

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.

April 29, 2015

Week 18

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- [10 Precision Ag UAV's for 2015](#) (4/14, Precision Ag)
Drones (UAV's) being marketed for the ag market.
- [Un-bee-lievable: Truck spills 450 hives along I-5 \(in Seattle area\)](#) (4/17, The Seattle Times)
As a contributor pointed out, the economic impact was minimal on crop production. The bees were bound for two blueberry farms in Whatcom County. They were replaced by the bee supplier the next day. This number of hives would cover about 100 acres of blues.

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

Here in the Willamette Valley, it feels like we're beginning the stretch run heading toward the main harvest window--

- Processed strawberries start in 3-4 weeks; blueberries in 5-6 weeks; caneberries in 7-8 weeks.
- The major concerns about having such an early degree day/plant development season seem to have been avoided (so far)—no real problems with either spring cold damage or poor pollination.
- Main blueberry bloom is winding down as the main blackberry/raspberry/strawberry bloom is building.
- Weather remains mild with no extremes in the forecast.
- I'd rate the main potential 2015 regional crop risks right now: SWD, labor, weather events—either prolonged heat or prolonged wet.
- Some irrigation is going on. We haven't gotten all that much rain—watch the soil moisture carefully. A dry blueberry field right now could seriously impact berry size.

On the other hand, maybe it's more like starting a roller coaster ride than a stretch run.

I've re-arranged some sections in this newsletter. Check out the [Grower Resources section](#) for SWD and other relevant pest management information.

The 2015 SWD threat potential remains very high at this point—but it is early & things can change! Know your fields, know your options, stay informed.

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

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

National

[North American Blueberry Council](#)



Hail on the ground in a B.C. blueberry field
April 24, 2015. Photo by Jason Smith

Regional reports

British Columbia, Fraser Valley (Friday, 4/24)

Typical April weather up here in the North. Sun, clouds, hail, rain, wind, all within 2 hours. If you don't like the weather, just wait 5 minutes...Not too much rain, so field work very possible most of the time in decent soil. Pollination going well this far, although the recent cold temps have kept bees inside the hive. Bumble bees doing very well with pollination, out in force! All berries are showing every bug under the sun. Mites seem to have contracted pneumonia, aphids are not expanding quickly, but worms (leaf rollers and such) are everywhere.

- **Strawberries:** Will be ready by 20 May in the Eastern Regions, a bit early, maybe ten days.
- **Raspberries:** Pushing out laterals in force now, blooms becoming visible, no open blooms yet. Likely still ten days ahead of a normal year.
- **Blueberries:** Setting fruit in good numbers. Long drawn out bloom, lots of overlap, likely ditto for harvesting. Don't get discouraged with corollas falling off, check the fruit has set, likely it has. We had strong winds that blew corollas down like snow. The earliest varieties have fruit green with good size thus far. Looks early by 10 days at least now.

British Columbia, Fraser Valley (Monday, 4/27)

A mixed bag of weather but overall pretty good for pollination. Bees have been very strong this year. They've been out at temperatures much lower than normal. On Saturday bees were out of the hive and making short flights at 9C (48F). This week is expected to be wet more than dry clearing up at the end of the week for a couple days then back to wet for the first half of next week. High temperatures anywhere from 13-20C (55-68). The end of last week brought some heavy hail, thunder and lightning. I've never seen hail like that before with a lot of it half the size of a nickel. Some areas ended up being 2"+ deep. Lots of leaf shredding in some fields, but fields half a km away not affected at all. I thought it was going to be a disaster, but the damage to fruit/ flowers seems minimal for the most part.

- **Blueberries:** Bloom stages are variable from field to field in the same variety. The cooler weather has slowed fields down for sure. Reka anywhere from 80-100%, Duke 70-100%, Bluecrop 30-70%, Elliot 20-60%. Starting date at this point? I'm thinking the last week of June to early July varying from area to area. Last year it looked like machines would start at the beginning of July in Duke and it ended up mid-July so a lot could still change. Regular fungicides going on. Haven't seen a lot of aphids. Some virus symptoms starting to show up. Weevil damage from previous year is evident at this point as affected plants are struggling to get going. We could use a bit more heat to get plants to really take off.

Northern Washington, Whatcom County (Friday, 4/24)

- **Blueberries:** A real mixed bag on pollination. Almost all variety bloom periods are more spread out than normal. This will lead to a prolonged harvest, even for Duke. Draper blooms are very round this year, with **very** small openings, making it almost impossible for bees to gain access to pollen. Trouble?? If I could I'd set out some bumbles next year for the Draper.

- **Additional Draper blueberry variety comments** From Mark Sweeney, B.C. Ministry of Ag Berry Specialist: “To pick up on Craig’s comment on the Draper bloom (in Whatcom County) – I visited a number of Draper fields on Monday (4/20), a beautiful warm day. I noted two things in particular:
 - One, as Craig described, the Draper flowers seemed to be particularly round this year, with small openings.
 - Two, surprisingly, I have never seen so much honeybee activity in Draper – 3 or more bees per bush, and working feverishly visiting flowers. This was consistent across all fields. I have never seen such good activity – have no idea why.”

Western Oregon, Willamette Valley

Except for cold damage in some of the caneberries, the crops are looking very good in the Willamette Valley. Our alternating weather of warm/ dry and cool/wet are agreeing with most.

- **Blueberries:** (Monday, 4/27) Blueberry pollination looks great. The harvest timing looks to be both spreading out and moving back a little off some of the earlier predictions. Most industry/growers I talk with seem to think Dukes will start around June 10-12. Which is going to create quite a big slam of fresh blueberries—probably northern California, Southern Oregon, Eastern Washington and Western Oregon will all be producing (that’d be Week 24). Any kind of warm up and I’m still thinking we could start the week before (Week 23) but I seem to be in the minority on that.
- **Blackberries:** (Tuesday, 4/28) Seems like the Marion bloom has stalled, not much change in a week, still at the occasional bloom stage. But after the warmth Monday what I call first bloom should occur Wednesday or Thursday--which means harvest should start the last week of June. Last year I had first bloom in Marion on May 4th, which if all follows form, makes harvest start this year 4 to 5 days ahead of a July 1st start last year. All of the blackberry bloom did not advance much last week, not just the Marions, even those that were at 10% progressed very little. Like others have said the blackberry bloom looks to be spread out just like the blues. There are Black Diamond fields at 20% and others that have barely started, even on the same farm. The Black Diamonds are not looking as good as I thought last week, guess it was an optical illusion or I was just wrong. Severity varies from field to field but all I have seen have a meaningful percentage of very short fruit spurs with 5 flower buds or so per spur, still not sure of the cause but I am back to blaming it on the November cold. Never seen cold damage in Black Diamonds but going with that until I hear something that makes more sense. The more Columbia Star fields I see the more impressed I am, have not seen a bad one yet. The potential is there for good to excellent yields. For next week I will try and have some pictures. New plantings going in, pre-bloom insecticides, primocane spraying, leaf feed, plenty going on.
- **Strawberries, June bearing:** (Friday, 4/27) strawberry bloom is also taking its time now with some Totems still just around 10% boom. Some fields are much more advanced than others. Could get some fruit starting about 20 days before Duke, the normal spread (May 20?) while other fields could be a week later.
- **Strawberries, Day neutral:** (Friday, 4/27) Should see the first field grown market picks this week. Fruit is looking good. Picked up the first Lygus bug nymph this week so need to watch them. Also be starting to sample fruit for SWD right from the first pick. Growers better be alert this year.



They’re coming! But not quite this fast... photo from May 10, 2013. Albion strawberries, Willamette Valley.

Blueberry Bud Development Comparison 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 to be well ahead in development over the last two years.**

Northwestern Willamette Valley

Top – 4/24/15 Middle – 4/25/14 Bottom – 4/26/13

Patriot

Bluejay

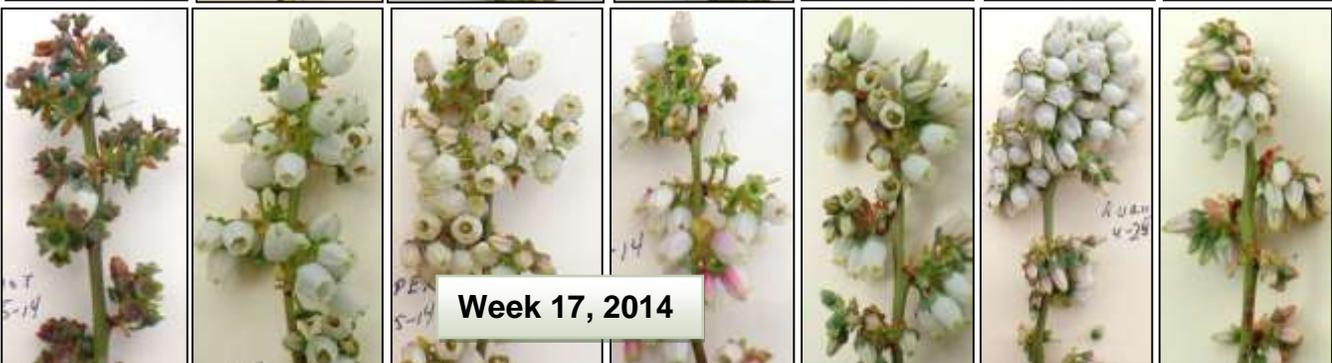
Draper

Duke

Liberty

Aurora

Elliott



Patriot

Bluejay

Draper

Duke

Liberty

Aurora

Elliott

Industry news/resources

Newsletters/ berry reports

- [BC Blueberry Council IPM Report](#) April 25, 2015
- [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.
- [The Source](#) (4/20) Produce marketing news from Pro*Act.

Magazine/website compilations

- **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 (4/24): Farm Call: Alternative fumigant use and nutritional deficiency?** *Reports on recent insect and disease research and observations in California.*
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent entry (4/14): Exciting potential program...A National Research and Promotion Program for Blackberries** *Reports on issues in blackberries and raspberries from the Southeast.*

Climate/Water

- [Snowpack melts early across the west; crops emerge ahead of schedule](#) (4/23, Western Farmer-Stockman)

Plant Breeding/Research

- [Horticulturists develop two new berries](#) (4/23, Phys.org) *This is about Sweet Sunrise Strawberry and Columbia Star blackberry.*
- [Scientists seek to save flavor of tomatoes & strawberries](#) (4/17, Growing Produce)

Business

- [Fall Creek Farms hires Latin American sales manager](#) (4/22, The Packer)

Technology

- [Tech advances push robots into new planting, harvesting roles](#) (4/23, Nasdaq.com)

North America

- [Spring blueberry volumes heating up for Berry Fresh](#) (4/24, Fresh Plaza)

International

Ecuador

- [Aphis considers rules allowing fresh berry imports from Ecuador](#) (4/27, Fresh Fruit Portal)



Week 18 Grower Resources

- [New cost study for fresh market blackberry production](#)
[Go Here](#) for more information and the direct link to the excel file format. The format allows growers to edit the numbers as needed for their own particular situation.
This new study is available on the costs and returns of establishing and maintaining erect blackberry (e.g., 'Ouachita') for organic production in Oregon. The information used for this cost study came from organic research trial results at Oregon State University and grower experience.
- [Better blueberry weed control for 2015](#) (4/24, Michigan State Extension)
- [Noncrop Host Plants of Spotted Wing Drosophila in North America](#) (Extension Bulletin published April, 2015)

Scouting Field Notes

Some informal notes of what we've been seeing & doing in the fields this week.

Blueberries

- [Mummyberry](#) 'flags' are very evident now, giving us the first real economic way to assess field specific threats to this year's crop. At least one field of Legacy has multiple hits per bush in some areas. The spring weather wasn't our ally this year—there were windows where the conditions were very good for infections.
- Some herbicide damage is being seen. Fairly heavy in a couple of fields. Gramoxone is one of the culprits.
- [Gall midge](#), [Azalea bark scale](#), some aphids, [Shock virus](#) collapse...all the usual suspects are out there.
- Very little *Pseudomonas die back* symptoms this year.
- Bloom is wrapping up in Duke...bees are moving on to caneberries in many places where they're close together.

Strawberries

- Clean up picks going on in Albion strawberry fields. First actual harvest will be this week.
- [Aphids](#) and [mites](#) are at below treatment levels in the fields we're seeing.
- [Lygus nymphs](#) are being picked up at very low levels. In June bearers they aren't usually an issue. Just in the later fruit in day neutrals.
- Thionex applications are keeping scouts out of some fields this week.

Raspberries

- Few flowers are opening in the black raspberries (Blackcaps) as well as the reds.
- Not seeing any mite problems.
- [Rust](#) is 'lurking' but not at major levels yet.

Blackberries

- We are into bloom sprays in a lot of fields.
- [Cane and leaf rust](#) is heavy in some fields.
- [Calico virus](#) symptoms are also becoming visible.
- Secondary buds are breaking in areas that had cold damage and primary buds were killed.
- [Purple Blotch](#) lesions are visible.

Pest Alerts

Scout for: Yellow Rust-- Raspberries –



Stages of Yellow Rust (from left) spermagonia, aecia, uredinia: Right now it's mostly in the first stage.
(Middle photo by Carolyn Teasdale, others by Tom Peerbolt)

- Yellow rust is now changing spore stages from yellow/orange colored ‘blisters’ (spermagonia) on the top surface of leaves to a very visible, almost day-glow orange/yellow spore stage (aecia).
- The fourth spore stage (uredinia) appears later in the season as yellow ‘dust’ on the bottom of leaves. This last stage is the one that multiplies quickly & can quickly defoliate canes if left untreated.
- Evaluate disease incidence and stage to determine whether (& when) fungicide applications are warranted.

Vector management: [Scorch virus](#) – Areas with confirmed scorch virus present.

Blueberries, Vector (aphid) management

- From an April, 2011 B.C. Pest Alert: “Blueberry scorch virus is transmitted by aphids. An effective aphid control program should be used by all growers. *Fields should be treated before bloom with a registered aphicide to control the over-wintering aphids before they reproduce and disperse.*”
- Click on the blue link above for full information from the B.C. Ministry of Agriculture. Check with your berry management specialists, both public and private, for more specific recommendations and selection of appropriate management materials.
- You can also email the B.C. Blueberry Council’s research coordinator, [Karina Sakalauskas](#) (or call her at (604) 613-2133) for information.

Time to scout for: [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.

Prime time to scout for and prevent: [Mummyberry](#) - blueberries.

Fields at risk should have a protective fungicide on the susceptible tissue at this time to minimize infections.

Factors that increase risk of infections:

- If we have periods when plant tissue is continually wet for the 12 hours or more required for infection.
- If our temperatures are near the optimal range for infections to take place (50-57°F / 10-14°C).
- [Mummyberry primer from MSU](#)
- Secondary infection symptoms are showing up in southern fields.(see below).



*Mummyberry Strikes 4/26/13 Left-Liberty; Right-Spartan
Left photo: Tom Peerbolt; Right photo: Jason Myer*

Ongoing Pest Information

- **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:** Root Weevils, strawberries. Larvae of [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#) are now being recovered from some strawberry fields.

- **Scout for:** [Blueberry Gall Midge](#), southern blueberries. *Tip damage from this midge is showing up in southern 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.*
- **Prime Time to Scout for:** Mites in raspberries (northern growing areas): [Twospotted mites](#) [Yellow mites](#)
- **Prime Time to Scout for:** [Winter Moth/Bruce Span Worm](#) blueberries
- **Prime Time to Scout for:** [Clay Colored Weevils](#) northern raspberries & blueberries:.
- **Prime Time to Scout for:** [Strawberry Crown Moth](#) southern strawberries: *Infested plants will have a weakened crown and often will break off with a pull on the top growth.*

Crop Work

All crops

- Vole management.
- Weed management.
- Fertilizer program.
- Can put out monitoring traps for Spotted Wing Drosophila.

Blueberries

- Bring in bees around 10% bloom.
- Apply bloom applications to prevent fruit molds.
- Treat for [Mummyberry](#) as needed. (See Alert above)
- Scout for virus symptoms & send in samples for testing as needed.
- Scout for [leafroller larvae](#) feeding.
- Scout for [Shock virus](#) symptoms.
- Plan for pre-bloom [aphid](#) control where [scorch virus](#) transmission is an issue.
- Scout for [winter moth/Bruce spanworm](#) larvae.
- Scout for scale insects.
- Scout for weevil notching.

Blackberries

- Bring in bees around 10% bloom.
- Apply bloom applications to prevent fruit molds.
- Scout for virus symptoms & send in samples for testing as needed.
- Burn back primocanes as needed.

Evergreen Blackberries

- Scout for and treat as needed for Blackberry rust.

Raspberries

- Bring in bees around 10% bloom.
- Apply bloom applications to prevent fruit molds.
- Burn back primocanes as needed.
- (northern areas) Scout for [Clay Colored Weevil](#) feeding and treat as needed.
- Scout for [twospotted mites](#).
- Scout for virus symptoms & send in samples for testing as needed.
- Can apply a phosphite material for stronger root growth and root rot prevention.
- Scout for Yellow Rust and assess treatment options.
- Scout for spider mites and treat as needed.

Strawberries

- Watch for weak growing areas and check plants for [weevil larvae](#), [root rot](#) and/or cold damage.
- Scout for weevil notching.

- Can apply fungicides starting at 10% bloom.
- (Southern strawberries) Can scout for [Strawberry Crown Moth](#) larvae.
- Can apply phosphite materials to strengthen root systems and manage root rot.

Northwest Berry Nutrient Management Guides

- [Nutrient management in blueberries](#) (OSU)
- [Nutrient management in caneberries](#) (OSU)
- [B.C. interactive berry management guides](#)
- [June bearing strawberries fertilizer guide](#) (OSU)
- [Growing day-neutral strawberries in Western Washington](#) (WSU)

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](#)

- **April 28 — Oregon Blueberry Commission** ~ At noon Chemeketa Events at Winema, Building 48, Room 210. Contact Bryan Ostlund for more information at 503-364-2944 or [by email](#)
- **April 30th — Oregon Strawberry Commission Meeting** ~ Research Committee @ 4 pm; Budget Committee @ 5:15 pm. Regular Commission meeting @ 6 pm. McMenamins Restaurant, 310 NE Evans St, McMinnville, OR. For more information [email Philip Gutt](#). For the agenda, [click here](#).

Oregon State Open House Events

Details to be announced. At the North Willamette Research and Extension Center, Aurora, OR. Contact Bernadine Strik with questions, Bernadine.strik@oregonstate.edu

- **June 10 — OSU Strawberry Open House.** 1-4:30
- **July 1 — OSU Caneberry Open House** 1-5:00
- **July 8 — OSU Blueberry Open House.** 1-5:00

Upcoming National & International Berry Events

- **May 18-19 — National Processed Raspberry Council** ~ Semiahmoo Resort in Blaine, WA. [Go here](#) to make hotel reservations or call phone 360-318-2000. Be sure to identify yourself as part of the National Processed Raspberry Council. For more information, please contact Tom Krugman, 360-354-0948, TKrugman@redrazz.org
- **June 18-24 — Eleventh International Rubus and Ribes Symposium** ~ Charlotte & Asheville, North Carolina. [Go here](#) for their website with all the details.
- **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.

Archived Small Fruit Updates

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

[17-SFU04-22-15](#)

[16-SFU04-15-15](#)

[15-SFU04-07-15](#)