



The Small Fruit Update is sent out weekly during the growing season by [The Northwest Berry Foundation](#) and is funded entirely by the Northwest berry growers and industry through their commissions and councils.

March 9, 2016

Week 10

Table of Contents

- [Workshops](#)
- [Regional Reports](#)
- [Grower Resources](#)
- [Blueberry Bud Development](#)
- [Industry News](#)
- [Pest Management](#)
- [Field Management](#)
- [Events](#)

- [B.C. well represented at Fruit Logistica](#) (2/29, *The Grower*)
- [Increasing popularity of frozen food to result in significant market growth by 2020](#) (3/7, *EIN News*)
- [National Processed Raspberry Council March Newsletter](#) *They've got a meeting coming up in Lynden, WA May 23-25.*
- [Food safety scientist unravels questions about food safety](#) (3/7, *Food Safety News*)

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

Blueberry Disease Alert

Continued Heightened Risk of Mummy Berry Disease Infections.

We've still got a convergence of weather, plant development and [mummyberry](#) development that favors disease infections. Be ready with a management program by the time fields at risk reach 'green tip stage

- [Go here](#) for this week's mummy berry status report from [Dalphy Hartevelde](#) (WSU plant pathology post doc at the Mt. Vernon Station).
- From OSU: [Mummy Berry Management in the Pacific Northwest](#) (July, 2015)
- So, what is "green tip stage"? [Click here](#) for a chart from Michigan State of the various stages of blueberry growth development.
- Some critical points:

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](#)

- The optimum temperature for spore release and infection is 50 to 57°F (10 to 14°C).
- At least 12 hours of wetness is required for infection.



Upcoming workshops for growers

- **March 9 — 11th Annual Workshop for Commercial Raspberry & Blackberry Growers**
 - 8-4 pm at the Wellspring Conference Center in the Silverton Health Building, 1475 Mt. Hood Ave., Woodburn.
 - [Go here](#) for the draft agenda.
 - 2 Oregon pesticide credits applied for.
 - ***Please RSVP if you plan on coming. It's free but space and food are limited. Call 503-289-7287 or email anna@peerbolt.com***
- **March 16 — Water Talks**
 - 9:30 – 2:30 at [Water Tec](#) in Lynden, WA. with lunch included.
 - [Go here](#) for details and registration information. [Go here](#) for the agenda.
 - \$20 registration fee before March 13/\$27 after that date.
- **April 12 — Spotted Wing Drosophila Webinar**
 - 10-11:30 am with Dr. Amy Dreves, OSU Entomologist.
 - [Go here](#) for registration, contacts & agenda information.
 - Sponsored by OSU, NCAP, USDA and Spirit Mountain Community Fund.



Regional Reports

British Columbia, Fraser Valley (Sunday, 3/6)

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

“Main problem: wet. Tough to get into fields. I see some tracked contraptions going through fields and making applications of appropriate sprays. Time to build that dome over the Fraser Valley. We had 18C (64F) this past week and the warm trend is not abating. Perfect conditions for all sorts of fungal and bacterial diseases and... the weeds are having a hay day! Snapweed ([Cardamine hirsuta](#)—in Oregon we usually call it bittercress--TP) is merrily flowering and seeding away already.”

- **Blueberries:** First open flower spotted on Duke in the Pitt Meadows area but that is an aberration. Mostly just buds opening with flower clusters becoming visible, very tight. No visible winter type damage yet.
- **Blackberries:** Biggest growth of all our berries. Vigorously marching ahead more so than raspberries.
- **Raspberries:** Good lateral lengthening, growth looks nice and green, ready for the insects to come to the buffet and feast.
- **Strawberries:** A bit of growth now, but cooler nights and soggy soils have made for slow progress, thankfully!
- **Peaches & nectarines:** In bloom now indicating that we are once again quite a few weeks ahead of schedule. Ditto for [Musa Basjoo](#) (Hardy Banana) which is already actively unfolding leaves. Normally that doesn't happen until early May around here.
- **Haskaps/ Blue Honeysuckle:** Green looking one acre. Growth is accelerating. Some fruit set. I still don't know what pollinates them this early although I have seen a few bees on sunny days.
- **Black Currants:** Depending on variety, fully green already, flowering not too far off.

British Columbia, Fraser Valley (Monday, 3/7)

- **Blueberries & raspberries:** We're into some pretty backward wet weather which is going to make field work, and especially mummyberry sprays, difficult for the next week or so. Most varieties outside of Elliot, Aurora, and 1613A (Hardblue) are at a sprayable stage in most areas. It was a balmy 16C (60F) and beautiful this past Saturday and that may prove to be a rare occurrence for awhile. Have to take the workable patches of weather as they occur. Development appears to be on a par with last season in the blues but raspberries appear to be ahead of what they were in 2015. March will be a big influence on the future development of the crop for the season.

British Columbia, Fraser Valley (Sunday, 3/6)

With all the different micro-climates, plants are at varying stages of development from what I've seen but many fields are susceptible to mummyberry infection at this point.

- **Blueberries:** Things are progressing similar to last year at this point. It's happened in the past where things get moving and seem to pause for a bit with cooler wet weather. High temperatures are supposed to be about 13 C (55 F) with no real sun predicted until about March 18 so dealing with mostly rain and clouds until then. With the predicted weather over next couple weeks things may slow down. Some weed growth happening but the heavier soils haven't experienced too much yet. Pre-emergent herbicide going down but it may be a bit before it all gets on. We need some drier days to even think about getting through a fair number of fields.



Left : B.C. Duke field March 6, 2015 Right: Same field March 5, 2016

Northern Washington, Whatcom County (Monday, 3/7)

- **Blueberries:** Warm wet days and only sorta cool nights have kept things moving along. Movement has slowed from the very rapid development of the week prior, but still ahead of normal (*normal?? not sure what that is any more!*) Pic's are of Northland taken Mar 8, 2016
Time for mummy applications and weed control, if not already applied. Conditions are making it a challenge. Looks like I can put off fixing the irrigation system another week!!



Whatcom County, Northland variety on March 8

Northern Washington, Skagit Valley (Sunday, 3/6)

From [Tom Walters](#), Walters Ag Research, Anacortes, WA.

- **Blueberries:** In Skagit, many varieties are at late green tip, so we should probably be getting first mummyberry sprays on. We made first applications in the conventional and organic research trials, and are due to make the second application in the organic trial in the next few days. The problem has been rain and wind: when one lets up, the other kicks in, making it hard to find good spray windows. We put out some spray cards on a day with 10-15 mph winds, and found (no surprise) that we got good coverage on the upwind side, but hardly anything on the downwind side.



Moisture sensitive cards used to check spray coverage. They turn blue wherever they're hit with moisture. This check was done with a 10-15 mph wind blowing. Card on left -- upwind side (Great coverage) / Card on right -- the downwind side (No coverage)

Western Oregon, Willamette Valley (Tuesday, 3/8)

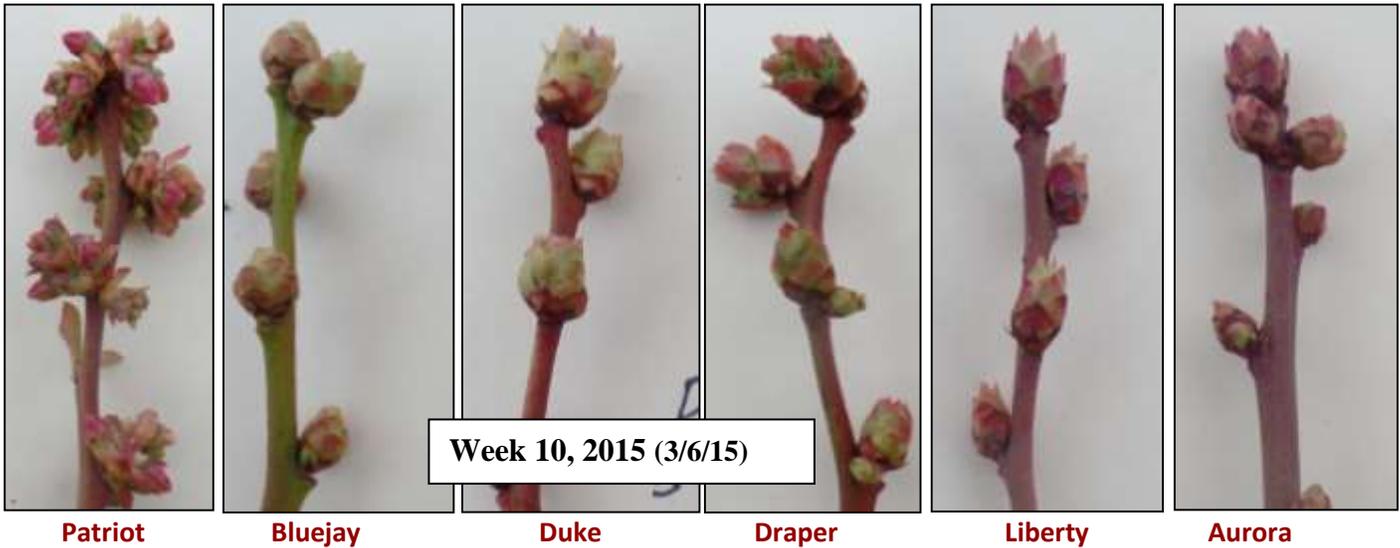
- **Blueberries:** The last week has seen some slowing down in plant development. The next week looks like more of the same—lows 40-45F (4.5-7C), highs 50-55 (10-12.5C) with off and on rain/showers. Really not bad except we can't get much field work done and in fields with mummyberry present there's greater risk of infections with our inability get get and keep a protective fungicide in place. Still, good to have development slow down and not have any extremes in temperature and/or moisture that could impact the crop down the road. Don't need a repeat of last season's early and concentrated harvest.

• **Blueberry Bud Development Comparison for the Western Willamette Valley**

- *I've been taking weekly bud development comparison photos from the same fields the last few years.*
- *I know there aren't a lot of Patriot plantings around. I use it because: 1) It's one of the earliest cultivars to break bud; 2) Because of the early bud break, it's likely to show any cold damage before the others; 3) It's available on the same farm as the other monitored fields so it's valuable for comparison purposes.*

Northwestern Willamette Valley Top – 3/4/16 Middle – 2/26/16 Bottom – 3/6/15





Grower Resources

Research Updates

- [Settled Science? Need for ag research will never stop](#) (3/3, Capital Press)
- **Research identifies blueberry cultivar resistance and susceptibility to Phytophthora root rot** *This was done at the Northwest Center for Small Fruits Research by Jerry Weiland, John Yeo, Dan Sullivan and Dave Bryla. Jerry Weiland is listed as the corresponding author. Email him at jerry.weiland@ars.usda.gov for more information.*
 - [Blueberry types identified for resistance, susceptibility to pathogen](#) (3/3, Fruit Grower News)
 - [Susceptibility of Highbush Blueberry Cultivars to Phytophthora Root Rot](#) (March, HortScience) *This is a link to the abstract of the research article.*
 - [Blueberry types identified for resistance, susceptibility to pathogen](#) (3/2, ASHS) *This is the press release.*
- **Blueberries: [Good fertilizer programs enhanced by drip methods](#) (2/26, Fruit Grower News)** *A report on the research done by Dave Bryla at the Northwest Center for Small Fruits Research.*

Late winter/early spring weather risk information

- [Blueberry growth stages and critical spring temperatures](#) (Michigan State Extension)

The relevant stages & temperature thresholds from the chart:

 - **Bud Swell:** “Visible swelling of buds; scales separated. Can tolerate 10-15 F (-12 to -9 C)”.
 - **Tight cluster:** “Individual flowers distinguishable. Can tolerate 20-23 F (-7 to -5 C)”.
- **Early spring weather management information links**
 - [Using your sprinkler system to protect blueberries from freezes](#) (Eric Hansen, Michigan State Small Fruit Specialist)
 - **All berries:** [Frost protection: Tips & techniques](#) (Kathy Demchek, Penn State) [Frost & freeze protection: Blueberries](#) (www.eXtension.org)

Nutrient Management

We're getting into a traditional time for applying fertilizer. Many growers still apply the first blueberry application just before the buds break. Research has shown that the plant takes up very little nitrogen before late April. Recommended timing for split applications in the Willamette Valley is 1/3 in late April, 1/3 in mid-May and 1/3 in mid-June.

- [Click here](#) For OSU's "Nutrient Management in Blueberries" (16 page pdf).
- [Click here](#) for OSU's "Nutrient Management Guide—Caneberries" (8 page pdf)

Industry news/resources

Northwest fresh market blueberry exporting opportunities

- **Oregon**
 - [Go here](#) for all the details.
 - Packer and grower registration deadline is **March 11**.
- **British Columbia**
 - [Go here](#) for information.
 - [Canadian Food Inspection Agency Notice](#) Packer and grower registration deadline was **February 14**.

Berry research blogs

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. **Recent Entry: (3/4) Finding red colored mites on strawberry plants?** *Reports on recent insect and disease research and observations in California.*
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent Entry: (2/17) 2016 Scientific study review reveals health promoting potential of red raspberries** *Reports on issues in blackberries and raspberries from the Southeast*

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 generated from data from the USDA Agricultural Marketing Service. Hosted by the California Strawberry Commission.*
- [Weekly Market Report from General Produce](#)
- [Weekly Chilean Blueberry Committee Crop & Exports Report](#)
- [USDA Market News \(Fruits & Vegetables\)](#)

Magazine/website compilations

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

Water

- Oregon: [Snowpacks declined in February but still OK](#) (3/4, Capital Press)
- Washington: [Snowpack melting faster than wanted](#) (3/2, Capital Press)
- California: [Snowpack may rebound in March](#) (3/3, Capital Press)
- California: [Wettest months deliver below average snowpack](#) (3/2, Western Farm Press)

Food Safety

- [New U.S. food safety system taking shape](#) (3/3, Food Safety News)

Labor

- Oregon: [Brown signs minimum wage hike plan into law](#) (3/1, Capital Press)

Technology

- [Retractable roof strawberry house wins sustainability award](#) (3/3, Fresh Plaza)
- [New farm data coalition puts farmers in the driver's seat](#) (3/4, Ag Professional)
- [DJI launches new era of intelligent flying cameras](#) (3/4, Ag Professional)

Health Research

- [Harvard Research: Strawberries, blueberries, apples help weight loss](#) (2/3, Fresh Plaza)
- [Long-term study reveals flavonoids-fruit is best for weight control](#) (Fresh Fruit Plaza)
- [Strawberries could help people with insulin resistance](#) (3/4, Fresh Plaza)

Market

- [10 things you need to know about...frozen food](#) (2/24, The Grocer)
- [Frozen produce goes to top of mind as consumers strive to reduce waste](#) (3/1, Food Navigator)
- [Retail fresh produce inflation pegged 2.5% to 3.5% in 2016](#) (2/29, The Packer)
- [Outlook: How long will the bear cycle last?](#) (3/4, Ag Professional)

Pollinators

- [Beekeepers removing hives as almond blossom winds down](#) (3/2, Capital Press)

North America

- [Strawberry volumes still lagging, but catching up](#) (3/1, The Packer)

International

- Mexico: [Border control seizes over half a million dollars in meth from strawberry shipment](#) (3/3, andnowyouknow.com)
- Argentina: [U.S. ban on 'forced labor' imports does not target specific countries or products](#) (3/7, Fresh Fruit Portal) *A story last week said the ban included Argentinian blueberries. It doesn't.*



Usual March Pest Management

In most years activities involving the management of the following pests happen during March. They're associated with the warming temperatures and renewed plant growth.

Insects/Mites

- [Raspberry Crown Borer](#) **caneberries**: If you've had borer problems in the past, March is the time to drench for crown borer management in caneberries.

- **[Strawberry Crown Moth](#) southern caneberries:** In Oregon and Southwest Washington, this borer looks to do as much, if not more, damage in caneberries as the Raspberry Crown Borer. The treatment is the same as for RCB- a spring (or fall) insecticide drench.
- **[Clay Colored Weevils](#) southern strawberries:** This early emerging species is usually just considered a pest of raspberries in northern growing areas where it feeds on newly emerging shoots and buds. But in the last few years emerged adult Clay Colored Weevils have been recovered from SW Washington southern strawberry fields and blueberry fields.
- **[Redberry Mite](#) evergreen blackberries:** Dormant sprays of lime/sulfur or elemental sulfur for Blackberry Rust and Redberry Mite are recommended in March.

Diseases

- **[Phytophthora Root Rot](#) raspberries:** March is the time to use a fungicide drench in raspberries. Warm, saturated soils are the conditions that favor this organism, allowing it to spread quickly.
- **[Blackberry Rust \(Phragmidium Rust\)](#) Evergreen blackberries:** Dormant spray of lime/sulfur or elemental sulfur for Blackberry Rust and Redberry Mites is recommended in March to prevent later problems.
- **[Cane Blight](#) raspberries:** A good time to spot symptoms of cane blight is as the buds break. Infected canes will show either no bud break if the cane has been girdled or one-sided bud break if the infection is on one side. Scrape canes to look for rust colored streaks usually coming up from machine harvester scars. There is no treatment for cane blight once it's present, only prevention. The time to prevent next year's canes from getting infected is to apply an appropriate fungicide immediately after harvest when fresh wounds normally become infected.
- **[Purple Blotch](#) blackberries:** Check for cane lesions that are easy to see as the weather warms but the foliage has not yet emerged. It's a good time to assess disease level.

Ongoing Field Management Activities

All crops

- Weed management.
- Plan fertilizer program.
- **Scout for and plan for [Voles](#):** Vole activity is apparent in many blueberry, caneberry, and strawberry fields. Management of voles is most effective in the spring before they start multiplying like...voles. Kind of like weeds (& starlings)—get them before their reproduction cycle kicks in! [Click here](#) for some background and biology information on voles (or meadow mice). [Click here](#) for information on how to construct bait stations.

Blueberries

- **Treat for [Mummyberry](#) as needed.** (See Alert at top of newsletter)*You can scout for sprouting mummyberries on the ground but they can be very difficult to find. Base treatments on plant stage, environmental conditions and the past history of the field and surrounding fields.*
- **Scout for [Pseudomonas \(Bacterial Blight\)](#)** Water-soaked lesions usually appear in February in some fields that then develop into reddish brown to black cankers.
- **Plan for [Bird](#) issues: Starling management:** Right now starlings are beginning to fledge. Population control becomes very difficult later into the season because they multiply rapidly. This is a major pest species — plan your control strategy now.
 - [European starlings and their control](#) (Cornell University)
 - [Starling Population Control Methods](#).(Wild Wing Company)
- **[Winter Moth/ Bruce Span Worm](#) blueberries:** Scouting for winter moth larvae should start as soon as the buds start swelling. We've had reports in problems beginning this last week. More of an ongoing issue in the northern growing regions but also an occasional, locally severe problem in some Oregon and SW Washington fields.

- **Scale blueberries:** A dormant oil or Esteem (pyriproxyfen) can be used while blueberries are dormant.

Blackberries

- Scout for **Purple Blotch** lesions in Marion berries to assess field disease levels for later treatments.
- Can apply lime sulfur for **Redberry Mites** and/or disease management.
- Can drench for **crown borer** management.

Evergreen Blackberries

- Can apply lime/sulfur for **blackberry rust**.

Raspberries

- Can apply lime sulfur for disease management.
- Can apply Ridomil for **Phytophthora root rot** management.
- Can drench for **crown borer** management.
- Scout for **Cane Blight** symptoms as buds break.

Strawberries

- Can apply pre-emergent herbicides.
- As plants start to grow, watch for weak growing areas and check rots for **weevil larvae**, **root rot** and/or cold damage.



Berry Event Calendar

Commission Meetings

- **March 15 — Oregon Blueberry Commission meeting** ~ Noon at the Chemeketa Events at Winema, Building 48, Room 210, Salem. Email jenny@ostlund.com for more information.
- **March 24 — Oregon Raspberry and Blackberry Commission** ~ Noon regular meeting. Committee meetings start at 10 am.. Hayden's Grill, Tualatin. Contact: berries@oregon-berries.com
- **March 29 — Oregon Strawberry Commission** ~ 6 pm regular meeting. Budget meeting at 5:30. McMenamins Restaurant, McMinnville. Contact: berries@oregon-berries.com
- **April 26 — Oregon Blueberry Commission meeting** ~ Noon at the Chemeketa Events at Winema, Building 48, Room 210, Salem. Email jenny@ostlund.com for more information.

Oregon State Extension Field Day Dates

Put the following dates on your calendar for the field days at Oregon State University's North Willamette Research and Extension Center this year.

- June 8 — Strawberry Open House, 1:00 pm
 - June 29 — Caneberry Field Day 1:00 pm
 - July 6 — Blueberry Field Day 1:00 pm
-

Archived Small Fruit Updates

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

[9-SFU03-02-16](#)

[8-SFU02-24-16](#)

[7-SFU02-17-16](#)