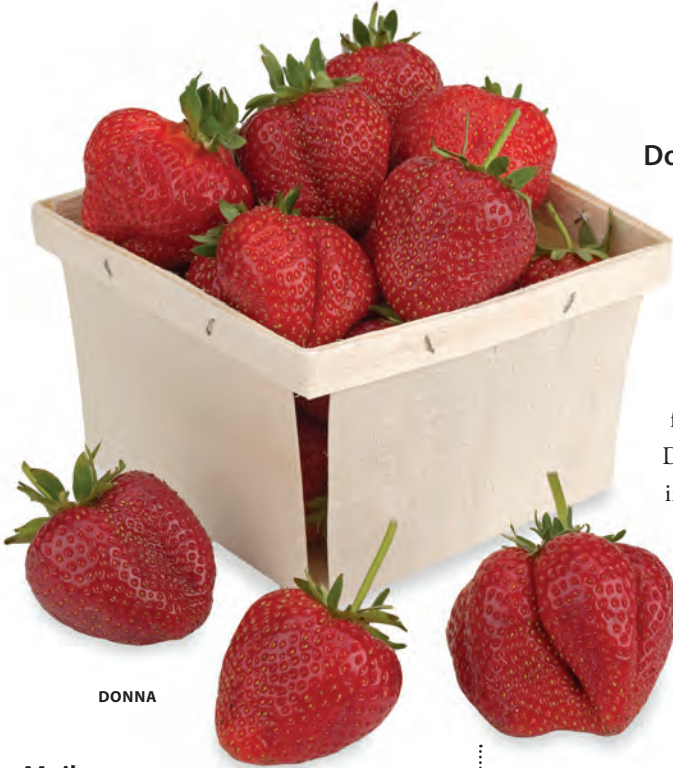
- Excellent weed control between crop rows
- Renovate strawberries effectively and economically
- Uproot weeds very close to the edges of plastic mulch, ridge soil along raised beds
- Optional Disk Gangs in front will cut through straw at strawberry renovation time
- Coil tines mounted mid frame break up hard soil

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## New Strawberry Varieties to Plant.



DONNA

### Maika

*(U.S. Patent Pending)*

Maika is a specialty day-neutral variety similar to the Mara des Bois. Maika has larger sized fruit than the Mara des Bois and an aromatic flavor. Flavor is not as intense as the Mara des Bois. Maika fruit has a bright red color and the shape is blocky. The plant exhibits good vigor. We recommend you plant Maika when you have demand for specialty fruit flavor.

### Sonata *(U.S. Plant Patent #18,000)*

This very high quality variety comes from the Netherlands. Midseason, highly productive and ripens about the same time as Allstar and Jewel. Sonata has good tolerance to soil diseases and exhibits good plant vigor. Fruit has an excellent smooth appearance, has large size and holds its size well during the harvest season. In our trials, Sonata had very good flavor. Fruit will be suitable for all uses. Sonata is the first mid-season variety that I have observed to compare to Jewel because it holds its size and has increased disease tolerance.

### Donna *(U.S. Plant Patent #20,648)*

We released Donna in 2010 as a new mid-season variety. In our trials it showed excellent characteristics and it is a good choice for a high performing mid-season selection. Donna is from the same breeding program as Darselect, but ripens a few days later and has a slightly darker red color than Darselect.

The plant has good vigor and has shown no evidence of foliage disease issues. The large fruit has very good appearance with a high gloss and very good firmness. Donna holds its size through the harvest season similar to Darselect. We highly recommend Donna because of its outstanding features and performance.

# UPDATE

### Mayflower *(U.S. Patent Pending)*

A new productive strawberry variety for 2012, tested by many growers as EM 995. Late mid-season, Mayflower ripens about the same time as Cabot. Mayflower has tolerance to phytophthora soil disease and has very good plant vigor. Fruit is firm, performing well in wet weather conditions. Fruit size is large and holds size during the picking season. Its color is an attractive bright red. Berry flavor was rated good to excellent from grower survey results. Of the growers surveyed, 80% said they would plant Mayflower again. We highly recommend the variety for Pick Your Own and commercial picking.

MAYFLOWER



## New Primocane Red Raspberry for 2012.

### Nantahala *(U.S. Patent Pending)*

This late season primocane variety ripens after Josephine, extending the harvest season for fall raspberries. Nantahala exhibits good vigor with sturdy upright cane growth. The fruit has an excellent sweet flavor. Recommended for Pick Your Own and for local markets. We highly recommend this new late ripening variety.



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## Berry Important Information Enclosed!



We are here to answer your questions  
Feel free to contact us via E-mail:

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Nate Nourse: nnourse@noursefarms.com  
Vickie Barlow: vbarlow@noursefarms.com  
Rose Lynch: rlynch@noursefarms.com

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## SHIPPING POLICIES AND RECEIVING TIPS

- Our system automatically e-mails you with details on FedEx shipments. Please make sure we have a current address for you.
- LTL shipments must be requested before noon on the departure day.
- If at all possible, please notify us the Monday or Tuesday the week before your scheduled ship date to change an order or FedEx ship date. We pack orders the week ahead in our busy season.
- Some customers store plants in their own cooler before planting. While this can work, we recommend leaving your plants with us until conditions are right for you to plant within a few days of receipt. We have state-of-the-art cooler facilities that maintain constant temperature and humidity levels. Also, plants will warm-up during shipment and start to lose vigor.
- If you must cool plants, open the boxes to allow warm air out, reseal and keep them as close to 28°F as possible. Do not allow them to fall below 26°F as that will kill your plants.
- Do not add water or soak plants if you can't plant right away. Open boxes upon receipt to check temperature and freshness and reseal. If mold forms on asparagus roots they should be spread out on a pallet and kept dry to stop more mold from growing.
- Leaving your ship date "open" allows you to watch the weather and let us know when you would like us to ship. There is no default shipping date on "open" orders so you need to let us know when you are ready.
- If plants arrive in poor condition, please contact us immediately.



## ATTENTION!

Thank you for your interest in our product line. We are limiting or are sold-out of the following varieties:

### STRAWBERRIES

- Record • Sparkle • Daroyal
- Brunswick • Seascape
- Cavendish • Mayflower
- Monterey • Northeaster

### RASPBERRIES

- Boyne • Autumn Britten
- Himbo-Top™

### BLUEBERRIES

- Nelson • Darrow

### ELDERBERRIES

- Samyl

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