

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 22, 2015

Week 17

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SWD adult trap counts remain higher than any previous year at this time but are variable by region. Below in the [Grower Resources](#) section there are links to Extension information on non-crop SWD hosts and recommended Washington State berry crop spray programs.

Tom Peerbolt, SFU Editor

Scouting Field Notes

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

Blueberries

- Our first ever nymph of a [Brown Marmorated Stink Bug](#) was picked up on a beating tray in a blueberry field. Probably not the last.
- [Mummyberry leaf symptoms](#) are starting to show up.
- [Winter moth larvae](#) were found at damaging levels in one unsprayed location.
- [Blueberry gall midge](#) feeding symptoms are now obvious in many fields.
- So far we haven't seen any symptoms or either **cold damage in blueberries or pollination problems**.
- We're finding out quickly which fields are going to be economically impacted by [Shock virus](#). No hiding or mistaking that one.

Strawberries

- Jason ate the **first field grown strawberry of the season** in a second year Albion field. Grower might be doing a clean-up pick next week.

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](#)

- *Not much sign of any recent frost damage in the blooms although there's a fair amount of the oldest fruit that's misshapen from earlier cold and hail events.*

Raspberries

- [Cane Blight symptoms](#) at a fairly high level were picked up in one raspberry field.
- We're doing some onfarm training for how to [sample fruit for SWD larvae](#).
- One grower gave up on primocane raspberries and removed a field due to the **high SWD pressure in the late season** fruit every year.

Blackberries

- [Cane and leaf rust](#) is at fairly high levels in some Marion fields.
- Mainly visible right now is the **cold damage symptoms**.



Vintage variety raspberry field, Willamette Valley.
April 10, 2015 Photo by Jason Myer

Regional reports

British Columbia, Fraser Valley (Monday, 4/20)

- **All Berries:** We are all scrambling to get field work, scouting and research trials done. I am picking the first Haskaps already outdoors! I wonder whether the SWD have found them yet.... Strawberries in full bloom, raspberries showing flower clusters, blueberries moving FAST during this short lived warm spell. Fantastic bee activity, bumble bees also out in force. Plants are moving quickly. This should come to a grinding halt by Wednesday when cooler temperatures prevail. Lots of virus symptoms showing already in all crops, but some of the symptoms are typical for cool temp damage, such as trying to grow in February and March. All sorts of fungal organisms floating around, protection going onto the flowers regularly. Aphids multiplying, mites will likely not like the coming cool and wet. We are still maintaining a 2 week lead over normal in the East end of the Fraser Valley. Early varieties of blues have now clearly set fruit and show great enlargement already. So far fruit set is good.

British Columbia, Fraser Valley (Tuesday, 4/20)

- **Blueberries:** Just when we get a run of good weather, things are about to change. Cooler and damp weather coming in the next few days will put a damper on a pretty good run of 5-6 days of really warm and sunny pollinating weather. Bees worked very hard over this time and I hope this compensated for the previous poorer cool wet period where nothing was really happening. Lots of flowering now in all varieties with Draper finally showing up the past couple of days with an early bloom. Vegetative growth appears to be picking up as well with the increased warm and sun. Green fruit starting to size in early fields of Northland, Duke and Reka. Some Elliot fields have an incredible amount of bloom.
- **Raspberries:** The recent good weather has been positive for most raspberry varieties as well. However, Meeker continues to be variable field to field. And even within individual fields, the development of laterals along the canes can be quite variable with considerable early flower bud development appearing. Could be a lot of early fruit development that will do no good other than attracting SWD. Sprays for yellow rust on-going.

Reka, Week 17, 2015, British Columbia



Duke, Week 17, 2015, British Columbia



Blue Crop, Week 17, 2015, British Columbia



Photos by Jason Smith

British Columbia, Fraser Valley (Monday, 4/20)

- **Blueberries:** Things have been moving along with the warm weather we have been having the last 5+ days reaching highs of 22+ degrees C. Reka farthest one along followed by Duke (about 40-60% bloom), Bluecrop (30-40%) and then Elliot (5-15%). There is some concern as to whether fruit present now on earlier flowering varieties is going to actually set and size up. Bees have been very active and the general comments from basically everyone I talk to is that hives are very strong this year. Heard today one grower placing hives over 3 weeks earlier than last year to others being 7-10 days ahead of "normal".

Lots of activity in fields including tilling, fungicides, mowing dandelions and applying granular fertilizers. Liquid fertilizer applications may start happening in the next couple weeks. Crop stage is variable from one area to the other and within areas as well.

Some wetter weather in the forecast with showers or rain expected starting Wednesday and covering 4-5 of next 7 days. Not good timing for Elliott pollination.

Crop looking average at this point and unpruned fields very obvious. Weeds have taken off and expected moisture should increase this so need to be prepared for when hives leave fields.



Meeker raspberries, Lynden, WA. April 17, 2015. Left is second year field. Right is first year field. Mid-November cold snap damaged first year fields (that weren't as dormant) *significantly* more than older fields.

Photo by Tom Peerbolt

Northern Washington, Skagit County (Saturday, 4/18)

Excellent weather for pollination in Skagit yesterday and today, Dukes at full bloom packed with bees, almost can't hear my phone over the buzz....nice!

- **Blueberries:** SWD showing up in perimeter traps (low 20's so far). First round of blueberry dry fert finished up last week. Bloom spraying continues: between resistance management and MRL restrictions for the various marketing regions, there is some question about materials to use. Growers and Packers need to communicate to assure materials appropriate for destination market are used. "Do Not Use" lists from Packers have been showing up that include several of the newest fungicides and herbicides with no-tolerance established in the buyer's country/region. Such clear guidelines give growers and suppliers needed clarity on product use requirements. While I don't like some restrictions, I applaud the Packers effort to provide growers with good, clear guidance.

Eastern Washington (Monday, 4/20)

- **Blueberries:** Eastern Washington is having very warm weather. Excellent for pollination. Excellent for blueberries. We ending bloom for Duke in the warmer areas. If this weather keeps up, it would not surprise me to see the first pick of Duke by June 10.

Western Oregon, Willamette Valley

- **Blueberries:** (Friday, 4/17) We've had a string of four days with high in the mid seventies to low 80's. Could have ended Duke bloom in a lot of Duke fields. Not seeing any pollination or cold injury problems. Other than being way ahead in seasonal development the crop is looking very good. Bee activity has been fantastic. Strong hives as well as a lot of native pollinators.
- **Blackberries:** (Monday, 4/20) Occasional bloom in the Marions and Boysen today, Black Diamonds 5%, Columbia Star 1%, Kotata 5%. All my bloom estimates are subject to location, field age and several other variables, like me guessing. Bloom timing indicates harvest about one week ahead of last year, which was one week early. Pre bloom insecticides going on Marions, bees coming in after that. Bees already in Black

Diamond and Kotata and working hard. With the mild winter expecting not only SWD but all insect pressure to be elevated this year. The Black Diamonds appear to be recovering from the cold damage or whatever it was, fruit spurs elongating and in general looking much better. There are some Marion fields where the cold damage is extensive but the majority should be fine. Hoping for good pollination weather, don't like the latest forecast.



One of the better Marion fields, AY, taken April 20, 2015 near Dayton.

Photos by Bill Dinger



One of the not so good Marion fields, AY, taken April 20, 2015, near Gervais.

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 to 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 – 4/17/15 Middle – 4/18/14 Bottom – 4/19/13

Patriot

Bluejay

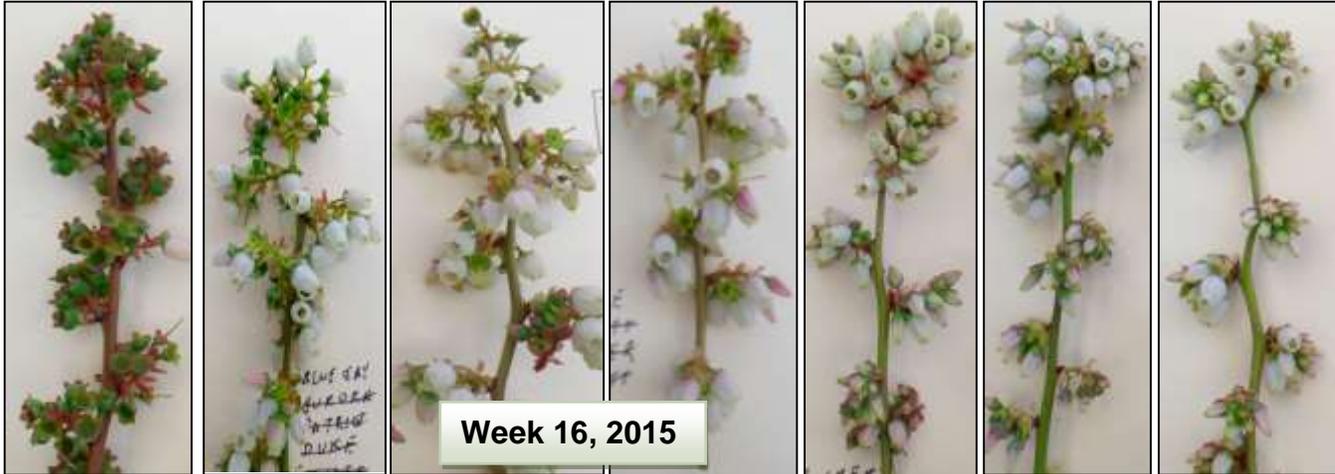
Draper

Duke

Liberty

Aurora

Elliott



Patriot

Bluejay

Draper

Duke

Liberty

Aurora

Elliott

Industry news/resources

Newsletters/ berry reports

- [BC Blueberry Council IPM Report](#) April 10, 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 (4/20):** **Announcing annual Santa Maria Strawberry Field Day** *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.*

Marketing

- [New on-the-go packaging for booming berry sector](#) (4/20, Fresh Fruit Portal)

Plant Breeding/Research

- [Three new raspberry varieties set for release in Chile](#) (4/21, Fresh Fruit Portal)

Food Safety

- [Food Safety legislation continues brisk pace set last year](#) (4/21, Food Safety News)

The West

- California: [Strawberry fields: Not forever but perfect right now](#) (4/13, The Times and Democrat)

North America

- Florida: [Blueberry volumes good](#) (4/21, Fresh Plaza)

Imports

- [Trade gap shows opportunities for organic growers](#) (4/15, The Packer)
- [Chilean-U.S. blueberry season transition smooth in 2015, claims Berry Fresh](#) (4/21, Fresh Fruit Portal)

International

Poland

- [Lower organic berry production despite increased acreage](#) (4/21, Fresh Plaza)

Week 17 Grower Resources

Spotted wing drosophila

- [Noncrop Host Plants of Spotted Wing Drosophila in North America](#) (*Extension Bulletin published April, 2015*)

WSU Extension—Whatcom Ag Monthly articles for April

- [SWD Berry Management Programs 2015](#)
- [Compost and Organic Soil Amendments for Blueberries](#)
- [Perennial Weed Control in Blueberries](#)
- [Understanding the Relationship between Pollination Services and Yield in Blueberry](#)

Pest Alerts

Scout for: Yellow Rust Raspberries –



Stages of Yellow Rust (from left) spermatangia, 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 have just begun 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 had 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

- 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

- 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.
- 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](#).)

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

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

[14-SFU04-01-15](#)