Washington State University • Long Beach
Cooperative Extension
2907 Pioneer Road
Long Beach WA 98631

CRANBERRY VINE

June 2000

MEETINGS

Cranberry Potluck. Sunday July 30, at 6:30 pm at PCCRF on Pioneer Road in Long Beach. PCCRF All those attending Field Day are invited to attend. Please contact WSU for additional information 360-642-2031.

Pacific Coast Cranberry Research Foundation annual meeting. Monday, July 31, 7:30 am at PCCRF.

Cranberry Field Day. Monday, July 31, 8:30 - 2:30, at PCCRF on Pioneer Road in Long Beach. Pesticide Credits will be given.

Bandon Field Day. Thursday, August 3, 8:00 - 12:00 in Bandon Oregon. For further information please contact 541-347-2446.

BOG MANAGEMENT

SOIL FERTILITY: There is a gray area in cranberry growing between over-fertilizing and not fertilizing enough. My observations would suggest that in times of financial duress some monies could be saved by holding back on fertilizer. This is particularly true in peat or muck soil, and when you have light cropping varieties like McFarlin. Responses to fertilizer, unless there are real deficiencies, are very subtle. Research shows, for example, no response to added phosphors fertilizer beyond 45 lbs P_2O_5/ac/yr. This would be achieved with 200# of 6-24-24 or 300 # of 14-14-14 a year spread out in two to three doses over the growing season. For potassium, research indicates there is no evidence it will increase fruit size or winter hardiness, nor that early applications of potassium will improve fruit set. Yield does eventually decline when no K is used, as it does when excessive rates are used (>300# K_20/ac/yr). Fruit are a strong sink for K and as a consequence a heavy crop can remove 70 to 120# K_20 ac/yr (equivalent to 125 to 220# K_2SO_4 (0-0-52)). Since K does leach, applications to replenish K should be spread out over the season. The K_2SO_4 form of K is preferred to KCL, especially for Stevens. Cranberries do respond to Nitrogen. However, the response you observe the most with high N rates is a significant increase in fruit rot. Moderate N rates (10 to 50#/ac/yr depending on soil and variety) spread out between mid- June and late- July will usually suffice. Growers aiming for fresh fruit and keeping quality should hold back on N.

Do leaf feeds help? Are there special timings, blends and form of fertilizer that do better than others? Sure, but most often the effects are subtle or site specific. At this time, spending extra money trying to fine tune your fertility program is not where I would be focusing.

The take home message is not to undermine the value of good soil fertility, but to suggest that in times of cost savings, cranberries can do just fine on a budget fertility program. If you are inclined to fertilize for a bumper crop and pretend that it is worth something then it would be opportune to experiment. Leave some areas untreated or with reduced fertilizer to determine what is more cost effective for future years.

Fertility does play a more significant role in new plantings. General recommendation to fill in a bed with vines is to aim for 1 pound of nitrogen per acre per day, with an application on sand every 7 to 10 days. In our research plots, I've always seen a better response for ammonium sulfate (21-

0-0) than urea (46-0-0). The suggestion rate is 50# of 21-0-0 every 7-10 days. Once a month replace the 21-0-0 with a 100# of a blend like 14-14-14 or 6-24-24. Growing vigorous vines is likely to result in red leaf spot and subsequent dieback of new shoots with black spot disease. If you observe significant red leaf spot, consider a Kocide application.

POLLINATION: To save money several growers have chosen to go without bees this year. If you are one of these growers, try to document your bee foraging population during a few good sunny days. Walk a path 100' long looking for the number of bees along 3 foot width. Do it at several locations. If you are consistently getting less than 1-2 honeybees, it is cause for concern. If you have greater than 20-40 then you should thank your neighbors for getting bees for you. In general, these data should indicate what you should do in the coming years in terms of getting by on less.

IRRIGATION: Over irrigation is a common problem. Here are a few specifications on irrigation requirements for our area. Daily mid-summer water use is from 0.1 to 0.15 inches of water per day from evapotranspiration (slightly greater on very windy days). Assuming no rainfall or wicking of subsoil moisture (peat or muck soils) you need to replace that amount plus a little more to compensate for inefficiencies in irrigation system. Most solid set systems generate from 0.1 to 0.25 inch per hour depending on nozzle size and spacing (if you are unsure put out several tin cans in your beds and irrigate for a hour and measure depth of water with a ruler to get a ball park figure). Therefore, for a typical day (0.1 to 0.12 water use) and average system (0.15" water per hour) - 1 hour of irrigation per day should suffice. On sand every day or every other day irrigation may be adequate. On peat or muck once or twice a week may be adequate. Irrigate in the early morning. Don't go by surface looks of a soil to gauge wetness. It is the root zone that counts, if the surface soils stays wet most of the day - it is too wet.

DISEASE MANAGEMENT: For fresh-fruit keeping quality use a Bravo-Bravo or Bravo-Mancozeb application at early green fruit and 2-3 weeks later. If you have Twig Blight use a Bravo-Bravo as above, followed by Mancozeb no later than August 10th. To save money use a Bravo-Mancozeb-Mancozeb as an alternative. If you are spot treating for twig blight spray a 30-50' radius out from the infested area. It might be a little late for Rose Bloom, but if you still have infested shoots showing whitish tinge then a Kocide application may still be appropriate.

WEED CONTROL

NEW BEDS: Spring herbicides only last so long and a follow up application may be required. Follow the label advise regarding subsequent applications. It is best to wait until you see those first few seedling emerge before you make a second application. It is difficult to apply low rates (<20#/ac) of Evital or Devrinol uniformly with some applicators. Some growers mix these herbicides with 21-0-0 to achieve that end.

GRASS CONTROL: Many grasses can only be controlled with Poast if they are treated early prior to their flowering. We have never seen any negative response from Poast during bloom, as long as the application rate followed the label (0.5 to 2.5 pt/ac), a low rate of surfactant was used, the application was not made during high temperatures and the spray volume was less than 40 gallons per acre (spray to mist or less).

If you held back on Casoron, it is likely that barnyard grass will break through and be problematic this summer. I have seen several fields where it is a few inches tall already. The important thing to remember is that control with Poast is easy if you get to it early. Don't wait until it is 2 feet tall and flowering.

BRAMBLES: We continue to get good blackberry control using a cut stem application method with 100% Roundup. This use is on the label and works adequately. Cut stems about 4 to 6 inches above the vines and apply pure Roundup to the freshly cut ends up to 30 days PHI. Use a Bingo dabbler, soap sponge dispenser found at any variety store or paint brush. Avoid application on days that are too hot.

POST-FRUIT SET STINGER: As I mentioned in the last Cranberry Vine we now have a label for broadcast application of Singer after fruit set. For spot treatment use 1 tablespoon/3 gallons when spraying to wet or 1 teaspoon/3 gallons when spraying to runoff.

INSECT CONTROL

CRANBERRY FRUITWORM: (CBFW) is a relatively new pest to our area and has accounted for significant losses on some beds. Adults will soon be out and begin egg laying. CBFW overwinters as a fully-grown larva about 3/8 inch long within a cocoon made of silk and soil particles. Pupation occurs during the early spring and moths begin to emerge in June. Adults are brownish gray moths with a pair of white markings on each forewing. The eggs are pale-green, flat, and laid singly, most often along the inside rim of the calyx cup. Eggs are laid on pea size fruit. Eggs hatch in 5-7 days and the newly emerged larva is pale yellowish-green. Upon hatching, larvae bore into fruit. The larva remains within the fruit until its contents are consumed whereupon it moves to enter another fruit. A single larva may feed on as many as six to eight berries before pupation. There is only one generation each season. Control is tricky because once inside the fruit they are protected from contact sprays. A residue product that must be consumed to be effective like Confirm, offers a solution if you fail to control it with normal fireworm sprays. An elaborated monitoring control program has been established in Massachusetts, see www.umass.edu/umext/programs/agro/cranberries for more information. In Washington we have just begun to develop monitoring/control research program. Pheromone traps will be placed at numerous locations this year to observe peak flight information and the level of infestation and various spray programs will be evaluated.

GIRDLER AND WEEVIL. We are still having the age old problem of finding good research sites for these insects. No sites, no research - no solutions. We have several new products that we need to try and would appreciate any help. If you have serious infestation please let us know. I'll make you a deal you can't refuse! Several growers have neglected to buy or apply Cryloite bait this year. Consider spot application along the leading edges to help suppress weevils at a lower cost.

SPOT TREATMENT: One method to save money is to spot treat only the affected areas. Spot treating is fine for some circumstances, but some precautions should be noted. 1) For girdler and weevil make sure you treat well beyond the affected area as this is where your new insects populations will have likely moved to. 2) Stay within the label rate. It is far more difficult to apply the correct amount when you are putting it out in a willy nilly pattern across the bed. For example, the Stinger label is 2/3 pt/ac. This is equal to 6/10th teaspoon in 1 gallon of water applied over 20' x 20'. Going above that rate will cause crop injury. Use the conversion table below to help stay within label rates. A rule of thumb for liquid chemical 1 Pint /100 gallons = 1 teaspoon/ 1 gallon; for solids 1 lb/ 100 gallons = 1 teaspoon/1 gallon.

pounds	gallon	quart	pint	cup	ounces	tablespoon	teaspoon
8	1	4	8	16	128	256	758
1	.13	.50	1	2	16	32	96
					1	2	6

PHOSMET INSECTICIDE GETS CRANBERRY REGISTRATION: It has taken 20 years to achieve, but Imiden (phosmet) has finally been registered for use on cranberries. Imidan is manufactured by Gowan Gompany in a 70% wettable powder formulation.
Usage rates: 1.33-4 lbs formulated product/acre
Maximum usage per year: 15.6 lbs formulated product per acre
Target pests: cranberry fruitworm , fireworm
Application methods: chemigation allowed
Minimum interval between sprays: 10 days
Minimum preharvest interval (PHI): 14 days
Cautionary signal word: Warning
Restricted entry interval (REI): 24 hours

What is the take home message about phosmet for Washington and Oregon growers? We have

Washington and Oregon growers? We have another tool to use should we lose registration of one or more of our currently registered pesticides. The product is inexpensive and good for fireworm control, while at the same time being relatively easier on our beneficial *Hymenoptera* parasites. From an environmental perspective, the ½ life tends to be shorter than other OP's, but otherwise it still has all the other concerns surrounding OP's. Therefore the normal safety precautions should be followed regarding risks to humans, bees, and aquatic life. As always, follow the label instructions.

LORSBAN: According to the EPA the recent bans on Lorsban will not affect cranberries. Apples, grapes, & Tomatoes appear to be the only crops impacted.

MISCELLANEOUS

EDITORIAL ON ALTERNATIVE USES OF CRANBERRIES: We are all hoping new research on the nutraceutical properties of cranberries will increase demand and help reduce the surplus. This field of research was in vogue over 30 years ago, but only just came back into fashion. I recently came across a stenographic report presented 34 years ago on the value of cranberries to preventing kidney stones by NASA scientists Drs. Zinsser & Zukerman; on preventing infant dermatitis (diaper rash) by pediatricians Drs. Fellers , Alpert and Galan; on odor control of incontinent patients in hospital wards by Dr Dugan; and on the fungistatic properties of cranberries in preventing dermatophtes (skin fungus) by Dr. Swartz & Medrek. It would behoove the industry to reevaluate the research done in the 60's. Maybe they didn't have the modern analytical tools we now have, but the rigors of their methods can not be faulted. Are we missing something that has been under our nose all along?

CASH FLOW MANAGEMENT: Consider getting a Money Market Account to eliminate your need for other investments in checking, savings accounts and credit cards. These MMC include features like automatic sweep, check writing, convenient cash, direct and automatic deposit, year-end summary statements, and expense code tracking. To evaluate MMC's look at current savings interest rates; comparing checking interest rates, fees, and features, and comparing credit card interest rates and features.

FAMILY FARMER BANKRUPTCY - CHAPTER 12: These are difficult times and some farmers are in dire straights. There are possibilities of saving the family farm that only filing for Chapter 12 can do. In tailoring Chapter 12 to meet the economic realities of family farming, this law has eliminated many of the barriers that family farmers have faced when seeking reorganization under either chapter 11 or 13 of the Bankruptcy code. This process, designed in the 80's, is just for farms and requires that you have less than $1.5 million in debt, greater than 50% of last years gross income was from the farm and greater that 80% of debt is farm debt. The advantages of this process are that you can restructure your debt load to the true value of the farm not the current inflated value. The caveat is that normal bankruptcy lawyers are not normally well versed in Chapter 12. You should deal with a specialist in this field to assure best results. For more information you can look at the web site: www.ndb.uscourts.gov

CROP FINANCING: If you are running into closed doors getting an operation loan consider the Farm Service Agency Guaranteed Loan Program. Call the regional Farm Service Agency at 360-748-0083 ext. 2 and ask for Jonathan Wilson to see if you qualify.

CLEANING SPRAYERS: Often times it may be necessary to switch between uses of a sprayers. To avoid crop injury from any residue in the tank, consider the following: rinse all sprayer parts, fill tank with a mixture of 5 lbs of tri-sodium phosphate or 1 gallon of household ammonia per 100 gallons of water and let stand for 36 hours, pump it though sprayer and then rinse and flush the system several times with water. If you have a copper fungicide in your tank it could likely interfere with subsequent Roundup applications. To clean, use fill you tank with 1 gallon of vinegar per 100 gallon water, let stand for 2 hours drain and rinse.

TENTATIVE AGENDA

WASHINGTON STATE UNIVERSITY CRANBERRY FIELD DAY - 2000
Long Beach Research & Extension Unit
Monday, July 31, 2000

7:30 - 9:30	Pacific Coast Cranberry Research Foundation Annual Meeting
8:30 - 9:00	Coffee and Donuts: Registration and Exhibitor Displays
9:00 - 12:00	New crops for cranberry growers, Organic cranberries, Useful Internet resources for growers, Improving fresh market and keeping quality by new storage techniques. In-field girdler moth monitoring, Trichogramma and mating disruption for fireworm, and Tipworm and fruitworm management
12:00 - 1:30	Lunch - Salmon barbecue, $7.00. Sponsored by the Pacific Coast Cranberry Research Foundation (all proceeds go to help support cranberry research on the West Coast).
1:30 - 2:30	Demonstration of alternative herbicide application methods, Update on fruit rot, twig blight, cotton ball and weed control research, Maximizing tax write-off for off-farm income, Government programs to assist farmers and an IPM update.

WEATHER

	Rainfall (Inches)					Growing Degree Days				
Month	2000	1999	1998	1997	20 yr average	2000	1999	1998	1997	10 yr average
January	10.7	15.5	18.5	14.9	10.8	5	14	58	43	40
February	7.0	21.2	11.4	5.6	9.3	40	10	69	21	55
March	7.9	12.0	10.2	16.2	9.5	25	36	97	38	72
April	4.2	3.6	3.0	6.5	5.6	151	87	99	91	116
May	5.2	4.4	3.8	4.7	3.8	237	180	265	344	216
June		4.0	1.8	5.1	2.8		329	350	362	323
July		1.9	1.1	1.2	1.9		376	476	476	421
August		1.9	0.2	2.7	1.7		474	484	543	440
September		0.6	0.7	6.9	4.1		333	369	477	363
October		5.6	6.2	15.6	6.5		193	244	229	217
November		16.3	19.6	6.5	11.4		138	99	144	99
December		16.0	20.3	9.0	12.6		39	34	38	41
TOTAL		103.0	96.8	94.7	80.5		2209	2644	2806	2402

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