



# CRANBERRY VINE

WSU Long Beach Research and Extension Unit  
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## MEETINGS

**Washington Cranberry Summer Field Day:** This summer we will be at the PCCRF Farm on Wednesday August 2, 2017. 8:30 a.m. registration; 9 a.m. to 2 p.m. presentations. Three pesticide credits will be given.

**Cranberry Institute and Cranberry Marketing Commission Annual Summer Meeting:** Wednesday, Thursday and Friday, August 2-4, 2017 in Long Beach, Washington at the PCCRF Farm.

**Washington Cranberry Commission Annual meeting:** Wednesday, August 2, 2017. 8:30 to 8:45 a.m. PCCRF Farm, just before field day.

**BC Cranberry Field Day,** Tuesday, August 22, 2017, 9:30 a.m. at Coast Cranberries Ltd. 21710 Allard Crescent, Langley, BC. Besides the usual great programs, this meeting will feature the latest in new cranberry farming equipment from commercial suppliers and growers' own innovations.

## PEST MANAGEMENT

**Video on spray tank cleaning:** Saving a few minutes by taking shortcuts during the

cleanout process can almost guarantee that more time will be spent in the long run resolving contamination issues. This presentation discusses and describes the proper procedures to remove unwanted residues and prevent the unintentional introduction of herbicides. <http://www.plantmanagementnetwork.org/edcenter/seminars/cotton/TankCleaning/video>

**Cranberry fruitworm:** Is this our new insect pest du jour? We are seeing damage from fruitworm much more commonly. It overwinters as a larva encased in a hibernaculum. Eggs are laid singly on the fruit and oviposition may be withheld until berries are of appropriate size and color (e.g., "large BB to pea sized"). Larvae enter the fruit immediately upon hatch and may consume five to six fruit during development. Application of insecticides, after the damage is noticed on the fruit, is too late. The normal timing of traditional insecticides for fireworm will also not suppress fruitworm. The best control is achieved with applications of long residual insecticides. Altacor or Intrepid should be applied when fruit are the size of a small green pea. More than one application may be required.

The big question is figuring out if you have it and need to treat. The larger growing

regions have IPM scouts that look for egg laying and treat based on density of fruitworm eggs per 100 fruit. At this point in time that isn't an option for WA growers. Instead we recommend monitoring adult moths with fruitworm pheromone traps. High vs. low numbers will indicate a relative concern and a relative time to plan for treatment. For this summer the best you can do is to identify if you have a problem by looking for damaged fruit. It can be distinguished from fireworm damage to fruit by the large exit hole. Fruitworms are larger than full size fireworms and lack the black head. If you have bad damage this year, make a plan for next year. This would include setting out pheromone traps and buying extra Altacor.

**Perennial grass control:** We have recommended using an herbicide with the active ingredient of clethodim. There are 27 different labelled clethodim products in WA. Most of us use 'Select' or 'Volunteer'. When used with a good surfactant, this product does a great job controlling annual grass. But it does a less than adequate job on persistent perennial grasses like bentgrass or saltgrass, often requiring multiple applications for several years to rid beds of these grass species. Changing your surfactant to a crop oil concentrate, methylated seed oil or silicon hybrid will improve control some, but is still not perfect and comes at a greater risk to crop phytotoxicity. During the dormant season this is not an issue, but can be a problem during the growing season. We have found the differences in control between surfactants are, for the most part, subtle.

A grower recommended we try using a combination of clethodim and sethoxydim. There are 5 different sethoxydim products with cranberry on the label in WA. The most commonly used by growers is Poast. We put out many comparative trials this spring

and early summer on perennial grass species and found the combination to be very effective. The one caveat is the label which states "*Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor. Read and follow the entire label of each product to be used in the tank mix with this product.*" This combination falls under that criteria. Therefore if you want to try this combination don't use the tank mix but consider sequential applications

**Persistence of fungal fruit rot pathogens:** Cranberry fruit rot is a disease complex comprised of more than a dozen fungal species. Field studies conducted in New Jersey over 3 years showed that fruit rot incidence increased or remained high and fruit rot pathogens persisted from one year to the next. In Wisconsin, fruit rot incidence and fungal species present in one year do not reliably predict the disease situation in the following year. The work recently done by Dr. Caruso in Washington would indicate some year to year variation, but a fairly consistent bed by bed pattern. The take home message – persistent attention to detail will pay off in terms of management of fungal populations on your farm. Get rid of your trash, irrigate to minimize duration of leaf wetness, rotate your fungicides, apply fungicide at the best time to prevent rot, and don't over-fertilize.

**Neonicotinoids and pollinators:** The data continues to accumulate that point to neonicotinoids causing a reduced capacity of bee species to establish new populations in the year following exposure. Two new multimillion dollar studies from Europe just published show that "it is not that the neonicotinoid pesticides directly kill bees, but it appears that low-level exposure makes them more vulnerable, especially if there are



other environmental factors or diseases already affecting the hive". "In wild bees, reproduction was negatively correlated with neonicotinoid residues." Thus, as I've stated before, don't use these products unless you absolutely have to for weevil control and then do so on a spot treatment basis.

## MISCELLANEOUS

**Plant nutrition:** Lots of vine-overgrowth is showing up this year. Much of this can be related to our weather: a combination of heavy late spring rains and a few very hot days during bloom. Our coastal rain carries some nutrients. Most of it is dominated by sulfate, chloride, and sodium ions, but it also has Ca, Mg and K in an approximate 1:2:1 ratio, some Zn, Boron and Copper, and ~4 lbs N/ac/yr.

Cranberries grown on moist/wet muck or peat are susceptible to increased N released with higher temperatures. This can be >100 lbs/ac /yr on some peats. If that release comes during the sweet spot of early cranberry growth in May, a lush overgrowth will be likely. This can be particularly problematic on Furford-picked beds, where the fruit bud for next year is pruned off the over-vigorous uprights.

I'll remind growers that if you haven't done it for a while, consider leaf and soil analysis on some of your beds. August is the best time to take upright samples. You will want to use these results to guide your long-term fertility program and pay attention to trends, such as soil pH. For more on what the results mean, see two excellent publications from OSU: Cranberries: A Nutrient Management Guide for South Coastal Oregon

(<https://catalog.extension.oregonstate.edu/em8672>)  
and Soil Test Interpretation Guide  
<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1478.pdf>.

**Renovation:** The predicted low price for the foreseeable future almost mandates growers consider ripping out all the junky beds they have and planting something more productive and aligned with future market needs. It has been fascinating watching the PNW trends in which varieties to use during replanting. BC has focused on the new Rutgers hybrids; Washington has been planting some of the new hybrids, but also put in a lot of Grygleski 1's (GH-1's), and Oregon has planted limited new hybrids and put in a lot of Pilgrims. I have previously expressed my thoughts on cranberry varieties to consider for planting. I am now adding two additional recommendations.

1) GH-1's have proven their worth for fresh fruit quality and consistent high yields. They also can be obtained without paying planting royalties. What I am worried about with GH-1 is the lack of genetic purity in what we are planting. I've noticed that not all beds of GH-1 are super productive. Is this a difference in grower/ bed locations or are we getting into the problem we had with off-type Stevens and Pilgrims? I hope not, but I don't know the answer to this question, and we most likely won't know for at least a decade. However, now is the time to start paying attention. Watch for lower producing parts of your beds. Are there differences in vine color or bloom density? Obtain vines from growers that mowed off good producing GH-1 beds rather than vines pruned off less productive GH-1 beds. Finally, consider DNA testing your GH-1 vines.

2) Another consideration for renovation is the return on investment (ROI). Survival long-term depends on cranking up your yield and renovating with high production hybrids. This has been the only consistent method to achieve that end. However, many Washington growers are old enough that



they will not likely be farming cranberries long enough to see a good ROI. Here is the simple math. It costs ~ \$30K/ac to renovate a bed, and ~ \$1K to \$2K/ac/yr to grow for the first 4 years. Before you get any significant crop you would have invested at least \$35K/ac. If on Year 5 and beyond you obtain 300 bbl/ac and receive \$35/bbl, you might realize \$4K to \$6K/ac/yr after the production cost and interest cost are deducted.

So in the best case, after a total of 10 to 15 years you could have paid off the renovation investment. Instead, if you could invest that \$35K in the stock market for ~ 5% gain/yr, after 10 years you would be ~ \$22K ahead on the investment. Additionally, if you used minimal inputs on farming, that 1 acre would have made at least \$500/ac/yr, giving you a total return of \$24K.

What about the improved sale value of the farm? A McFarlin bed with an Ocean Spray contract might go for \$15K/ac. If that bed was a top producing hybrid, it might be valued at \$35K/ac. So at best you've invested \$35K to improve the sale value of

your farm by \$20K. Obviously, I've oversimplified the economics, but my point is that unless you are relatively young (<65-70) or have a family succession plan, think carefully about the ROI of a renovation. Renovation only makes financial sense if you or your family will be farming cranberries for many decades.

**Recipe:** Here is a first for my newsletter – a recipe. Check out this healthy recipe from BC cranberries for cranberry coleslaw. <http://bccranberries.com/recipes/cranberry-mint-slaw.pdf>

**Weather** Depending on bed/location, we were two to three weeks behind in bloom and peak flight fireworm compared to 2016. From today (7/7/17) we are exactly 30 days behind in total GDD compared to 2016, but very similar to 2013 and 2010, and two weeks ahead of 2012 and 2011. On many beds bloom density has been good and the span of warm weather during full bloom should help fruit set and early sizing.

WEATHER HISTORY WSU Long Beach Research and Extension Unit								
Monthly Precipitation					Monthly Growing Degree Days (base 45°)			
Month	2015	2016	2017	20 yr ave.	2015	2016	2017	20 yr ave.
January	9.5	16.4	7.3	11.8	65	79	8	40
February	6.6	11.9	11.1	7.6	139	129	16	39
March	7.3	14.0	17.8	10.1	121	117	65	61
April	4.1	2.4	8.6	5.8	114	241	123	109
May	1.3	1.4	6.0	3.8	248	310	246	235
June	0.4	2.7	3.2	2.8	367	381	387	337
July	0.2	1.6		1.2	533	484		439
August	2.5	0.8		1.7	532	492		448
September	2.4	3.6		2.8	367	363		370
October	5.1	16.9		7.8	350	257		226
November	17.0	19.0		12.4	77	195		85
December	19.8	11.2		12.0	60	9		34
Totals	76.1	101.9	44.7	79.8	2972	3057	212	2433

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