

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 29, 2015

Week 31

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- [U.S. Highbush Blueberry Council: Working for you](#) (8/25/15, 6 minute video from the U.S. Highbush Blueberry Council)
- [Washington Agriculture weighs impacts of piece-rate court ruling](#) (7/28, Capital Press)

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

Spotted Wing Drosophila Alert

High risk of fruit infestations in Northwest Berry Crops

For the SWD resources and other crop management information go to the [Grower Resources](#) section.

Regional Berry Events

- **August 4 — Spotted Wing Drosophila Workshop: Team Approach from Around the World** ~ 9 am to 1 pm, Eugene, OR. [Go here](#) for the details. Sponsored by OSU, WSU, USDA and NCAP.
- **August 18 — Oregon Strawberry Commission Fresh Strawberry Plasticulture Workshop and Demonstration** ~ 9:30-5:00 Hillsboro, OR [Go here for the agenda](#).
- **New Posting: August 20 — Red Raspberry Soilborne Diseases Field Day** ~ 3-4:30 pm, Lynden, WA [Go here](#) for the details. **Participants/Sponsors:** WSU, USDA, & Walters Ag Research.

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

[B.C. Strawberry Growers Association](#)

[Raspberry Industry Development Council](#)

[B.C. Blueberry Council](#)

National

[North American Blueberry Council](#)

Regional reports

British Columbia, Fraser Valley

[Go here](#) for the B.C. Blueberry Council's Blueberry IPM Report for 7/24.

British Columbia, Fraser Valley (Sunday 7/26)

- **Blueberries:** Finishing up last pick Reka within the week. Working on or finishing up second pick Bluecrop with not much left for next pick in some fields. Liberty should begin coming off starting mid-week and expecting some Elliot to start in some areas late this week. Size and quality was excellent. Had heavy rains on Friday ranging from 1-1.5" depending on location. More heavy rains today (Sunday) that was at least another half inch in the central Valley but I haven't heard from other areas yet. It should keep the dust settled for a little bit. Expecting to be back to high temperatures this coming week. I'm hoping this weather doesn't repeat in 2016.

British Columbia, Fraser Valley (Sunday 7/26)

From [Tom Baumann](#), Director of the Pacific Berry Resource Centre & UFV's Ag Dept. Coordinator:

- **Comments:** In the Fraser Valley we had almost 2 inches by now (50 mm), which is still going to be a drop in the bucket and not have us relax on irrigation, but hey, at least the dust got washed of the leaves and fruit! Another heat wave for our long weekend in August coming, no relieve in sight and dry again.
- **Blueberries:** Some Bluecrop are still left. One more week before Elliotts will start. An early end of season in sight. Now I have personally seen dozens of acres of plants dead or dying because of lack of irrigation water from ditches and shallow wells. Not just old fields but also in young ones where plants used to look awesome. What is most worrisome is the marginal (or sub-lethal) damage with leaves turning brown half way or curling up. This means we will see serious implications for next year in those plants, stunted growth and potentially no flowers. It will all depend on this fall...
- **Raspberries:** Not much left worth picking. Need to keep irrigating to have the primocanes in good shape for next year. The fall bearers are now starting to get in the swing of things. For blackberry and raspberry SWD are high in numbers.
- **Strawberries:** Struggling with either Thrips or Lygus in day neutrals. The predicted thunderstorms after the rain will give us mildew, so get the fungicides ready to protect. Every spike of temps over 28C (84F) brings a lull of fruit a few weeks later.

British Columbia, Fraser Valley (Monday 7/27)

The good news is that the rain we finally had will give a welcome boost to recovery in those plants that are harvested and a help in filling the fruit that remains to be picked. Irrigation has really struggled to keep up, so although the moisture was late in coming, it's still going to help.

- **Raspberries:** The rains will be good for raspberries which have really felt the effects of heat and dry soil and air conditions. Might keep the mites a little more under control as well.
- **Blueberries:** We're into Liberty the last few days and more this week. Quality looked good so far. Volumes won't be huge I don't think. Elliot will start toward the end of the week. Not a lot of fruit around after the last of the Bluecrop comes in. Have to start looking at post harvest treatments now and prepping fields for new plantings this fall. A lot more time for that this season.

Western Oregon, Willamette Valley

- **Blueberries:** (Tuesday, 7/28) *Processed:* We've got machine picked Elliotts coming in. Have just finished the first Jersey pick. Now everything has finished first picks. Quality has been very good. Just going to finish so much earlier than usual.



- **Blueberries:** (Tuesday, 7/28) *Fresh:* Some Legacy along with Liberty and Aurora are hand picking. Quality remains pretty good. The north valley got a little rain over the weekend. Mid valley didn't get much of anything.
- **Blackberries:** (Tuesday 7/28) Just got a few Black Diamond in this week otherwise mid season varieties are finished. Evergreens will start next Monday or Tuesday. They look great right now but we're worried about how the coming heat is going to affect them.

Blueberry Development Comparisons for the Western Willamette Valley

Protocols for these photos: 1) Each Friday I take 5-7 cuttings from the same fields in the NW Willamette Valley. 2) Later in the day I look over the cuttings and choose what seems the most 'representative' (not the most advanced or the least advanced). I'm aiming for the development stage that best represents the fruit that would be the first harvested. **We continue ahead in development over the last two years.**

Northwestern Willamette Valley **Top – 7/24/15 Middle – 7/25/14 Bottom – 7/26/13**

Patriot

Bluejay

Liberty

Aurora

Elliott

Patriot Machine harvest began 7-1-15 (Week 27)

Blue Jay Machine harvest began 7-7-15 (Week 27)

Liberty Hand Harvest began Week 28



Aurora started hand harvest in week 30

Elliott fields started picking in week 29 in 2015

Week 30, 2015

Patriot Machine harvest began 7-12-14 (Week 29)

Blue Jay Machine harvest began Week 29 in 2014

Liberty Hand Harvest began Week 29 in 2014



Aurora started hand harvest in week 31 in 2014

Elliott fields started picking in week 30 in 2014

Week 30, 2014

Patriot Machine harvest began Week 28

Bluejay Machine harvest began Week 29 in 2013

Liberty Hand Harvest began Week 29 in 2013



Week 30, 2013

Patriot

Bluejay

Liberty

Aurora

Elliott



Industry news/resources

Newsletters/ berry reports

- [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.
- [Market Report from General Produce for Week 30](#) (7/27)
- [USDA Market News \(Fruits & Vegetables\)](#)

Magazine/website compilations

- The Packer: [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
- **Growing Produce:** [recent berry articles](#).
- **Fruitnet-Eurofruit:** [recent berry articles](#).
- **Fresh Fruit Portal:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).

Berry research blogs

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. **Recent Entry: (7/14) Central Coast Organic Strawberry Tour set for August 20.** Reports on recent insect and disease research and observations in California.
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. Reports on issues in blackberries and raspberries from the Southeast.

Climate/water

- Oregon: [Governor declares drought in 3 more Oregon counties](#) (7/22, Capital Press)
- Washington: [DOE warns Westside irrigators of pending shut off](#) (7/24, Capital Press)
- [International report confirms 2014 as Earth's warmest year on record](#) (7/21, Growing Produce)

Commissions

- [California high court agrees to hear grape assessment case](#) (7/26, The Packer)

Labor

- Washington: [State's high court says ag workers must have paid breaks](#) (7/22, The Packer)

OSU Extension

- [OSU to recruit slug researcher, other experts](#) (7/21, Capital Press)

Technology

- [Researchers hope to test robotic apple picker](#) (7/21, Capital Press)
- [Agriculture expected to make up 80% of market for drones in the near future](#) (7/25, Star Tribune)

Business/Marketing

- [Smuckers introduces new fruit and honey fruit spreads](#) (7/21, The Business Journals)
- [Berry movement keeps up energy through summer](#) (7/22, The Packer)
- [Naturipe hears good reviews for new one pound clamshell for blueberries](#) (7/22, the Packer)

Pesticides

- Oregon: [Winemaker sues, claiming herbicide from neighbor destroyed crop](#) (7/24, Capital Press)

International

- [Guimarra expects to start complimenting its dorth American berry production with Latin American product in August](#) (7/22, The Packer)
- [Peru slates \\$63 million \(US\) for El Nino preparation](#) (7/27, Fresh Fruit Portal)



Grower Resources ---- Week 31

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.

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 [go here](#).

Pest Alerts

Monitor & apply preventative insecticides as needed:

Spotted wing drosophila

SWD Resources

- [SWD I.D. Card](#) (UC Extension)
- [Spottedwing.org](#) Information from the 5 year SCRI regional project that just concluded. Cooperating organizations: OSU, WSU, Agriculture and Agri-Food Canada (AAFC), UC Davis, UC Berkeley, Peerbolt Crop Management & the USDA.
- [Spottedwing.org/SWD external links resources](#)

British Columbia

- [BC SWD Management](#) (Updated June 19, 2015) *It has 2015 spray options.*

- [Weekly Monitoring Reports](#) (Updated every Monday)
- [SWD information brochure in English](#) (Published June, 2015)
- [SWD information brochure in Punjabi](#) (Published June, 2015)
- [Online SWD Resources list from AAFC's Technical Working Group](#)

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

- [USpest.org SWD Extension Documents](#) *Many of Amy Dreves' generated SWD materials on managing and monitoring SWD.*
- Blueberries: [SWD pesticide options and information](#)
- Raspberries and blackberries: [SWD pesticide options and information](#)
- Strawberries: [SWD pesticide options and information](#)

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 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.

Pest management activities

Scout for and treat as 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.

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](#).

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.

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](#).
- [Strawberry Crown Moth](#) southern strawberries

Crop Work Week 30

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

- *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.

Raspberries

- *Harvest ongoing in north. Finishing in South.*
- Scout for [yellow rust](#) and assess treatment options.
- Scout for [twospotted mites](#) and [yellow 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.
- Scout for weevils and treat as needed.
- (North) Scout for [raspberry beetle](#) feeding symptoms.
- Scout for [aphids](#) and treat as needed.
- Scout for leafroller larvae. ([Orange tortrix](#) and [obliquebanded](#))

Blackberries

- Scout for leafroller larvae and treat as needed to prevent fruit contaminant problems. ([orange Tortrix](#) and [oblique Banded](#))
- Can apply fungicides for [fruit/blossom rot](#) .
- 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.
- Scout for and treat as needed [blackberry rust](#) in Evergreen blackberries.
- Scout for two spotted spider mites and treat as needed in susceptible cultivars.
- Can apply horticultural oil for Redberry mite management at green fruit stage in susceptible cultivars.

Strawberries

All strawberries

- Evaluate weak growing areas and check plants for weevil larvae, root rot and/or cold damage.
- 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.

Degree Day Updates

- [WSU Extension—Whatcom County](#)
- [Regional sites—Updated by Len Coop, OSU-IPPC](#) *click on the link, go to right hand column & click on the Degree day icon.*

Events

Upcoming Regional Events & Commission Meetings

[Go here for Full Event Calendar](#)

Upcoming National & International Berry Events

- **September 7-9 — 5th Annual International Blueberry Organization Summit** ~ Coffs Harbor, Australia. [Go here](#) for meeting information.
- **September 13-16 — International Symposium on Mechanical Harvesting & Handling of Fruits and Nuts** ~ Richland, Washington. [Go here](#) for meeting information.
- **October 7-9 — [North American Blueberry Council](#) & [US Highbush Blueberry Council](#) Fall Meetings** ~ Las Vegas, Nevada. Details [Go here](#) for details
- **October 13-15 — 6th Biennial Berry Health Benefits Symposium** ~ Madison, Wisconsin. [Go here](#) for all the details.

Archived Small Fruit Updates

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

[30-SFU07-22-15](#)

[29-SFU07-15-15](#)

[28-SFU07-08-15](#)