

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.

July 16, 2013

Week 29

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[Whatcom Ag Monthly, July Issue](#)

Includes articles on neonicotinoid pesticides & bees and *Phomopsis* die-back in blueberries.

[America's next top super berry?](#)

(7/9) Story & video on berries from the Wall Street Journal

Field day this week: Wednesday, July 17 —

OSU Blueberry field day ~ 1-5 pm, [North Willamette Research & Extension Station](#), Aurora. [Click here](#) for details.

[The Weather Cafe](#) by Rufus La Lone

[Small Fruit Cold Storage Report](#)

This week has seen another big increase in SWD pressure on Northwest berry crops. The evidence of this increase takes a number of forms:

- *Our infield fruit samples for SWD larvae are coming in with a higher percentage of samples positive and a higher number of larvae in those positive samples.*
- *There are more reports from processors of caneberry loads testing positive.*
- *We've had the first positive finds in blueberry field fruit samples as well as the first reports of positive finds in blueberries from fruit receiving stations.*
- *Adult trap counts, which I've not been emphasizing because their relatively low numbers were not indicative of the actual threat to the crops, have taken a huge jump this week..*

Recommended actions:

- *Maintain a strict seven day insecticide regime on all ripening fruit and fields being harvested.*
- *Establish an on-farm sampling program to check for SWD larvae in the berries using the baggie test described below in the SWD report. As stated last week, by doing this, you can:*
 - *Assure your fruit receiver that you are effectively managing*

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](#)

the pest.

- Identify an infestation in time to be able to respond quickly and effectively.
- Identify the problem before it exceeds the processor's threshold.
- Identify the area of the field that is infested first.

The salt water baggie test is cheap and easy. Just need to get it into the program.

Tom Peerbolt, SFU Editor

[Click here to jump to the SWD resource section](#)

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, 7/15)

- **Blueberries:** Lots of Dukes being hand harvested last week. Most growers comment on being down in volume over last season. Looks to be a light second pick. Quality is good with the exception of some sunburned fruit from the hot weather a couple weeks ago. Machining will probably start in Reka and Dukes later this week. Considerable Bluecrop fruit is ripening and will enter the handpick mix soon.
- **Raspberries:** We've peaked in most fields of raspberries last week although some fields continue to be fairly steady. Definitely will be on the down-side of the slope this week though. Quality of the fruit is excellent. Nearly everyone has been touched by SWD to some degree but consistent grower effort is responsible for maintaining grades. Spraying is being maintained at a max 7 day basis as adult SWD numbers continue to really escalate in the Fraser Valley.

Northern Washington, Whatcom County (Monday, 7/15)

- **Blueberries:** Fresh Duke harvest is in full swing. Some fruit is already starting to soften. Bluecrop is ripening quickly. One grower I know of in Canada was cut off by his fruit receiver for SWD larvae in his blues. Probably won't be the last. Labor continues to be tight. Machine picking will be under way later this week. The great quality and high price of raspberries have had some processors preferring to run them instead of blueberries leaving some wanting for a home. I concur with lower than projected yields for PNW. Size has been somewhat variable, but quality so far has been very good.
- **Raspberries:** Nothing like dry, mild harvest weather to make some of the problems from the previous couple of seasons go away. Good quality, not much mold, good demand & price. Harvest in full swing.

Willamette Valley, Oregon and SW Washington

- **Blackberries** (Tuesday, 7/16) Marions are winding up. Guys are on their fourth and fifth picks. Overall yields have been lower than expected and it seems directly related to the heat wave a couple of weeks ago. Before the heat, that first fruit was coming in too 'wet' and it was slowing us down running it through the tunnels (freezing it). After the heat, fruit size and moisture content went down and made problems getting the berries to drop off the plants. Black Diamonds still coming in looking fairly good. Boysens still harvesting. Evergreens should start around August 7th. As far as SWD—growers on a steady, 7 day insecticide program are fine. Growers who aren't have problems. I'm sure there are exceptions to those statements, but not many.
- **Blueberries** (Tuesday, 7/16) Crop is coming in steady and strong and concentrated. Fruit size isn't great and labor is tight. Some growers have had a lot of fruit not picked soon enough, so it ended up going processed, even though it's all handpicked. The warm temps aren't giving us any leeway to let the fruit hang either. We're pretty much done with Duke and moving into Bluecrop, Draper, Blue Gold, and Legacy for fresh market, handpicked. The machines are busy in the Patriots, Bluejay, Bluecrop, Berkeleys, etc. With softer, over ripe fruit building in some of these fields, SWD is going to be a big threat. Keep the fields watered up and keep the SWD out!

Blueberry development—Western Willamette Valley

Notes:

- 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.
- I'm dropping fields once they start harvest. The Duke and Draper fields previously represented have been dropped. This is the last week for Bluejay.

7-5-13—Week 27 (Bottom)

7-12-13—Week 28 (Top)

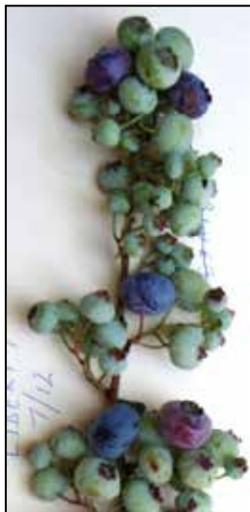
Bluejay
60% blue

Liberty
10% blue

Legacy
10% blue

Aurora
Fruit coloring

Elliott
10% blue



30% blue

Late green fruit

5% blue

Fruit coloring

Late green fruit



Grower resources

- [Irrigating blueberries](#) (7/10, Michigan State Extension) *This is targeted toward Michigan growers who are in the midst of a major drought but the information applies to our blueberries as well.*

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.

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Spotted Wing Drosophila resources for 7-15-13 Week 29

Regional grower warning---Continued high risk of economic crop damage to berry crops in Oregon, Washington and British Columbia

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.

Alert for Oregon and SW Washington

Larvae have been recovered from some commercial blueberry, raspberry and blackberry fields in the Northwest. It is strongly recommended that all caneberry and blueberry growers with ripe or ripening fruit immediately implement and maintain through the end of harvest a regular 7 day insecticide application regime for SWD management.

WSU Extension alert for NW Washington

[Click here](#) for the alert

“SWD larvae have been recovered in red raspberries in Whatcom County and growers should make sure their berries are protected through harvest with 6-7 day applications of effective insecticides. Depending on target markets and stage of ripeness, growers should select among the list of insecticides registered for caneberries in Washington. [Click here](#) for the list. For further information, contact [Lynell Tanigoshi](#), WSU Small Fruit Entomologist. “

BC Blueberry IPM Newsletter for 7/12/13

[Click here](#) for the full newsletter

“The risk of SWD damage to early season blueberry varieties is now very high. Trap catches have increased significantly in nearly all regions of the Fraser Valley over the past week.”

From previous newsletter:

“SWD populations are larger than in previous years for this time of year. Larvae have already been found in Fraser Valley raspberries. Trap catches of adult SWD flies have increased in many regions of the Fraser Valley over the past week...All ripening varieties should be protected with insecticide sprays before the first pick.”

SWD information websites

[Peerbolt Crop Management](#)

[Oregon State Univ.](#)

[B.C. Ministry of Ag.](#)

[WSU Westside](#)

[WSU Eastside](#)

[WSU Extension SWD degree day model for Whatcom and Skagit Counties](#)

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

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.

Pest management activities

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.

Scout for: Mummyberry, blueberries. [Mummyberry primer from MSU.](#)

- Infected fruit is now becoming easy to distinguish from healthy fruit in some Oregon fields.
- The infected fruit colors earlier, shrivels, whitens and drops from the bushes easily when disturbed.
- Right now this fruit could be mistaken for green berry botrytis infected fruit.
- The inside of an infected berry will be filled with white fungal mycelium.
- Sort out and remove from field as much of the infected fruit as possible.
- During harvest evaluate the level of Mummyberry infections and the areas of the field that are infected.
- Use this yearly Mummyberry information to assess and plan next year's Mummyberry prevention program.

Scout for and evaluate if management action is needed: [Twospotted mites](#), raspberries.

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Additional, ongoing pest information

Diseases

- [Phytophthora Root Rot](#), raspberries.
- [Shock virus](#), blueberries.
- [Blackberry Rust](#), (Phragmidium Rust) Evergreen blackberries.

Insects/Mites

- [Azalea Bark Scale](#), blueberries.
- [Raspberry Beetle](#), northern raspberries.
- Root Weevils, strawberries and blueberries. [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#).
- [Blueberry Gall Midge](#), blueberries.
- Mites in raspberries: [Twospotted mites](#) and [Yellow mites](#).

Industry news/resources

Newsletters/ Berry reports

- [BC Blueberry IPM Newsletter](#) (7/12) *Weekly by Carolyn Teasdale, [ES Cropconsult](#). Sponsored by the BC Blueberry Council.*
- [New Jersey Blueberry Bulletin](#) (7/8) *Weekly newsletter by Gary Pavlis, Rutgers blueberry agent.*
- [The Source](#) (7/15) *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: [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

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. **Recent entry: 7/3—Viruses of Strawberry 2013** *Reports on recent insect and disease research and observations in California.*
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent entry: 7/11—Managing blackberry harvest in the midst of a rainy and cool season** *Reports on issues in blackberries and raspberries from the Southeast.*

Technology

- [Robots to revolutionize farming, ease labor woes](#) (7/15, Capital Press)

Labor/Immigration

- [Farmworkers protest at Skagit County berry farm](#) (7/12, KOMOnews.com)
- California: [Jobs continue to go unfilled, farmers report](#) (7/16, Ag Alert)

Politics & Ag

- [Parties fight for leverage on farm bill](#) (7/15, The Hill)
- [Parties seek advantage in immigration debate](#) (7/11, Politico)
- [House passes controversial farm bill without food stamps](#) (7/11, Reuters)

Breeding/Genetics

- [New wild strawberry found in Oregon](#) (7/15, Fresh Fruit Portal)
- [Researchers test Chilean strawberry species for market potential](#) (7/12, Fresh Fruit Portal)

Markets

- [Blueberries promotable into August](#) (7/11, The Packer)

Pesticides

- [Herbicide resistant weed spreading fast in Indiana](#) (7/15, Capital Press)

North America

- [The birth of the blueberry](#) (7/12, Table Matters)

The West

- Washington: [Blueberry industry addresses looming imbalance between supply, demand](#) (7/11, Capital Press)
- B.C.: [Fresh BC blueberry season brings healthy boost to summer](#) (7/11, Fresh Plaza)

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Event calendar

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

- **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.

Crop Work Week 29

All crops

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- Weed management.
- Fertility management.
- Water management.

Blueberries

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- ***Harvest ongoing.***
- Bird management.
- 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 on leaves and for adult weevils.
- Scout for azalea bark scale in southern fields.
- Scout for blueberry gall midge damage.
- Can use pheromone traps to monitor for leafrollers.
- Scout for berry symptoms like green fruit botrytis, hail damage, mummyberry, etc.
- Can apply clean up insecticide just before harvest for crop contaminant management.
- After petal fall, can treat for alternaria and anthracnose prevention if needed.
- Scout for berry symptoms like green fruit botrytis, hail damage, Mummyberry, etc.

Raspberries

- ***Sample fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- ***Harvest ongoing in south.***
- 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 have pheromone traps out to monitor for leafrollers.
- Scout for Cane Blight and Cane Botrytis symptoms.
- Watch for fruit molds and treat as needed.

Blackberries

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***

- **Harvest ongoing.**
- Scout for leafroller larvae and treat as needed to prevent fruit contaminant problems.
- Can have pheromone traps out 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.
- Scout for Cane and Leaf Rust.
- Watch for fruit molds and treat as needed.

Evergreen blackberries

- Scout for blackberry rust and treat as needed.

Strawberries

- **Processed harvest finished throughout region. Fresh market harvest ongoing.**
- **All strawberries**
- Evaluate weak growing areas and check plants for weevil larvae, root rot and/or cold damage.
- (South) Can scout for Strawberry Crown Moth larvae and put out pheromone monitoring traps.
- Scout for weevil adults and notching.
- **Processed market June-bearers—finished harvesting**
- *After harvest, can treat for SWD control if field is adjacent to other susceptible, ripening, crops.*
- [Weed control at strawberry renovation](#) (6/26/12, Michigan State Extension)
- Treat post harvest for SWD if needed especially if field is in close proximity to other ripening berry/stone fruit crops.
- Mow and treat immediately for SCM if needed.
- Mow and renovate 2-4 weeks after harvest unless pest pressure require mowing and treating sooner.
- **Fresh market-still harvesting**
- Scout for Lygus bugs.
- Scout for fruit damage symptoms like cat facing, slug damage, anthracnose, etc.
- Monitor ripe and ripening fruit for SWD larvae.
- Can apply slug bait as needed.
- Scout for Powdery Mildew and treat as needed.
- Scout for Two Spotted Spider Mites and predatory, beneficial mites.
- Scout for aphids, lady beetles, aphid mummies (parasitized aphids), and other beneficial insects that feed on aphids.
- Scout for fruit quality issues such as mold.

Archived Small Fruit Updates

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

[SFU07-09-13](#) [SFU07-02-13](#) [SFU06-25-13](#)

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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