June 2013

MEETINGS AND INFORMATION

Washington Cranberry Summer Field Day: Pacific Coast Cranberry Research Foundation, Long Beach WA. July 26th, 2013. 8:30 Registration, (9 am to 2 pm) Three pesticide credits will be given.

Oregon Cranberry Summer Field Day: The 2013 Oregon Field Day will be Tuesday August 13th, 2013. There will be several farm visits and speakers. For more information the event, contact Bob Donaldson at 541-348-2242.

British Columbia Summer Field Day: Thursday, February 7th, 2012. Call the BC Cranberry Marketing Commission at 604-307-1046 for details. Speakers include

PEST MANAGEMENT:

New pesticides for 2013: Quinstar will obtain a Section 3 with a chemigation label, but because of MRL issues there are still export restrictions. Be sure to check with your handler if you use this product. Venom, dinotefuran, is a new insecticide that has cranberries on a supplemental label. It is labeled for suppression of numerous cranberry insect pest. It has a few MRL issues. The best fit for WA pest might be for adult weevil suppression as an alternative to Avuant after fruit set. Grandevo, an OMRI approved insecticide, has cranberries on its label. Fireworm is listed as one of the pest controlled. Our results suggest it might be a good cost-effective alternative to Entrust for organic growers.

Waste Pesticide removal. WSDA has changed the way they pickup waste, non-usable and/or no longer registered pesticides. Basically, you contact them and they will schedule a time to inventory, prepare and pack the products for disposal and then schedule either direct pickup or a collection event at a later date. What would be most workable is if the cranberry growing regions coordinate packing and pickup in Pacific and Grays Harbor counties. That way all coastal cranberry farms can be provided disposal service in an efficient, cost effective manner. WSDA is hoping to identify all growers in need of disposal service by the July 26th field day. The unwanted products would be collected later in the summer, well before harvest begins. The issue of waste pesticide removal is very important for any grower seeking to obtain BAP or Global Gap certification. You won't pass inspection unless these products have been removed from your farm. Now is the time to review your product inventory and arrange to dispose of all pesticides you no longer need. Don't wait until it is too late. To apply for the free pesticide disposal, visit their website **www.agr.wa.gov/wastepesticide** to submit an interest form and/or disposal inventory, Email **WastePesticide@agr.wa.gov** or call **(360) 902-2056**.

Pesticide Applicators License Exams: If you need to take the pesticide applicator's exam, we offer them at the Extension Office in South Bend or at WSU Long Beach. Call to schedule an appointment; numbers are 360-875-9331 and 360-642-2031 respectively.

Pesticide application posting: I still occasional see farms have haven't posted following a pesticide application. Remember it is the law. It is for your own liability protection. It is also protects your workers, IPM scouts, and Extension Agent.

WSU 2013 Cranberry Pest Management Guide: is available online as a pdf. (http://cru.cahe.wsu.edu/CEPublications/eb0845e/eb0845e.pdf). Also see updates to the PNW pest management books.
http://insects.ippc.orst.edu/pnw/insects;
http://plant-disease.ippc.orst.edu;
http://weeds.ippc.orst.edu/pnw/weeds

You may also find management guides for other state useful.
http://www.umass.edu/cranberry/pubs/chart_book.html
http://njaes.rutgers.edu/pubs/publication.asp?pid=E308
http://learningstore.uwex.edu/Assets/pdfs/A3276.pdf

Useful mobile applications. There numerous mobile phone applications that target pesticide applications that maybe useful to growers to help with tuning and adjusting spraying equipment and application practices. Clemson Calibrate My Sprayer, has calibration algorithms where you fill in the blanks and it gives you Gal/ac spray volume. 'Tank Mix Calculator, has algorithms that calculates how much product to put in your tank mix based on acres, tank size and spray volume.'TeeJet Spray Select' will guide you nozzle selection based on spray parameters. There are two other useful apps from WSU based on the weather station (Agweathernet). You can send an alert to your cellphone or email for frost, irrigation, or disease. There is also a widget you can put on your cell phone for the current weather station data. These are all free apps.

Weed Control

Curio: Don't forget to first dissolve your Curio by vigorous shaking with a few cups of water in a sealed container, and then add that to your tank mix. Otherwise, you'll never get a uniform application.

Yellowweed: Two applications of Quinstar starting in early to mid-May work best. If you missed the May windows, one or two application between June and July are also fairly effective, but you will have less efficacy in the year of treatment. There is an MRL issue for export fruit, so notify handler if you use as.

Salt grass and other perennial grasses: Herbicides with the active ingredient clethodim, like Select, are effective, but require multiple applications.

Silverleaf: Multiple applications of Callisto as the canopy develops; will take several years.

Willow seedlings: Callisto when really small, Quinstar if they are bigger.

Annual Rushes (toad rush, louse grass etc.): Callisto if small.

St John's Wort (all species): For new or young plantings use Callisto + Curio as early post-emergent (June).

Lotus: Spot treatment of Callisto or Curio can be useful. If you been doing this and still have problems with lotus, consider spot treating with elemental sulfur to lower the soil pH to under 4.8. It takes several hundred pounds/ac and most of season to achieve efficacy with sulfur. There are sprayable and granular forms of elemental sulfur, but are effective, but the spraying is more fast acting. Work we did in the 1990's with this indicated that it was better to use several small application (<150 #/ac) during the summer than one big dose, Application to areas with poor drainage should be avoided, as problems with hydrogen sulfide toxicity can occur.

Plant Diseases

Cottonball: Growers with serious cottonball in 2012 should use two sprays of Indar or Abound during bloom. The first spraying should be done when 10 to 20 percent of the flowers have opened, the second ~5-8 days later as the remaining flowers open.

Twig Blight: Growers with serious twig blight infestation in 2012 should target three fungicide application during the month of July. Bravo, Manzate, Indar and Abound are all effective against Twig Blight. Remember to avoid repeat application of fungicides from the same family classification. Hand-treating areas where sprinkler coverage is poor is essential if the infestation is really bad.

Fruit Rot: Based on numerous studies two applications of full rates of Indar + Abound from early to mid-bloom have reduced rot and increase yield. There is no guarantee, but should be considered if you've had issues with fruit rot.

To better understand ideal fungicide timing and selection for Washington conditions, Dr. Frank Caruso, is currently assessing the pathogen most on prevalent on our fruit. Based on the initial assessments, the pathogens *Allantophomopsis lycopodina* (dark pigmented black rot fungus), *Coleophoma empetri* (ripe rot), and *Allantophomopsis cytisporea* (light pigmented black rot fungus) seems to be the main species of concern.

Rose Bloom: This is easily and cost-effectively treated with copper. Treat when you see a whitish bloom (sporulation). Crop loss is not severe with this disease, but you don't want it to get out of hand.

Red leaf spot: This is not a major disease unless you have a vigorous growing new planting. Consider using copper sprays if you see becoming problematic. This will prevent a secondary infestation of black spot fungus, *Mycosphaerella nigro-maculans*.The combination of these two diseases occasionally can do serious damage on young planting.

Insects

Blackheaded Fireworm: A warm early May brought on an early hatch. Expect the second hatch to occur during mid to late bloom. If this happens use Intrepid or Altacor. There are both bee safe and provide excellent residual control. Our data indicate that an additional spray of one of these compounds in Mid-July – will help provide season long suppression of fireworm adults that lay eggs for next season.

Weevil: For Beds with Black-vine Weevil problems use two night-time applications of Avaunt starting a week after you start to find weevils with night sweeping. Usually this is about Mid-June. Consider spot treat around problems area. If weevils persist, consider spot treatment with nematodes.

Tipworm: This midge is not a major pest in WA, but we are finding it on more and more beds. Growers should be aware of what the symptoms look like (cupped tips starting in Early June) and call us if you think you have a problem.

Gridler: There is nothing is registered that provides cost-effect control. If you have a serious problem, call us and we will assess to see if it is weevil or girdler damage.

Surfactant or no surfactant? Growers have a choice between using one of hundreds of stickers, spreader, surfactants for any or all of their pesticides. The science behind surfactant choices is minimal at best and this is not the forum to recommend one product over another. There are, however, a few standard consideration for surfactant choice and use. 1) Don't use any sticker with Bravo products- it results in residue problems. 2) Avoid using high rates (>0.25%) or any crop oil concentrates or methylated seed oil products on hot sunny days when you have new tender cranberry growth present. New cranberry leaves are sensitive and phytotoxicity may occur. When in doubt use a 0.25% v/v nonionic surfactant instead. 3) Follow the label for recommended uses, rates and products. Some herbicides, clethodim for example, only work well when used with the correct surfactant. 4) Some glyphosate product come with surfactant, others don't. Read the label. 5) Applications of any pesticides using large volumes of water, eg chemigation, minimize the effectiveness of a using surfactant or sticker. It may not hurt, but don't have high expectation for improved efficacy. For examples, when chemigating Callisto it is recommended you use a surfactant. Since the herbicide also has soil activity, the added surfactant likely does nothing to enhance efficacy. 6) Some herbicides and insecticides work better when used in lower pH water. Normally we don't have high pH water problems, but acidify surfactants like Li700, are useful in those situations.

Cranberry Management

Pond water quality: Many of our irrigation ponds/sump are loaded with dissolved iron (reduced form). Using this water for irrigation results in an iron deposit on leaves and fruit. This not only make the fruit unattractive, but more importantly the coating on the leaves reduces plant photosynthesis. It is hard to tell how much crop loss this residue actually cause, but I suspect that it is not insignificant. I've never seen a consistent high yielding bed that is irrigated from

one of these types of ponds. The easiest solution is to install a pond aeration. There are two types: 1) a high oxygen transfer pond aerator that is moored on the surface in the middle of the pond or 2) a diffused aeration device that uses a small air compressor to push fine air bubbles from the bottom of the pond. For shallow ponds (4-5') the surface moored aerator is recommended. For deeper ponds a bottom diffused aerator is recommended. For the size of ponds we have (¼ to ½ surface acres), there are numerous small units available for <$1000 that would work fine. Will you get your money back in increase crop? That would depend on the vine quality. With junky Mcfarlins – it might not be worth the investment, with high yielding hybrids it could pay for itself.

Plant fertility. Cranberries need ~ 20-60 lbs/A N, 45 lbs/A P_20_5 and 60-120 lbs/A K_20 fertilizer per growing season. Nitrogen is the most dynamic of these nutrients and has a short resident time in the soil. Apply N over 3 to 4 times during the season. The bulk of which should occur during bloom to set, with some minor amounts being used at roughneck and bud set. Use caution with early N on some varieties like Stevens and McFarlin, as you can get over-growth if weather or crop load are not cooperative. Use plant vigor, leaf color and general appearance and crop load to adjust N rates up or down accordingly. Phosphorus hangs around in the soil and cranberries don't use large amount of it. Two to three applications a year from bloom to bud set are adequate. Potassium is best spread out 3 to 4 times between bloom and bud set.

Because cranberries don't need/use large amounts of P, application of blends with high N and K and low P (2:1:2 NPK ratio) are more cost-effective and environmental friendly to apply that something like a 1:2:1 product.

Regards of your fertilizer plan, you should consider taking a tissue & soil analysis every 3 to5 years. This should be done in August. Results are useful for indicating general trends and making sure nothing is too low. Leaf analysis is particularly useful for diagnosing micronutrient deficiencies or toxicity and soil analysis is good for noting shifts in soil pH. The combination of leaf and soil analysis is particularly useful for fine tuning your program and noting problems. soil analysis are high, reduced your inputs. If they are both low, increase your inputs. If soil is high and leaf low, there is likely a root or water problems (too little or much). If the soil is low and leaf high then there is likely a contamination of the sample, or you put on a foliar application of something you should have.

For more information on cranberry nutrition and leaf and soil analysis standards refer to (http://www.umass.edu/cranberry/downloads/chartbooks/2013%20chartbook/2013%20Chartbook%20FINAL.pdf pages 45 to 55)

Pollination: The question of what is the most cost-effective number of bee colonies per acre to use has been difficult to answer. It is difficult to get a good data set to make an inference. I was most impress by a recent study from the Univ. of Wisc. by Hannah Gains and Claudis Gratton that compared 11 years of high yielding well managed Stevens beds in Wisconsin with the number of colonies per acre the growers used (301 data points). They found yield increased linearly from 0 to 8 colonies per acre. They calculated a 7% increase (14 bbl/ac) in yield for every additional hive per acre. This is about a ten-fold increase in return on what you are paying in hive rental. This may not apply to WA conditions, but it does suggests that good producing beds could benefits from bumping up the our colonies numbers well beyond the 2 or 3/ac that

we have been comfortable with in the past. With good producing beds increasing the colonies/ac should be well worth the investment.