

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.

August 20, 2014

Week 34

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Research Update: [Blueberries -- making a superb fruit even better](#) (USDA-ARS blueberry research overview)

[Companies that control the world's food](#) (8/16, USA Today)

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

We're winding down the 2014 harvest season, but there's still a lot of blueberries to come in as well as late season Evergreen blackberries and fresh market berries of all kinds.

It's been a low pressure year for spotted wing drosophila and fungal diseases. Most regional problems of economic impact have come from two sources:

- 1) Last winter's cold temperature extremes
- 2) This summer's warmer than normal temperatures.

Spotted wing drosophila's lifecycle have set it up to always be the biggest risk to late season fruit. Keep that in mind. If the temperatures moderate the risk for larval infestations will increase even more. Stay with management programs for any berry crops still in the field.

Tom Peerbolt, SFU Editor

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](#)



Willamette Valley fresh market primocane raspberries harvesting now. Top: Vintage; Bottom: Polka.



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

Definitely a change in the air. You really notice it's getting into the back half of August (misty and cool in the mornings) with the potential for less extreme weather now than we've been through

- **Blueberries:** (Monday, 8/18) Elliotts continue through the first picks for most. Some localized splitting with the rain last week but really not a huge problem. First pick Liberty is done. Focus is definitely on later season crop now along with late stages of Bluecrop, Reka still coming off. Some post harvest fungicides going on Dukes, Draper along with aphid sprays if needed. Still keeping up the SWD sprays. But I'd have to say we've been fortunate this season with moderate infestations so far
- **Blueberries:** (Tuesday, 8/19) Cooler weather over next few days with previously predicted moisture looking like it's not going to happen. We're supposed to return to heat after that. Second pick Bluecrop is happening with excellent quality along with the third pick on Reka. The Elliott crop is looking excellent with first pick beginning today /tomorrow. The heat has helped and the flavor is sweet. Over all berry size is excellent as well. Some fungicide applications have been made. Overall SWD situation has been manageable to this point with growers continuing control applications. Post harvest insecticide sprays happening on Duke and other finished fields so any fruit left on bushes doesn't cause SWD infestations in fields nearby.
- **Raspberries:** (Monday, 8/18) Some raspberries getting weed removal and cultivation. Some spent floricanes have been pruned but not removed. Still a lot of work left to do raising wires and primocanes.

Western Oregon, Willamette Valley

- **Blueberries, fresh:** (Tuesday, 8/19) We're into fourth hand pick on Elliotts and second to third on Aurora. Almost all Liberty have finished in the Valley. Very disappointing Liberty crop with fruit size off and quality

too soft. Heat was the biggest culprit. The cultivar just doesn't seem to be able to uptake enough water when it gets hot even if the field has plenty. Elliotts also seem down in yields this year.

- **Blueberries, processed:** (Tuesday, 8/19) We got a few last Liberty in yesterday. Getting in third picks of Reka, Jersey and Bluecrop. Elliotts also. No SWD issues yet this year which is great.
- **Blackberries, processed:** (Tuesday, 8/19) Evergreens are into their third pick with very good quality although we have been fighting sunburn. Price is holding up well for growers on IQF. Over the last few years Evergreen acreage has been shrinking due to the high SWD pressure during their late season. This year with low SWD pressure along with low yields on the Marions due to cold damage, the guys who still have Evergreens are going to come out pretty well.
- **Blackberries, fresh:** (Tuesday, 8/19) A lot of Chesters are coming in as they get close to peaking. Quality has been good.

Grower Resources

- [Rainfast characteristics of insecticides on fruit for 2014](#) (Originally posted 6/3/13, MSU Extension)



SWD report for week 34

Willamette Valley public scouting program trap count comparisons

Season to date, 2010-2014

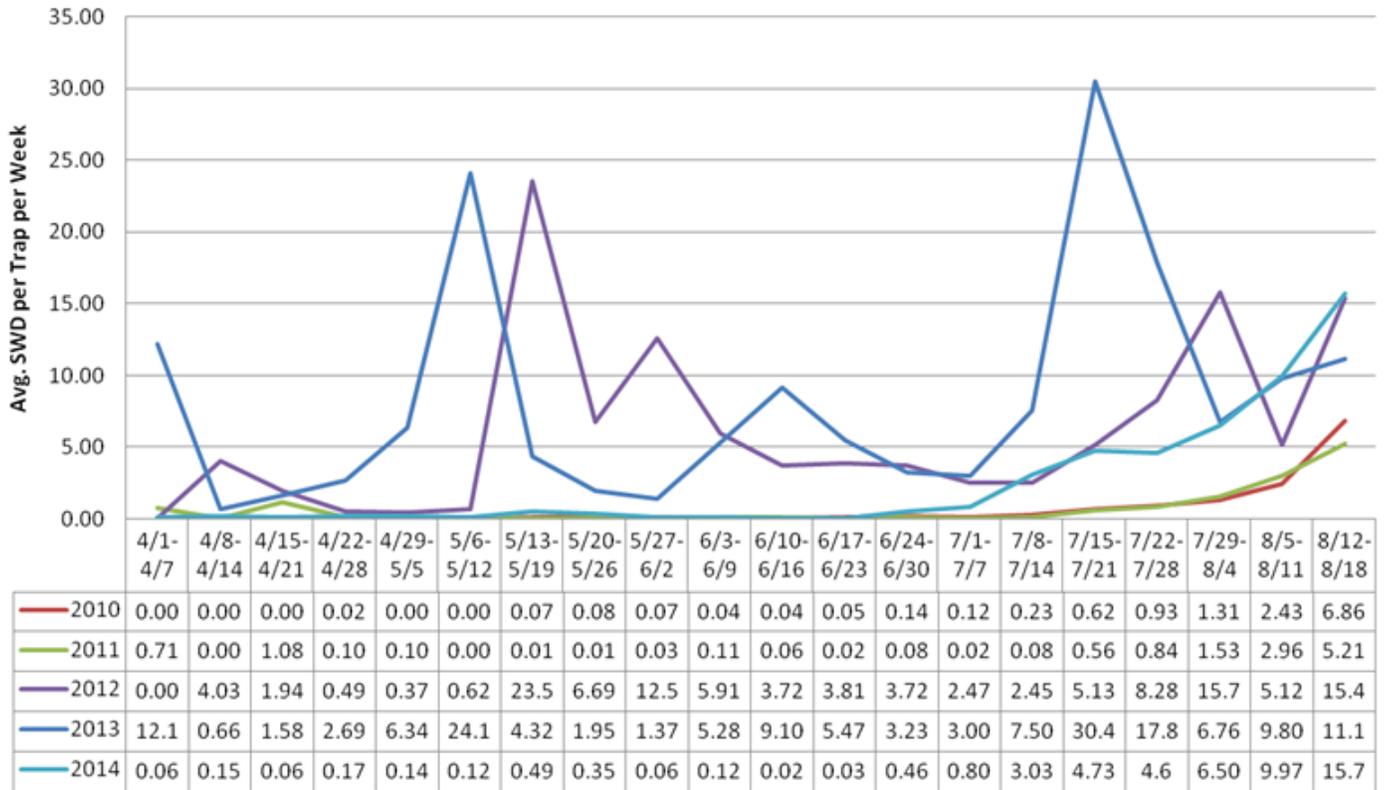
Note: This chart is an indicator of SWD population levels as compared from year to year but is *just an indicator*. We have changed some fields, some trap locations, and some trap baits and types as well as other factors that influence trap catches over the last five years as we learn and adapt. This is a dynamic, developing process—our ability to monitor and forecast this pest and the risks it poses has improved each year. Keep that in mind when interpreting this information.

Comments

- *As soon as fruit starts coloring, it's recommended to take fruit samples to check for larvae along with checking the adult traps.*
- In sampling blueberries and caneberry fruits we are recovering occasional SWD larvae but the only large numbers of larvae found so far have been in Himalayan blackberries.
- The big majority of our sampling is from larger, commercial fields. U-pick, small fresh market, backyard berry plantings, etc. would likely have higher infestation rates.
- Risk continues to increase for crops still being harvested. If the weather turns cooler and wetter, the risk will increase even more.
- We're also pulling traps out of many post harvest fields and putting them in fields/crops still harvesting which also skews overall trap numbers.
- The overall trend however is still going up.

- Counts from adult traps over the last few weeks:
 - Week 34:** SWD: 1084 Number of traps:69
 - Week 33:** SWD: 738 Number of traps: 74
 - Week 32:** SWD: 520 Number of traps: 80
 - Week 31:** SWD: 299 Number of traps: 65
 - Week 30:** SWD: 317 Number of traps: 67
 - Week 29:** SWD: 200 Number of traps: 66/ First larvae recovered from commercial blueberry fields.

Yearly SWD Trap Count Comparison to Date (8/18)



Monitoring berries for SWD larvae in the field

[We have created a video of the larvae-checking method.](#) It's from 2010 but still pretty good.

- Put a sample of fruit to be tested (Caneberries/blueberries ~50 per sample) in a gallon size sealable plastic bag.
- Pour in enough salt water solution to allow the fruit to float (solution is: 1 cup of salt per gallon of water). Mark bag with field code/date. Gently crush/break open fruit.
- 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.
- 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.

Maximum Residue Levels (MRLs) for Most Common Export Markets (last updated 5/9/14)

[Blueberries](#) [Caneberries](#) [Strawberries](#)

SWD Management Material Resources

Oregon and Washington (last updated 2/24/14)

- Blueberries:** [SWD pesticide options and information](#)

· **Raspberries and blackberries:** [SWD pesticide options and information](#)

· **Strawberries:** [SWD pesticide options and information](#)

British Columbia

· [Spotted Wing Drosophila \(SWD\) Management in B.C. Berry Crops](#) last updated 6/24/14.



Industry news/resources

Newsletters/ berry reports

- [BC Blueberry IPM Newsletter](#) (8/17) Weekly by [ES Cropconsult](#). Sponsored by the BC Blueberry Council.
- [Whatcom Ag Monthly](#) Produced by WSU Whatcom County Extension. Includes excellent berry crop information.
- [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.
- [Weekly Market Report](#) (8/18) from General Produce Company

Magazine/website 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](#).
- **Fresh Fruit Portal:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
Recent stories for the various berries from Fresh Fruit Portal.

Berry research blogs

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. **Recent Entry (8/8): Heat induced pollination problems in blackberry** Reports on recent insect and disease research and observations in California.
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent Entry (7/24): Summer tissue sampling for fertility recommendations** Reports on issues in blackberries and raspberries from the Southeast.

Climate/Water

- California: [Western growers applaud 7.5 billion dollar water support proposal](#) (8/14, Fresh Fruit Portal)

Pollinators

- [Breeding to bring back bumble bees](#) (8/11, Northwest Public Radio)

Technology

- [New nursery sprayer could be 'game changer'](#) (8/15, Capital Press)

Labor/Immigration

- [Visa system for H-2A working again](#) (8/15, The Packer)

Marketing

- [Berry packs evolve over time](#) (8/15, The Packer)
- [Bananas now in test phase for Happy Meals](#) (8/15, The Packer) They mention including blueberries, too.

West

- California: [Farm production expenses climb 8.6% in 2013](#) (8/6, Western Farm Press)

North America

- Eastern Canada: [Wild blueberries looking good with season start approaching](#) (8/15, Fresh Plaza)
- Canada: [Feds invest to grow new wild blueberry markets](#) (August, Ag Annex)
- Michigan: [Upper peninsula reports wild blueberry boom](#) (8/15, Fresh Plaza)

- New Jersey: [New Jersey ranks sixth in blueberry production](#) (7/25, NJTV News)

International

- European Union: [Difficult season for blueberries with top production, Polish completion and the Russian ban](#) (8/19, Fresh Plaza)
- Peru: [Blueberry grower expects major increase in national production](#) (8/13, FFP)
- Russia: [Produce embargo & impacts on North American blueberries](#) (8/11, FFP)
- Mexico: [Michoacán is largest producer of strawberries in Mexico](#) (8/18, Fresh Plaza)

Event calendar

- **August 20 & 21 — North American Strawberry Growers Association** ~ Summer tour, in BC. [The NASGA website](#).
- **September 10 — Washington Red Raspberry Commission** ~ Board meeting in Lynden. [Contact Henry Bierlink](#) for more information.
- **September 18 — Oregon Raspberry and Blackberry Commission** ~ At Langdon Farms Golf Club. Call 541-758-4043 or [email Phillip Gutt](#) for more information.
- **September 23 — Oregon Blueberry Commission** ~ 12 pm, at Chemeketa Events at Winema, Building 48, Room 210. Contact Bryan Ostlund for more information at 503-364-2944 or [by email](#).
- **September 24 — Oregon Strawberry Commission** ~ At Langdon Farms Golf Club. Call 541-758-4043 or [email Phillip Gutt](#) for more information.
- **October 1 — North American Blueberry Council (NABC) 2014 Fall Meeting**. Rosemont, Illinois, Hyatt Rosemont Hotel. The USHBC will hold meetings at the same hotel on Oct 1-3. [Click here](#) for the registration form and more information. [Click here](#) for the tentative schedule.
- **October 29 — Washington Red Raspberry Commission** ~ Board meeting in Lynden. [Contact Henry Bierlink](#) for more information.
- **November 11 — Oregon Blueberry Commission** ~ 12 pm, at Chemeketa Events at Winema, Building 48, Room 210. Contact Bryan Ostlund for more information at 503-364-2944 or [by email](#).
- **November 16 — 19 Entomological Society of America Annual Meeting** at the Oregon Convention Center, downtown Portland. [Click here](#) for more information and to register.
- **November 19 — Oregon Strawberry Commission workshop** "Fresh market strawberries: What it takes to be successful." 8am-7pm, lunch and dinner provided. Admittance is free. Woodburn, OR. More details to follow. Contact Lora Liegel by phone (503-289-7287) or [email](#) for more info.

Week 34--- Pest management & field work

Leaf/tissue analysis and soil testing

Post harvest is the best time to do most soil and leaf testing for nutrient management planning. Nutrient levels are at their lowest and you can get the best information on what nutrients the recent crop might have had too much of, or too little.

- **Blueberries:** [OSU's Blueberry Nutrient \(and testing\) Guidelines](#) (2006)
- **Blackberries and Raspberries:** [OSU's Caneberry Nutrient \(and testing\) Guidelines](#) (2006)
- **Supplement to the guidelines linked above:** [Nutrient Management of Berry Crops in Oregon](#) (2013) from OSU Extension Berry Crops Specialist, Dr. Bernadine Strik
- **Video:** [Caneberry Nutrient Management](#) (37 minutes)
Dr. Bernadine Strik, 3/20/14, Raspberry & Blackberry Production Workshop, Woodburn, OR.

Pest management activities

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

- *During harvest evaluate the level of mummyberry infections and the areas of the field that are infected.*
- Infected fruit is now easy to distinguish from healthy fruit.
- The infected fruit colors earlier, shrivels, whitens and drops from the bushes easily when disturbed.
- 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.
- Use this yearly mummyberry information to assess and plan next year's mummyberry prevention program.



Right now is an excellent time to scout for the mummyberry especially if you've got weed mat.

Scout for and treat as needed: [Yellow rust](#), raspberries.

Yellow rust left untreated at this time of year can defoliate raspberry primocanes potentially impacting next year's yields & overwintering hardiness. The black over wintering spore stage now showing up is resistant to fungicides—if you've got a serious problem, treat ASAP.



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

- **Scout for and determine if management actions are needed:** Root Weevil adults, all crops [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#).

Additional, ongoing pest information

Diseases

- [Phytophthora root rot](#), raspberries & blueberries.

- [Blackberry rust](#), (**Phragmidium Rust**) Evergreen blackberries.

Insects/Mites

- [Azalea Bark Scale](#), blueberries.
- [Blueberry Gall Midge](#), blueberries.
- [Strawberry Crown Moth](#) southern strawberries and caneberries

Crop Work/Pest Management Activities Week 34

All crops

- Pay attention to new plantings of all berries for weeds, water, insects, diseases, and nutrient deficiencies.
- Maintain SWD monitoring and management plan. ([blueberries](#), [raspberries](#), [blackberries](#), [strawberries](#))
- Weed management.
- Post-harvest—soil and leaf test for evaluation of nutrients.
 - [OSU's Blueberry Nutrient \(and testing\) Guidelines](#)
 - [OSU's Caneberry Nutrient \(and testing\) Guidelines](#).
- Post harvest—can treat for SWD if field is adjacent to vulnerable fruit crop.
- Scout for Root Weevil adults [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#).

Blueberries

Harvest ongoing

- Scout for [mummyberry](#) infected fruit.
- Scout for leaf symptoms—poor growth, nutrient deficiencies, water stress, herbicide damage, etc & determine if actions are needed.
- Maintain [bird damage management](#).
- Scout for weevil notching on leaves and for adult weevils.
- Scout for [leafroller larvae](#) feeding.
- Stay on top of [Aphids/Scorch Virus](#) management where Scorch virus transmission is an issue.
- Scout for virus symptoms and send in samples for testing as needed. ([Scorch](#), [Shock](#)).
- Scout for [Blueberry Gall Midge](#) damage.
- Scout for berry symptoms like green fruit botrytis, hail damage, [Mummyberry](#), etc.
- Can treat for [Alternaria Fruit Rot](#) and [Anthracnose Ripe Rot](#) prevention if needed.
- Scout for scale insects.
- Can use pheromone traps to monitor for leafrollers.
- Scout for berry symptoms like green fruit botrytis, hail damage, mummyberry, etc.

Raspberries

Processed harvest finished

- Scout for cane collapse symptoms & determine cause ([Phytophthora Root Rot](#), Verticillium, crown borers, overwatering, etc.)

Post harvest

- Scout for [Yellow Rust](#) and assess treatment options.
- Scout for [Two-spotted Mites](#) and treat as needed.

For late season, fresh market:

- Scout for weevils and treat as needed ([Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#)).
- (North) Scout for [Raspberry Fruitworm](#) feeding symptoms.
- Scout for virus symptoms and send in samples for testing as needed ([RBDV](#), [TRsV](#))
- Scout for [fruit mold](#) and treat as needed.
- Scout for [Yellow Rust](#) and assess treatment options.
- Scout for [Two-spotted Mites](#), [Yellow mites](#) and treat as needed.
- Scout for [aphids](#) and treat as needed.
- Scout for [leafroller larvae](#).

Blackberries

Mid season processed harvest finished/Late ripening variety harvest ongoing

- Scout for leafroller larvae ([O.T.](#), [OBLR](#)) and treat as needed to prevent fruit contaminant problems.

- Scout for virus symptoms and send in samples for testing as needed. ([RBDV](#))
- Scout for and treat as needed [Blackberry Rust](#) in Evergreen blackberries.
- Scout for [Twospotted Spider Mites](#) and treat as needed in susceptible cultivars.
- Scout for [Cane and Leaf Rust](#).
- Scout for [aphids](#) and treat as needed.
- Scout for cane collapse symptoms & determine cause ([Phytophthora Root Rot](#), Verticillium, crown borers, overwatering, etc.)

Strawberries

Processed harvest (June bearers) 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](#) ..
- Scout for weevil adults and notching.

Processed market-June bearers—finished harvesting

- [Weed Control at strawberry renovation](#) (6/26/12, Michigan State Extension)
- Mow and treat immediately for [SCM/SWD](#) if needed.
- Mow and renovate 2-4 weeks after harvest unless pest pressure require mowing and treating sooner.
- Apply main fertilizer application as needed.

Fresh market-still harvesting

- Scout for [Lygus Bugs](#) and treat as needed.
- Scout for fruit damage symptoms like cat facing, [slug damage](#), anthracnose, etc.
- Can apply slug bait as needed.
- Scout for [Powdery Mildew](#) and treat as needed.
- Scout for [Twospotted 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 ([Botrytis](#)).

Archived Small Fruit Updates

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

[33-SFU08-13-14](#) [32-SFU08-06-14](#) [31-SFU07-30-14](#)