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CRANBERRY VINE

WSU Long Beach Research and Extension Unit
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NOVEMBER 2016

MEETINGS

Washington 2017 Cranberry Winter Workshop: Saint Lawrence Catholic Church Hall, Raymond, 1 to 4 p.m., Wednesday, February 1, 2017. Pesticide credits will be given.

Oregon Cranberry 2017 Winter Workshop: The 2017 Oregon Cranberry School will be held on Friday, February 3, 2017, 9:00 to 3:00 p.m. at the Sprague Theater in Bandon, Oregon. For more information about the event, contact Bob Donaldson at (541) 348-2242

PEST MANAGEMENT

Cranberry Fruit worm (CBFW): This insect has started to become a significant pest in select beds in Grayland and Long Beach. Usually by the time a grower notices it, it is too late to do anything. I mention CBFW now, because there are limited chemical options that provide good control. If you had a problem in 2016, you may want to consider purchasing Delegate and Altacor during your winter procurement process.

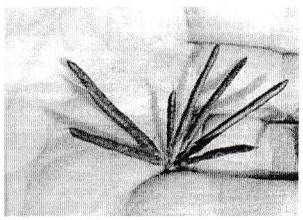
Here is a primer on what you need to know for 2017. Cranberry fruitworm overwinters in the soil in the prepupal stage. They pupate in early spring and the adults emerge from mid-June through the end of July. The adults are nocturnal and remain among the vines during the day. Eggs are laid on berries as soon as they are about the size of a small green pea. Larvae emerge after 5- 7 days. First instar larvae bore a small hole directly into the berry almost immediately after egg hatch. They consume the seeds and pulp and move to a different berry, repeating the process. Each larva can consume three to six berries during its life. The larvae then drop to the ground to construct a silken cocoon at the end of August for overwintering. There is only one generation per year. Larvae ultimately reach a length of about 1/2". The head is yellow to light brown. The body color is reddish-yellow on the top and green below.

Once the larvae enter the berry, they are protected from natural enemies, insecticides, and adverse weather. Other growing areas recommend scouting for eggs to time your sprays. If you are unwilling to do that, consider using pheromone traps to monitor for adult moths.

To control CBFW, you need to target the eggs, not the larvae. It is very difficult to control larvae once they are in the fruit. For beds with very high fruitworm pressure, apply Altacor before or at 50% out-of-bloom (or when the first fruits are the size of a

small green pea). Timing of this first spray is critical. Repeat the application in 7 days. Switch to a night spray of Delegate for your third spray. The above program should work if you had a severe infestation in 2016. If you are not sure if you had or have CBFW, take a picture of the larvae and email it to pattenk@wsu.edu. By then it will be too late, but you'll know for 2018.

Lotus: Late fall is a good time to treat lotus with Stinger. It is safe on the crop and does a decent job of suppressing the plant the next season. The real villains with lotus, however, are the long-lived seeds. Out of curiosity I counted the number of seeds per square foot produced by a mature lotus plant. I got ~ 30,000 seeds/ft^2. To have an effective lotus management program you will need to manage new seedlings with a pre-emergent or early post-emergent herbicide.



Revised compendium on Vaccinium diseases: The revised Compendium of Blueberry, Cranberry, and Lingonberry Diseases and Pests is finally out for 2017. It can be purchased on-line at APS press for $149.

Fertilizer spreaders and fruit rot: Driving around looking at beds prior to harvest, I was curious as to what sort of crop loss growers have in their tracks from running fertilizer spreaders through the beds in August applying late fertilizer. We took 1- ft^2 yield samples across and outside the tracks to find out. The Stevens bed we examined had 160 bbl/ac over the drive wheel tracks, 220 bbl/ac in the crazy wheel track and 266 bbl/ac in the untouched zone. This translates to ~8 bbl/ac crop loss ($360/ac) for that trip across the bed. That is not insignificant. Make sure you really need an August application with a Vicon spreader before you casually make the application. This example is probably extreme, as the spreader had wide tracks (3").

WEATHER

Our higher than average growing degree days this spring and summer did little to increase our overall crop. We had the highest October rainfall since precipitation was collected here in 1878. The previous record was 16.16 inches in 1975. For the predicted 2017 weather, the state climatologists are uncertain about the winter outlook, other than stating we are currently in a weak La Niña condition, and there will be a wetter than normal November.

Precipitation (inches per month)						Monthly Growing Degree Days (based 45°)			
Month	2014	2015	2016	20 yr ave.		2014	2015	2016	20 yr ave.
January	5.9	9.5	16.4	12.1		16	65	79	41
February	7.5	6.6	11.9	7.4		24	139	129	40
March	13.3	7.3	14.0	10.0		86	121	117	59
April	7.3	4.1	2.4	5.6		141	114	241	108
May	5.9	1.3	1.4	3.8		382	248	310	240
June	3.3	0.4	2.7	2.9		356	367	381	335
July	1.2	0.2	1.6	1.2		462	533	484	439
August	1.5	2.5	0.8	1.7		474	532	492	448
September	3.5	2.4	3.6	2.8		478	367	363	370
October	11.8	5.1	16.9	7.8		354	350	257	226
November	9.3	17.0		12.3		120	77		85
December	12.5	19.8		12.5		97	60		34
Totals	82.9	76.1	71.7 to date	80.1 (Nov Dec 2015)		2990	2972	2853 to date	2427 (Nov Dec 2015)

Pest control products to consider for 2017: Early winter is when most growers in Washington purchase their chemicals. To help with your purchase decisions, I've listed most 'must have' pesticides that growers should consider purchasing, along with their costs, advantages and disadvantages. Consult WSU's Cranberry Pest Management Guide http://cru.cahe.wsu.edu/CEPublications/eb0845e/eb0845e.pdf for more information on timing and rates.

Pesticide	Primary pest**	Secondary pest**	~Cost/ac / application	Pluses	Minuses
Diazinon	BHFW	CBTW	30	Broad-spectrum	OP, water, bees
Sevin	TW	BHFW	24	Broad-spectrum	Water, bees,
Intrepid	BHFW		27	Efficacy, safe for bees	
Altacor	BHFW, CBFW	CBTW, CBG	52	Efficacy, long residues, safe for bees	Cost
Delegate	BHFW, CBFW		35	Efficacy on large larvae	Cost, bees
Avaunt	BVW - adults	BHFW	30	Efficacy on adult weevils	Bees
Orthene	BHFW, BVW	TW	8	Cost	Bees, MRL if applied late
Bravo/ or like products	Fruit rot, Twig blight	Upright dieback	32	Broad-spectrum efficacy,	Residue, water, potential for phytotoxicity during bloom (very uncommon in PNW)
Mancozeb	Fruit rot, Twig blight		34	Broad-spectrum efficacy	
Proline	Fruit rot	Twig blight	22	Efficacy, systemic	Requires resistance management*
Indar	Fruit rot,	Twig blight	24	Efficacy, systemic	Requires resistance management*
Abound	Fruit rot,	Twig blight	23	Efficacy, systemic	Requires resistance management*
Casoron	Numerous weeds		150-200	Efficacy	Long term causes bed decline
Callisto or like product	Numerous weeds		30	Chemigation	Resistance issue with long term use
Select or like product	Grasses		3	Excellent grass control	Doesn't work on fine fescues
Stinger	Sheep sorrel, legumes		15		Damages cranberries if applied wrong time of year
Curio	Buttercup, and other weeds		8	Cost	Can damage cranberries when applied during hook
Quinstar	Yellow loosestrife	Numerous weeds	11	Chemigation	MRL issues for export, OK for domestic fresh fruit

** BHFW- blackheaded fireworm, CBFW- cranberry fruit worm, CBG – cranberry gridlers, CBTW – cranberry tipworm, BVW - blackvine weevil.

*Must use in rotation with other fungicides with different FRAC #

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