

Small Fruit Update



Providing Northwest berry growers with the information they need when they need it.

The Small Fruit Update is sent out weekly during the growing season by [Peerbolt Crop Management](#) and is funded entirely by the Northwest berry growers and industry through their commissions and councils.

June 18, 2013

Week 25

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June 26 — Oregon Farm Bureau grower update on farm labor ~ 8:30-noon or 12:15-3:45, North Willamette Experiment Station, Aurora, OR. [Click here](#) for the agenda and contact information. Space is limited. *RSVP is required.*

June 26 — WSU Extension pre-harvest berry field event ~ 9:30-11:30, [Boxx Berry Farm](#), 6211 Northwest Road, Ferndale, WA. 2 pesticide credits, [Click here](#) for the agenda and contact information.

June 27 — Willamette Valley berry fieldman/grower breakfast ~ Topic: **Preventing crop losses from SWD: The latest updates and recommendations** 7:30 to 9:00 am, [Langdon Farms Golf Club](#), 24377 NE Airport Road, Aurora, OR. Call 503-289-7287 or [email](#) for more information.

[The Weather Cafe](#) by Rufus La Lone [Small Fruit Cold Storage Report](#)

---Grower warning---

High risk of imminent economic crop damage in Oregon and SW Washington

Spotted Wing Drosophila update for 6-18-13 Week 25

Alert

The risk of economic damage from this insect is higher and earlier than in any of the previous three seasons we have dealt with it. Larvae are now being recovered from some commercial raspberry fields.

It is strongly recommended that all caneberry and blueberry growers with ripe or ripening fruit immediately implement and maintain a regular 7 day insecticide application regime for SWD management.

Disseminating information for: Washington

[Washington Red Raspberry Commission](#)
[Washington Blueberry Commission](#)
[Washington Strawberry Commission](#)

Oregon

[Oregon Raspberry and Blackberry Commission](#)
[Oregon Blueberry Commission](#)
[Oregon Strawberry Commission](#)

British Columbia

[Fraser Valley Strawberry Growers Association](#)
[Raspberry Industry Development Council](#)
[B.C. Blueberry Council](#)

National

[North American Blueberry Council](#)

Rationale for warning/alert

- This week we recovered larvae from machine harvested and hand harvested, first pick raspberry fields.
- Some of these fields had been treated with a pre-harvest insecticide three days prior to the sampling.
- Other second and third hand reports have also been received with similar information.
- An average of 20 larvae were recovered per two pound sample in one machine harvested field.
- The handpicked fields were averaging two to three larvae per 50 berries in baggie samples using the method outlined below.
- We are assuming these initial infestations occurred before the pre-harvest insecticide application.
- The infestations are being eradicated by two further insecticide applications within 5 days of each other.
- Maintenance insecticide treatments spaced 7 days apart are now planned for these fields.
- If an initial infestation is found, it is critically important to retreat as soon as possible to minimize losses.
- Assuming our weather pattern continues to be favorable to SWD, in the next few weeks as other caneberries and blueberries ripen and begin harvest, we can expect the pressure to continue to build up.
- Growers are advised to monitor fruit closely to ensure an adequate interval between applications, to maintain control. This interval may need to be shorter than in previous seasons.

Monitoring berries for SWD larvae

For scouts/field checking ([We have created a video of this larvae-checking method.](#)):

1. Collect a sample of fruit to be tested (Caneberries/blueberries: 50 per sample)
2. Put fruit in a gallon size sealable plastic bag.
3. Pour in enough of the salt water solution to allow the fruit to float (solution is: 1 cup of salt per gallon of water).
4. Mark bag with field code/date.
5. For a quick check in the field after a designated period of time (at least 15 minutes), hold the baggie up to light. This helps to see the larvae in the solution
6. For a more thorough examination, after a designated period of time (at least 15 minutes), pour the fruit and salt solution out into a shallow tray and use a piece of wire mesh screen to hold the fruit down making it easier to separate the larvae from the fruit.

For processors or fruit handling stations:

1. Collect a two pound sample of fruit to be tested.
2. Put the sample into a shallow tray and cover with the salt water solution (1 cup of salt per gallon of water).
3. After a designated period of time (at least 15 minutes), use a piece of wire mesh screen to hold the fruit down to make it easier to separate the larvae from the fruit.

SWD in the news

- Canada: [Insecticides receive emergency use permits to control spotted wing drosophila](#) (6/13, Farm Focus)

SWD management material resources

Oregon and Washington

- **Blueberries:** [SWD pesticide options and information](#) updated 4/15/13
- **Raspberries and blackberries:** [SWD pesticide options and information](#) updated 4/15/13
- **Strawberries:** [SWD pesticide options and information](#) updated 4/15/13

British Columbia

- [Spotted Wing Drosophila \(SWD\) management in B.C. berry crops](#) updated 7/3/12

Regional crop information

Regional reports

These reports are from individuals within the region and are their particular observations. They are included to give an impression of the present 'state of the industry' and regional activities.

British Columbia, Fraser Valley (Monday, 6/17)

- **Blueberries:** Blues are sizing well and uniformly but no colour yet except on some real sandy soil we have in an upper valley area. Some colour on Duke is evident. Most of our aphid sprays are on. Cooler weather is slowing things down a bit. So I wouldn't expect now to see fresh picks before July 10 which is considerably off what I thought would happen earlier in the spring.
- **Raspberries:** Some reds in the raspberries. Cooler weather tempering things here as well. Probably looking now to June 27 - July 4 to start main picks. Some weaker fields may start earlier. Your SWD alert is sobering. We've kind of counted on the early raspberry pick to be fairly safe.

Northern Washington, Whatcom County (Thursday, 6/13)

- **Blueberries:** We in the Whatcom area are quite a bit behind the Willamette Valley. No color to speak of here yet. Nice weather and active sprayers seems to have cleared up the early green berry botrytis from a couple of weeks ago. Expect much fruit from Washington this year. It's going to be an interesting one.
- **Raspberries:** Seeing a little color in raspberries. Couldn't agree more about SWD warning. Just a little later here.

Eastern Washington (Friday, 6/14)

- **Blueberries:** Harvest has started in eastern Washington with the first fields being picked on June 12. The warmer parts of the Yakima Valley starting to pick on June 17th. We should be in full swing by the end of the week of June 17th. There have been very few SWD trapped in eastern Washington thus far. At my location north of Pasco, we have not trapped one SWD this year. The predominate variety in this area is Duke and several growers of Duke are setting up SWD programs for the first time and are finding that they cannot get through their fields with ground rigs and some are having trouble getting aerial applicators to apply products for SWD control. SWD reality has finally arrived in eastern Washington.

Willamette Valley, Oregon and SW Washington

- **Blueberries** (Tuesday, 6/18) Duke harvest will get going next week with some great looking fields. The mild weather has been good for keeping plant stress down and probably stretching out the harvest. All good in view of possible labor shortages. Keep on top of SWD this year. It's looking much worse than last year. Here we go...

Blueberry development—Western Willamette Valley

This week I've added the most developed fruit along with the most typical example of development.

Note: What I've been doing each week is taking four examples from each field and then using what seemed to be the most representative of overall development for illustrating below. [Click here](#) for MSU's growth stage table. Tom Peerbolt

6-7-13—Week 23 (Bottom)

6-14-13—Week 24 (Top)

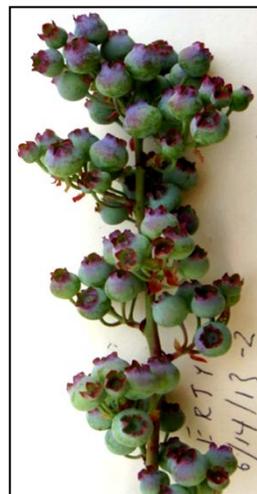
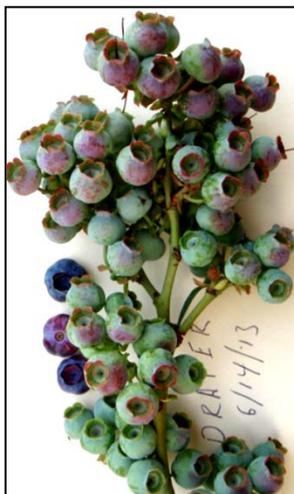
Fruit coloring

10% blue

Fruit coloring

Late green fruit

Green fruit



Patriot

Duke

Draper

Liberty

Elliott

Fruit coloring

Fruit coloring

Late green fruit

Late green fruit

Green fruit



- **Raspberries** (Tuesday, 6/18) Raspberry harvest started late last week and many fields are now getting started. So far quality and yields have been very good. Main issue is dealing with SWD so early in the season.
- **Blackberries** (Tuesday, 6/18) Black Diamond harvest is getting close, some hand harvest could start the end of this week and the machines early next week. Marion harvest will start in a couple weeks, seems to be moving back some. Plenty of red but have yet to eat a ripe one. Fruit seems to be sizing nicely and continues to look like a good crop. A lot of concern about SWD, spraying everything with color.



Marionberry



Black Diamond



Evergreen blackberry



Boysenberry



All blackberry photos by Bill Dinger (6-17-13)

Grower resources

Blueberries, yellowing leaves, nitrogen, iron and Dukes

From The June 10th New Jersey Blueberry Bulletin by Gary Pavlis: "Numerous fields in the Hammonton area had yellow leaves on the new growth. This has occurred almost entirely on 'Duke'. Yellow leaves at this time of year are normal because the plant is growing so fast that it causes nitrogen deficiency in the new growth. When the growth slows during fruit maturation, the problem will fix itself. This is not the problem I'm seeing. These leaves are light green/yellow but the veins are green. They are only found on the new growth. This is definitely iron deficiency. Years ago I would always say that this means the pH has climbed past 5.5. For most varieties this is true, but for 'Duke' it may not be true. It appears that the iron requirement for 'Duke' is higher than 'Bluecrop' and 'Elliott'. As a result it is possible to get iron deficiency when the pH is in the optimum range of 4.5 to 5.5. If you see the problem it is critical to fix it now. A simple foliar application of an iron chelate will green these plants up in a few days. If left unchecked, growth will decrease and next year's flower bud development will also be decreased. This will have an effect on next year's yields."

Blueberry grower guide for using raptors for bird management (BerriesNW) [Click here](#). This guide was funded by the Washington and Oregon Blueberry Commissions. It's got a good list of falconry services and resources as well as a section on how to choose a falconer.

Pacific Northwest Pest Management Handbooks ([PNW Handbooks home site](#))

- [PNW Insect Management Handbook](#) (Revised March, 2013) Recently upgraded to be able to be used on mobile devices. Excellent sections on both [spotted wing drosophila](#) and [brown marmorated stink bug](#).
- [PNW Weed Management Handbook](#) (Revised March, 2013) Not yet mobile app ready but will be next year. Very useful online resource for herbicide information and potential options.
- [PNW Disease Management Handbook](#) Not yet mobile app ready but will be next year. A lot of useful information. To find what you need it'll be helpful to watch the short "[how to use this site](#)" demo.

Post-emergent blueberry weed control options for 2013 (6/14, MSU Extension) [Click here](#)

Resources for identifying diseases and insects

- **British Columbia:** [Instructions on how to submit blueberry tissue to the BC Ministry of Agriculture Plant Diagnostic lab for insect or disease testing](#).
- **For submitting samples to the Oregon State Plant Clinic** [click here](#).

Maximum Residue Levels (MRL's) for exported berries

The following lists cover MRLs for the US, Canada, Japan, Korea and Taiwan.

- [Blueberries](#) (Updated March 11,2013)
- [Caneberries](#) (Updated March 11,2013)
- [Strawberries](#) (Updated February 15, 2013)
- **Recent change**
 - Taiwan now has a Delegate (Spinetoram) tolerance in blueberries of 0.2 ppm. The table has no tolerance listed.

Pollination/Bees

- [Outstanding new bee field guide published](#) (6/10, Western Farm Press)

Pesticide updates

- Canada: [Insecticides receive emergency use permits to control spotted wing drosophila](#) (6/13, Farm Focus)

[Click here](#) to go back to the top of this newsletter.

Pest alerts

Time to scout for and treat if needed: [Yellow Rust](#), raspberries.

Scout for: Aphids, blueberries.

- The action threshold for aphids in blueberries is very low in any area where [Scorch virus](#) is a concern.
- Aphids spread Scorch Virus and killing the aphids is the most effective way to prevent new infections.
- In areas where Scorch Virus is not a concern, the potential economic damage from aphids is much less and larger populations can be tolerated before management actions are taken.
- With Scorch Virus, infected bushes **do not** return to productivity and should be removed ASAP to limit the disease spread.

Time to scout for (and not do a darn thing about if verified): [Shock virus](#), blueberries.

- Symptoms are visible in many fields.
- This disease is vectored by pollinators.
- There is no treatment or cure.
- Infected bushes generally display symptoms for one year and then **return to productivity**.

Scout for: Green Berry Botrytis Fruit Rot, blueberries.

Photos below are from the May 24th [Blueberry IPM Newsletter](#) published by [E.S. Cropconsult](#) for the [BC Blueberry Council](#).

- The weather warming and drying will help reduce the incidence of green berry botrytis.
- We're seeing and getting reports of green fruit botrytis over the past couple of weeks. Fungicide treatments are of limited efficacy in controlling the infections at the green fruit stage.



Additional, ongoing pest information

Diseases

- **Scout for:** [Phytophthora Root Rot](#), raspberries. Look for primocane collapse.
- **Scout for:** [Purple Blotch](#), blackberries.

Insects/Mites

- **Scout for:** [Azalea Bark Scale](#), blueberries. This scale's telltale bright white egg sacs on the lower branches of infested plants are now apparent in some southern blueberry fields.
- **Scout for:** [Raspberry Beetle](#), northern raspberries. This small beetle can cause fruit damage and be a major contaminant in northern raspberry fields. Leaf feeding pattern is very distinctive.

- **Scout for: Root Weevils, strawberries and blueberries.** Larvae and adults of [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#) are now being recovered.
- **Scout for: Blueberry Gall Midge, blueberries.** Tip damage from this midge is evident in blueberries. Damage is usually deemed to not be economic except in specific situations like new vigorous fields where gall midge can occasionally cause too much stunting of new growth.
- **Scout for: Mites in raspberries: Twospotted mites, Yellow mites**
- **Scout for: Strawberry Crown Moth, southern strawberries.**

Industry news/resources

Newsletters/ Berry reports

- [BC Blueberry IPM Newsletter](#) (6/14) Weekly by Carolyn Teasdale, [ES Cropconsult](#). Sponsored by the BC Blueberry Council.
- [Michigan State Extension Blueberry News](#) (6/18)
- [New Jersey Blueberry Bulletin](#) (6/10) Weekly newsletter by Gary Pavlis, Rutgers blueberry agent.
- [The Source](#) (6/17) Marketing report from The Produce News.
- [National Berry Report](#) Daily fresh market berry reports. Hosted by the California Strawberry Commission, this report is generated from data from the USDA Agricultural Marketing Service and is updated daily.

Magazine compilations

- The Packer's Market scope: [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#). Recent stories and fresh market pricing for the various berries from The Packer.
- Growing Produce: [recent berry articles](#).

Berry research blogs

- [Team Rubus](#) by Gina Fernandez, North Carolina State small fruit specialist. **Recent entry: 6/10—From the field: Black raspberry harvest.** Reports on issues in blackberries and raspberries from the Southeast.

Research/Technology

- [Pesticide research gets \\$1 million boost in California](#) (6/12, Western Farm Press)
- [Scientists urge inclusion of glycaemic index on food labels](#) (6/12, Food Navigator)

Ag business

- Plant patents: [Growers rest case on a second day of grape patent trial](#) (6/13, The Packer)

GMO's

- [GM crops vs. pests: Grading the first billion acres](#) (6/13, Western Farm Press)

Labor and immigration

- [On immigration, hurry up and wait](#) (6/13, Politico)

Hepatitis A outbreak

- [FDA begins testing berries for hepatitis A as outbreak spreads](#) (6/18, The Packer)
- [Toll at 118 in hepatitis A outbreak linked to berries](#) (6/18, USA Today)
- [Hepatitis A case-count back up to 99](#) (6/14, Food Safety News)
- [Additional hepatitis A patients report eating mixed berries](#) (6/11, The Packer)

Food safety

- Florida: [Strawberry grower pilots Equitable Food Initiative](#) (6/12, The Packer)
- [Questions you won't hear at farmers markets \(but should\)](#) (6/12, The Packer)

West

- [Researchers put strawberries through their paces](#) (6/17, Capital Press)

North America

- [Blueberries in abundant supply for July](#) (6/14, The Packer)

International

- [Michigan sees growing fruit markets in Brazil, Korea](#) (6/14, Fresh Fruit Portal)
- Poland: [Blueamber upbeat over blueberry prospects](#) (6/15, Fresh Fruit Portal)

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Event calendar

For a more comprehensive event calendar, [click here](#).

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- **July 10 — OSU Caneberry open house** ~ 1-5 pm, [North Willamette Research & Extension Station](#), Aurora. [Click here](#) for details.
- **July 12-13 — Oregon Berry Festival** ~ Portland, Sponsored by the Oregon berry commissions as well as many Oregon berry farms and berry related businesses. [Click here](#) for the website with a schedule of events and more details.
- **July 17 — OSU Blueberry field day** ~ 1-5 pm, [North Willamette Research & Extension Station](#), Aurora. [Click here](#) for details.
- **July 19 - 20 — Northwest Raspberry Festival** ~ Lynden, Sponsored by the Lynden Chamber of Commerce. [Click here](#) for the website with a schedule of events and more details.
- **July 25 — Willamette Valley berry fieldman/grower breakfast** ~ 7:30 to 9:00 am, [Langdon Farms Golf Club](#), 24377 NE Airport Road, Aurora, OR. Call 503-289-7287 or [email](#) for more.

Crop Work Week 25

All crops

- Vole management
- Weed management
- Fertility management
- Water management
- Can put out monitoring traps for Spotted Wing Drosophila

Blueberries

- *If ripe/coloring fruit is in field, can begin treating for prevention of SWD infestation.*
- After petal fall, can treat for alternaria and anthracnose prevention if needed.
- Scout for [mummyberry](#) infected fruit.
- Stay on top of aphid management where scorch virus transmission is an issue.
- Scout for [leafroller larvae](#) and treat as needed.
- Scout for virus symptoms and send in samples for testing as needed ([Shock virus](#); [Scorch virus](#)).
- Scout for [winter moth/bruce spanworm](#) larvae.
- Scout for scale insects.
- Scout for weevil notching.
- Scout for azalea bark scale in southern blueberries
- Scout for blueberry gall midge damage.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- Can put out pheromone traps to monitor for leafrollers.
- Scout for berry symptoms like green fruit botrytis, hail damage, mummyberry, etc.

Blackberries

- *If ripe/coloring fruit is in field, can begin treating for prevention of SWD infestation.*

- Have bees in by 10% bloom.
- Can put out pheromone trap to monitor for leafrollers.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- Scout for virus symptoms and send in samples for testing as needed.

Evergreen blackberries

- Scout for blackberry rust and treat as needed.

Raspberries

- *If ripe/coloring fruit is in field, can begin treating for prevention of SWD infestation.*
- Scout for raspberry beetle feeding symptoms
- Scout for Yellow Rust and assess treatment options.
- Scout for yellow mites and [twospotted mites](#).
- Scout for virus symptoms and send in samples for testing as needed.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- Can put out pheromone traps to monitor for leafrollers.
- Scout for Cane Blight and Cane Botrytis symptoms.

Strawberries

- *After harvest, can treat for SWD control if field is adjacent to other susceptible, ripening, crops.*
- (Southern strawberries) Can scout for Strawberry Crown Moth larvae and put out pheromone traps for adults.
- Scout for fruit damage symptoms like cat facing, slug damage, anthracnose, etc.
- Monitor ripe and ripening fruit for SWD larvae.
- Scout for weevil adults and notching and treat as needed.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- Can apply slug bait.
- Scout for Powdery Mildew and treat as needed.
- Scout for Two Spotted Spider Mites and predatory, beneficial mites.
- Scout for aphids.
- In day neutral varieties scout for lygus bug and assess need for treatment.

Archived Small Fruit Updates

(For older Updates [click here](#).)

[SFU06-11-13](#) [SFU06-04-13](#) [SFU05-28-13](#)

This document is a guide and not intended as a recommendation or endorsement.
Consult with your supplier, field representative, or pest consultant.

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