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

CRANBERRY VINE

March 1999

MEETINGS

Generating Wealth Workshops for Farmers. Wednesday, March 31, 6:30 p.m. at the North Beach Grange in Grayland.

Long Beach Bog Tour. March 25, 8:30 a.m., Ed Ostgaard's farm at 3606 Sandridge Road.

Transitional Strategies for the New Era of Pest Management. April 19, 7:00 p.m. at the North Beach Grange in Grayland; April 20, 7:00 p.m. at the Ocean Spray Receiving Station in Long Beach; 2 pesticide credits.

Cranberry Pollination: So what have we learned in the past 10 years. May 10, 7:00 p.m. at the North Beach Grange in Grayland; May 11, 7:00 p.m. at the Ocean Spray Receiving Station in Long Beach. Pesticide credits.

Cranberry Field Day. Monday, July 26, 8:30 - 2:30, at the PCCRF on Pioneer Road in Long Beach. Pesticide credits will be given.

North American Cranberry Research and Extension Workers Conference. September 30 to October 2, Long Beach.

More about the Generating Wealth Workshop. The projected low price of cranberries for the foreseeable future; the likely loss of inexpensive, price effective insecticides; the toughened regulatory restrictions on new plantings, and the need to implement costly BMPs have put a damper on cranberry farming as we have known it. Making payments will be tough enough without having to pay double or triple for using low risk insecticides such as Confirm. Many wheat and apple growers in Washington are in a similar predicament. One successful program that WSU Cooperative Extension has sponsored to help farmers adapt to these times is "Generating Wealth" workshops. While these workshops focus on farmers and ranchers, the principles apply to any business and also to personal finances because they teach new ways to think about money and increase the returns from your investment. Jeff Goebel, coordinator for Washington State University's Holistic Management Project, will conduct this introductory session on whole-business management and financial planning.

Holistic (whole business) management is a decision-making process you can use to achieve personal, business, and community goals with economic, social, or environmental objectives. The introductory session is designed to help farmers deal with the current financial situation in agriculture. The workshop will explore ways of creating profit by increasing income, cutting expenses and prioritizing expenses.

Goebel has great testimonies of the difference this management philosophy has made in the lives of producers who have used it, and he has seen many operations improve their returns tremendously by practicing these principles. There are no silver bullets in farming, but I think the program will be worthwhile attending.

BOG MANAGEMENT

Weed control. The Section 18 for Stinger has been approved and is attached. Please read it carefully before you use the product. Remember you will need to sign and mail back a waiver of liability to be in full in compliance. There are several changes in this Section 18 compared to last year. I have included a post fruit set spray timing (not just wiping). As I have stated before, it is next to impossible to backpack spray low rates of a product accurately. If you go above the labeled rates and spray vines that are actively growing, you will get damage. The label rate is 0.25 to 0.67 pint of Stinger per acre. If you spray to wet, which is approximately 100 gallons per acre, this translates to 0.65 teaspoons/gallon (2 teaspoons in a 3 gallon backpack). If you spray to runoff (300 to 400 gallons per acre) then use ½ teaspoon in a 3 gallon backpack). The absolutely worst time to spray this product is when

there is new shoot growth--you will get damage regardless of rate. Read and follow the label precisely. No surfactant is needed. It will control lotus and clover, and suppress aster and sour grass. Call me if you have any questions. I still think this is a much better alternative than wiping with Roundup.

Silverleaf Control. Split Casoron application is still the treatment of preference (one at first shoot emergence early to mid-March, one 4-6 weeks later (early to mid-April for Stevens, mid-Apr for McFarlin). Rates depend on soil types. For sandy soil try not to go above a total of 60 lbs/acre; for peat soil, 100 lbs is required. On heavy organic soils the best you can get with Casoron is suppression of silverleaf; on sand, control is feasible. In most research plots we usually do not see significant benefit from adding 2,4-D or Devrinol to the Casoron.

Fireworm Control. We have submitted and expect to receive a Section 18 for Confirm again. It is a powerful tool for fireworm control and we encourage you to use it.

IPM. Letters for IPM will go out shortly. Don't forget to sign up.

Disease Control. (Pete Bristow)

Cotton ball update.
Status of Funginex. The State Local Need label (SLN WA-910010) for Funginex is still in effect as is the tolerance for the active ingredient. This means that cranberry growers can use this fungicide for cottonball control. The problem is finding the product because it is no longer being manufactured for North American markets. In talking with several blueberry growers, I understand there may be some Funginex in California. If you locate a supply you will still need to have a copy of the state label in your possession when applying this fungicide.

Using Funginex. Recall that the fungus causing cottonball has two types of spores. The first type attacks new shoot growth shortly after bud break and is called the primary infection stage. The second type of spore attacks only open flowers and is referred to as the secondary infection stage.

Apply Funginex (rate = 24 fl. oz./Acre/application) at bud break and make a repeat application 10-14 days later. These two applications target the primary infection stage.

At early bloom make the third application and make a repeat application in 10-14 days. Protecting open flowers will control secondary infections.

DO NOT apply Funginex more than 4 times per season. Maintain a 60 day PHI. Funginex comes with its own surfactants so additional ones are not necessary.

Chemigation is not recommended. Moreover, cottonball generally is not widespread in beds so spot treating with a hand or boom sprayer should be a good way to get the best value for the limited amount of Funginex available.

If you have only enough Funginex for one or two applications, save it for the bloom period. Researchers in Wisconsin found that under low disease pressure two applications during bloom were just as effective as a four application schedule beginning at bud break.

Options if Funginex is not available. Compared to Funginex, none of the other fungicides approved for use on the crop have much activity against the cottonball fungus. Bordeaux mixture or one of the copper fungicides applied at bud break and 10-14 days later might reduce primary infections somewhat. Applying Bravo (low rate) or Carbamate (ferbam) during late bloom may reduce secondary infections.

Section 18 request for a fungicide to replace Funginex. The Washington Department of Agriculture has asked the US EPA for a Section 18 Emergency Exemption for the fungicide, Orbit for the upcoming season. Cranberry growers in Wisconsin in 1997 and 1998 used this fungicide to control cottonball. At this time we do not know if the request will be approved. There may be other options if the request for Orbit is not approved, but time is running short.

Pollination. With the hard freeze in December and record rainfall this winter expect fewer overwintering bumble bee queens. I have yet to observe a single queen this spring. Therefore, populations of native pollinators is likely to be low. If you have been dependent on these in the past order more honey bee colonies this year to be on the safe side.

MISCELLANEOUS

Pesticide Storage.

- Safety is the first concern. All pesticides should be stored out of the reach of children and under lock

and key.

- Storing pesticides longer than two years is not recommended.
- Keep chemicals in original containers and tightly sealed.
- Do not carry over pesticide products whose labels have been lost or are not complete and legible.
- Do not store weed killers close to other materials such as wettable powders, dust formulations or granular insecticides. Some weed killers such as 2,4-D are highly volatile substances and can contaminate other material especially when confined in close quarters.
- Date all products at the time of purchase. Use oldest products first.
- Do not store pesticides with fertilizers.
- Use up all products that are no longer sold but still have a tolerance. All other material should be taken to a WSDA Pesticide Return Event.

Research Sites Needed. Thanks to a healthy supply of grant money, we hope to accomplish some major entomology research and extension this year. The focus will be clearing the way for the transition to bio-rational insecticides. This includes large scale on-farm trials, new insecticide trials, economic feasibility studies, and an education program. Whether we like it or not, the industry will have to make this transition in the next 3 to 5 years and there is a lot to learn first to do it successfully. This is where the grower fits in. What we need are study sites, either whole farms or sections of farms, for large demonstration trials or small sections for new product evaluations. We are looking for farms with a moderate to high population of blackheaded fireworm, cranberry girdler, blackvine weevil and/or tip worm. What we really need are sites with weevil or girdler that you are planning to renovate. Unfortunately, these insects require somewhat destructive sampling.

Interesting Agricultural Websites.

The following three websites are great resources and will eat up hours of your nightlife (as they have mine). They are basically just lists of other agriculture websites that allow you to find any information you could ever want.
http://ag.fmc.com/ag/toolbox/
http://www.agnic.org/agdb/erdcalfr.html
http://ipmworld.umn.edu/favorite.htm

Frost Protection. To assure that there are no freak frost events to wreak havoc with your yield, it pays to follow a few simple rules.

Use an ice bath to check the calibration of your sensors. It should come out close to 32-33°; if not, you might have to readjust the temperature at which your system turns on.

- Place the sensor so it is exposed at bud level at the lowest location in the bed. I still see a lot of protected sensors (sheltered in wood or PVC pipe) 6 to 12 inches above the beds. Readings from these sensor do not approximate bud temperatures and can be 5+° warmer than the buds and may reach the critical temperature several hours after the buds do. From the monitoring we have done, I have seen protected temperatures at 38° and buds dip below 28° F for short periods.
- Don't turn off the sprinklers too early. It takes heat to melt ice and that heat can be withdrawn from the buds causing them to fall below the critical temperature. This is especially important on windy mornings when there is a low dew point and you can get an evaporative cooling effect.
- Know your critical temperatures. The University of Massachusetts puts out a good critical-temperature-by-bud-stages publication. Our data confirms theirs. In general, damage potential for our average frost (30-32°) is minimal until new growth on the bud begins (bud elongation). At this point it pays to be conservative.

EDITORIAL

Alternative Compounds. The problems we are having with organophosphates in the industry has an easy solution. Just register alternative compounds. We have done the research, found what works, and have made great strides in this area. It is folly to expect the industry to adopt any of these new compounds, however, until we have large scale, whole farm verification of their efficacy. In other words, how do we make these compounds work in the real world. Section 18 is a good start, but that can be done for only one compound in any given situation. Therefore, even though we have several OP replacements ready to go, we are stymied until the final registration has occurred. We all know how fast that happens! We had hoped to have one more Section 18 for another biorational insecticide but that is impossible since the EPA, in its wisdom, will not allow more than one compound for each crisis.

WEATHER

The combined rainfall of the past four months was the greatest on record (since 1878) for the Peninsula.

	Rainfall (Inches)					Growing Degree Days				
Month	1999	1998	1997	1996	20 yr av.	1999	1998	1997	1996	10 yr av.
January	15.5	18.5	14.9	9.8	10.8	14	58	43	51	40
February	21.2	11.4	5.6	13.1	9.3	10	69	21	86	55
March		10.2	16.2	3.4	9.5		97	38	108	72
April		3.0	6.5	12.9	5.6		99	91	190	116
May		3.8	4.7	4.3	3.8		265	344	231	216
June		1.8	5.1	1.8	2.8		350	362	315	323
July		1.1	1.2	1.6	1.9		476	476	460	421
August		0.2	2.7	1.0	1.7		484	543	440	440
September		0.7	6.9	2.7	4.1		369	477	385	363
October		6.2	15.6	11.5	6.5		244	229	245	217
November		19.6	6.5	14.2	11.4		99	144	67	99
December		20.3	9.0	18.4	12.6		34	38	20	41
TOTAL		96.8	94.7	94.7	80.5		2644	2806	2598	2402

COOPERATIVE EXTENSION
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Supplemental Labeling

Dow AgroSciences

Dow AgroSciences LLC 9330 Zionsville Road Indianapolis, IN 46268-1054 USA

Stinger*

EPA Reg. No. 62719-73

Section 18 Specific Exemption

For Distribution and Use Only in Coos, Curry, and Clatsop Counties of the State of Oregon and Clallam, Grays Harbor, Mason, Pacific, Pierce, Thurston, and Whatcom Counties of the State of Washington

For Control of Lotus, Purple Aster and Clover Infesting Cranberry

SPECIAL CONDITIONS AND WAIVER OF LIABILITY FOR USE

Dow AgroSciences Intends for this Supplemental Labeling to be Used Only by Cranberry Crop Owners in Oregon and Washington

Dow AgroSciences intends that this supplemental labeling and product be distributed only to crop owners or their agents who agree in writing to terms and conditions of use described in a Waiver of Liability Certificate provided separately. The Waiver of Liability Certificate must be signed by the crop owner prior to use of this product. If, before use, such terms and conditions of use are found to be unacceptable, Dow AgroSciences requests that the product be returned to the seller as soon as possible, unopened.

Directions for Use

- **Section 18 Specific Exemption:** This label is approved under EPA specific exemption pursuant to Section 18 of the Federal Insecticide Fungicide and Rodenticide Act as amended.
- **This Specific Exemption Expires: 12-31-99**
- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Stinger* herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- In addition to restrictions and limitations imposed by this supplemental labeling, use of Stinger is subject to all use precautions and limitations imposed by the label affixed to the container for Stinger.

Stinger* herbicide may be used as a broadcast foliar spray for post-emergence spot treatment or applied in a wiping application for control of lotus, purple aster, and clover infesting cranberry. Certain other susceptible broadleaf weeds growing in association with primary target weeds may also be controlled.

Application Timing:

Broadcast foliar spot application may be made only when cranberry plants are dormant. The "timing window" for broadleaf weed control is based on the physiological state of the cranberry plant from dormancy following cranberry harvest (early to mid-November) to spring budbreak. This timing window begins when the cranberry vines go dormant in the fall and ends with budbreak, when the crop becomes sensitive to application of Stinger. Susceptible weeds may still be in an acceptable condition for control from application made following cranberry dormancy in the fall. Application may also be made once new weeds have emerged (December to February). The ideal application window occurs when the weeds

have emerged and have obtained sufficient canopy to allow treatment, but prior to budbreak, when the cranberry plant is still dormant and tolerant to Stinger. The time of budbreak is variety and weather dependent. An early or late spring can accelerate or delay budbreak, respectively. Application after budbreak will cause plant injury.

Wipe treatments may be applied as a spot application following cranberry budbreak to control late emerging weeds or weeds which escaped earlier control measures. The treatment may be applied using equipment such as a hockey stick type applicator. The treatment solution should be wiped onto weed foliage which extends well above the cranberry canopy. Contact of the treatment solution with cranberry foliage should be avoided since it will result in plant injury.

Application Rates:

Apply Stinger at 1/4 to 2/3 pint/acre (0.094 to 0.25 lb a.e./acre) as a broadcast foliar spot treatment. Apply with a backpack sprayer or ground broadcast equipment in a total spray volume of 30 or more gallons/acre. Do not spray to runoff. Use the lower rate for young succulent growth for sensitive weed species. Use lower rates when application timing is close to bud break. Use higher rates for less sensitive weed species, perennials and under conditions where control is more difficult. There is no limit on the number of applications per acre as spot treatments as long as the total maximum rate of application does not exceed 2/3 pint/acre (0.25 lb a.e./acre) per annual growing season.

For wipe treatments, apply a 2% solution of Stinger in water (2.5 fl oz or 75 ml/gallon). There is no limit on the number of applications per acre as long as the total combined usage of Stinger from all types of applications does not exceed 2/3 pint/acre (0.25 lb a.e./acre) per annual growing season.

Restrictions:

- Application may be made only by certified applicators or persons directly under their supervision.
- Do not apply by aircraft.
- Do not apply Stinger with a surfactant on cranberries.
- Do not spray once bud scales have separated and the growing point is visible.
- **Chemigation:** Do not apply Stinger to cranberries through any type of chemigation system.
- **Preharvest Interval:** Do not apply Stinger by any means within 60 days of harvest.
- Do not apply within 6 - 8 hours of expected rainfall or irrigation.
- Total usage of Stinger through broadcast foliar treatment and wipe treatment must not exceed 2/3 pint/acre (0.25 lb a.e./acre) per annual growing season.
- Do not apply to weeds tolerant to Stinger such as silverleaf, yellow loosestrife, false lily-of-the-valley, buttercup, tussock, sedges, grasses, and violets.
- Avoid spray drift by using coarse sprays with large droplets and low-pressure, and by applying when wind speed is less than 5 mph.
- To prevent misapplication, make spot applications only through a spray nozzle/calibrated boom.
- Do not apply directly to water, to areas where surface water is present, or within 5 feet of any water moving off or through the cranberry field.
- Do not apply where surface soils have rapid permeability (sand) and no subsurface impermeability (clay or peat), and where the water table of the underlying aquifer is shallow.
- Application must avoid any adjacent wetland plant species.
- Follow all Worker Protection Standard requirements on the label for Stinger.
- Carefully follow rotational crop restrictions and other use precautions and limitations on the product label for Stinger.

Change:
Renewal of Section 18 labeling for 1999

D06-043-002
EPA-accepted:02-19-99
Replaces 122-25-052

WAIVER OF LIABILITY CERTIFICATE

I, the undersigned, acknowledge and understand that Dow AgroSciences (1) does not assume any liability for the use of Stinger* herbicide for weed control in cranberries and (2) makes no representations regarding its weed control or crop safety when applied in cranberries.

I hereby release Dow AgroSciences and the Seller from whom I purchased Stinger, their owners, officers, employees and agents, from any and all losses, damages, claims or causes of action, including reasonable attorney's fees and costs, relating to damage to or loss of any cranberry crop resulting from use of Stinger whether used by me or my agent. I further agree that I will not provide this product to any third party for use in cranberries. If this provision is violated, I will indemnify Dow AgroSciences and the seller from whom I purchased Stinger, their owners, officers, employees and agents, from any and all losses, damages, claims or causes of action, including reasonable attorney's fees and costs, relating to damage or to loss of any cranberry crop resulting from use of Stinger by any third party.

I agree that I will not apply Stinger in cranberries without first signing and executing this Waiver of Liability Certificate.

I warrant and represent that I have sole interest in the crop to be treated or am authorized to act on behalf of and bind all parties with an interest in such crop.

I have read this Waiver of Liability Certificate and have had the opportunity to have it reviewed by an attorney of my choosing. If the terms and conditions of this Waiver of Liability Certificate are unacceptable, Dow AgroSciences requires that the product be returned to the seller as soon as possible, unopened.

Signature of Crop Owner: _____

Name of Crop Owner (Please Print): _____

Address of Crop Owner: _____

_____

_____

Seller send copy of signed Waiver of Liability Certificate to:

State Regulatory Affairs Manager
Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268-1054

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