



CRANBERRY VINE

WSU Long Beach Research and Extension Unit
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May 2017

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.

MISCELLANEOUS

Cranberry Commission Seeks Nominations: The Washington Cranberry Commission is seeking nominations for Position 1, District 1 (currently held by Steve McPhail) and Position 3, District 2 (currently held by Steve Quinby). The Washington State Department of Agriculture will be sending a call for nominations to growers in those districts. Please consider serving on the board and representing your

district growers. You may nominate yourself. Commission seats are limited to two full consecutive three-year terms. The new term begins September 1 and extends through August 31, 2020. Other members of the Cranberry Commission are Guy Glenn, Vern Christiansen, Raymond O'Hagan, Terry Moore, Jeffrey Hollingbery – Chair, and Neil Lanning – WSDA Representative. Joey Knapp is the board secretary.

Worker Protection Standards: New Agriculture Worker Protection Standards have been delayed by the new federal administration. WSDA still expects the rules to become effective at some point. This year WSDA is enforcing the existing rules and providing education on the revised rules.

Worker and handler training is currently required every 5 years, but under the new rule (when it becomes effective), training will be required every year. There are family exemptions, but more people fall under the rule than you might think.

WSDA and Labor and Industries (LNI) can come on your farm to inspect to see that your workers have been trained. EPA has produced Powerpoint presentations for this

training that you can review with your workers and handlers (pesticideresources.org). I would recommend waiting for the video and watching it on-line with your staff. It should be out in the next 6 months. Due to our unique chemigation circumstances, there are some uncertainties regarding the exclusion application zone. WSDA is waiting for guidance from EPA on how to apply 'exclusion application zone' in this unique situation. Call Neil ([360-902-2038](tel:360-902-2038)) or Rusty ([360-902-1903](tel:360-902-1903)) at WSDA if you have a question.

Pacific County's Voluntary Stewardship Program (VSP): This is a statewide initiative in association with the Washington State Conservation Commission to help maintain your farm's economic viability along with the health of the county's watersheds. Thanks to input from cranberry growers, Pacific County has made a lot of progress on its plan. For the latest status see <http://www.co.pacific.wa.us/dcd/VSP.htm>.

New Smart Phone Apps for Cranberry Growers:

'*Bee safety*' is an app from OSU that IDs the risk to pollinators from different pesticides.

'*myipm-ned*' provides a list of products and rates for all major cranberry pathogens and insects. It includes photos of common pests and other stuff. Uses a bit of memory, but could be quite useful.

'*Bayer vm*' is a new app from Bayer that has a really good section on sprayer calibration. The one for backpack calibration is amazingly easy to use. One of the most common mistakes I see on cranberry beds is use of uncalibrated applications of backpack sprayers. On many herbicide products, you can not afford to be off on your calibration. Want to know how many ounces of Stinger to use in a 4 gallon backpack? Download

the app and use the backpack calibration section. It is really very easy. The app also has useful weed control information. Type in the name of a weed and you'll get a list of Bayer products that will provide control.

'*GrassSnap*' This is an app I wish I had had 20 years ago. Basically, it allows you to take a photo point from the exact position and angle over time, i.e., take the exact same photo of your bed (or whatever) every month for years. Great for recording a historical view of a bed over time.

Considering not producing a crop on some beds in 2017? You will still need to do minimal pest control on those beds to assure you will have a crop in 2018. For a minimal expense, two insecticide applications for fireworm control could prevent a crop disaster for 2018. If you've had twig blight in the past, also consider Bravo in mid-July. To prevent any crop from setting, consider a short flood during bloom.

Farm workers: Employers should be proactive and recognize and correct Form I-9 problems *before* ICE comes knocking on the door. Audit all Form I-9s to ensure they are completed fully and accurately. You don't want "technical errors" resulting in costly penalties, nor do you want to lose your work force. There is some very good information on various websites. See links below or go to the Western Growers Association for more information, like [What to Do during an ICE Visit](#) and, [How to Be Prepared for an Immigration Raid](#).

<http://fruitgrowersnews.com/news/western-growers-prepare-increased-ice-raids-audits/>
<https://www.wga.com/sites/wga.com/files/ICE%20Raids%20Preparedness-English%20version.pdf>

PEST MANAGEMENT

Cranberry Fruitworm: This insect is not too common a pest in PNW cranberries. However, several growers had an outbreak in 2016. If you see the damage, it is too late to treat effectively. Applications of long residual insecticides, Altacor or Intrepid, at fruit set are your best options.

Cranberry Fruit Rot: A quick review. Applications of fungicides during bloom are critical. If you wait until fruit set, it might help with twig blight, but you will be too late to provide any significant reduction in field rot. Of particular concern are farms that don't have the ability to chemigate individual beds. In this case, the fungicide timing for the early blooming varieties, like Crimson Queen, will be too late. This could help account for the high field rots of this variety.

For best control we recommend two to three sprays during bloom, alternating between FRAC 3 (Proline or Indar) and FRAC 11 (Abound) products. Be sure to finish with a Bravo or Dithane as part of your resistance management program. Resistance to Abound is of particular concern, and has already been noted in Washington cranberry beds.

You may not need all these fungicides if you are growing processed fruit and have consistently good packout. However, our data has shown consistent increases in yield from a series of fungicide applications during bloom, irrespective of their effects on fruit rot.

Twig blight/Lophodermium: With the emphasis on fungicide timing targeting the bloom window, we might be tempted to consider not putting out a prophylactic spray for twig blight in mid- to late July. If you or

your neighbor have even a minor amount of twig blight show up this year, or had in recent years, then you will need one to three chlorothalonil or mancozeb sprays, depending on severity. If not, then skipping spraying or reducing to just one might be a cost-saving option. FYI - copper fungicides don't work against twig blight, but single mode of action fungicides like Abound, Indar or Proline do. However, we strongly recommend sticking with broad spectrum fungicides like chlorothalonil or mancozeb to prevent resistance to the single mode of action fungicides.

Weed-Free Areas around Your Building:

Having weed-free areas in your driveway and around your farm buildings is important. Most broadcast and granular products only provide short-term control of these areas. A brand new herbicide from Bayer called Esplanade EZ is now available for just that purpose and is available in 1 quart containers. It provides both post and long-term pre-emergent control. Worth a try if this has been a problem for you.

Summer Weed Control: Callisto via chemigation, or Callisto with or without Select tank mix, for spot spraying are good options for many weeds. Be sure to add a surfactant for spot spraying as per label recommendation. Do your second Callisto application just when the weeds are growing out of the first treatment.

Pesticide choice: There are lots of reasons to choose a particular pesticide, with efficacy and cost being the main ones. Others include resistance management, pollinator safety, PHI and environmental restrictions. Less noted are the risk to the user and the pleasantness (or lack thereof) of the task. Some products are just plain nasty-smelling, and unpleasant to use.

Table 1 provides my offensive odor rating of pesticides along with risks to the user. Also see the footnotes for some concerns that you might be unaware of that have been documented in the literature for a few products. Table 2 provides the relative dustiness of some commonly used products. Using a dust mask when applying some of these products is prudent.

Table 1. Odor and user/equipment risks of common cranberry pesticide

Product	Risk to user/ equipment (1-none, 3- moderate, 5- high)*	Offensive odors (1- none, 3- unpleasant, 5- very offensive)
Orthene	3	5
Diazinon 600	4	2
Diazinon 500	4	5
Lorsban	4*	3
Sevin XLR ⁺	3	1.5
Avaunt	1	1
Intrepid	1	1
Delegate	1	1.5
Pyganic	1	3
Casoron	2	5
Callisto	1	1
Glyphosate	2	1.5
Stinger	1	1
Quinstar	1	1
Poast	1	3
Select	1	3
Weedar 64	2	4
Bravo	2	1
Proline, Abound, Indar	1	1
Mancozeb	1	1
Iron Sulfate	3 [#]	5

*Lorsban - has been linked to ADHD.-type behavior risk in children

⁺ Sevin may worsen the condition of people with hypertension and people who are taking anti-depressant drugs

[#] Iron sulfate is corrosive to sprayers

Table 2. Dustiness rating of common cranberry fertilizers and herbicides

Product	Dustiness (1- none, 3- moderate, 5- really bad)
Casoron	3
0-23-25	4
12-12-12	3.5
6-24-24	1
46-0-0	1
21-0-0	1
K-Mag	3
Sulfur	2 to 5*
Iron sulfate	5
Organic based fertilizers (poultry or fish)	3-5*

*rating depends on the product; some are acceptable some are really bad

Surfactant and Cranberries: Here are some general guidelines. New cranberry growth is very sensitive to adjuvants that are oil-based. Don't use any adjuvant that is classified as a crop oil (COC) or methylated seed oil (MSO) from bud elongation to after fruit set. One of the reasons these surfactants work well is that they damage the waxy cuticle, allowing for better uptake of the herbicide. You won't always get damage, but you could. For example, a COC adjuvant during dormancy and after the cranberry canopy has hardened off is fine, but could result in damage to tender new cranberry growth.

This is somewhat problematic for grass herbicides, as they are most effective when used with a COC (as per label recommendations). You can still get more than adequate efficacy with a non-ionic surfactant (NIS), just not as good as with a COC. For that reason during times when the cranberries are not sensitive to an oil based surfactant, consider using a 0.5% v/v COC

surfactant, consider using a 0.5% v/v COC to improve control. Use a 0.25% (v/v) NIS during sensitive time periods.

Even after bud set, I would still be cautious with a COC during hot sunny days. Overall, a NIS will not be as effective as a COC with grass herbicides, but will be good enough. The Callisto label states both a COC and NIS can be used. Therefore, stick with 0.25% NIS to be safe. Another popular type of adjuvant is the hybrid silicon-based surfactants. These are particularly effective in that they reduce surface tension enough to allow direct stomata uptake of the herbicide. I would be cautious using any silicon-based surfactant for foliar applications of herbicides on cranberries, but new data indicate that they are very effective in improving the efficacy of weed wiping with glyphosate.

Differences in efficacy between adjuvants of the same type are subtle and there are too many adjuvants, 632 adjuvants labelled in

WA, to make specific recommendations. Stick with those from major companies. A good adjuvant guideline to download for free is the "Compendium of Herbicide Adjuvants" (to find the download, google "PPP-115.pdf").

Weather. Our wet and cold winter/spring has set several all-time records at the station, with the wettest March in 149 years (17.8"), and the wettest 8 months (September to April) of rainy season since 1960 (103 inches). Growing Degree Days (GDD) are behind average. At the time of this writing, we have half the GDD we had in 2016 and 2015. As I've mentioned in the past, years with our higher state average yields correlate well to February to May GDD. Our winter/spring GDD are tracking closely with what was measured in 2009, 2011 and 2012. The 2009 crop year wasn't too bad, but that was mainly because the 2008 crop was dismal

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		3.8		248	310		240
June	0.4	2.7		2.9		367	381		335
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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Persons with disabilities who require alternative means for communication or program information or reasonable accommodation need to contact Kim Patten at 2907 Pioneer Road, Long Beach, WA 98631; phone 360-642-2031; email pattenk@wsu.edu, at least two weeks prior to the event. Reasonable accommodations will be made for persons with disabilities and special needs. Extension programs and policies are consistent with federal and state laws and regulations. Extension helps put knowledge to work.

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