Washington State University • Long Beach
Cooperative Extension
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CRANBERRY VINE

January 2006

MEETINGS

Cranberry Winter Short Course
Saint Lawrence Catholic Church, Raymond, Wednesday, February 8, 2006, 1:00 to 4:15 p.m.

The Cranberry Winter Workshop is going to be quite special this year. I have three out-of-state experts:

Teryl Roper, Professor of Horticulture, University of Wisconsin. "*Cranberry productivity: causes, limitations, and management.*"

John Hart, Professor Soil and Crop Science, Oregon State University "*Cranberry nutrition, growth, and yield components – facts and fallacies.*"

Frank Caruso, Professor of Plant Pathology, University of Massachusetts. "*Fungi that harass cranberry vines and what you can do to prevent future harassment.*"

See Page 4 for full agenda. Pesticide credits will be given. This will be a unique opportunity to hear these speakers.

CROP MANAGEMENT

Callisto: Section 18 requests for Callisto have been submitted to the Oregon and Washington Departments of Agriculture. I hope it goes through. If it does there will be several new features. We should have support for a 45 day PHI; there will be new indemnification language that growers will do on-line, and the labels will be available from a Syngenta website. You can not use this product until we receive the new Section 18.

Winter weed control:
Several post-emergent herbicides products can be used during the winter. They are not as effective as during the growing season, but can be useful tools and there is generally minimal damage to vines.

Grass herbicides (Poast & Select): There are a few grass species that are active this time of year. Either one of these herbicides will provide some control, but don't expect very fast activity.

Stinger 2E: Stinger can be used for spot treatment during the dormant season for clovers and *Lotus*. Use about 0.5 teaspoon per gallon of water. Treating *Lotus* requires waiting until there is enough growth to spray. It also will take several trips through the beds to be sure you get everything.

RoundUp: Postharvest sprays of glyphosate may or may not be permitted depending on what product you are using. There are 79 different glyphosate products labeled on

cranberries. Make sure you use one that has this treatment on the label or has a 2EE available on-line to be legal. Different products are hotter than others depending on the formulation. Only rates of less than 0.25% of Roundup did not cause damage. I would not spray past January and only spray in areas with more green weeds than vines. Personally, I don't feel too comfortable about using this product as a dormant broadcast treatment, but it has its role.

Pond and ditch weeds: Duckweed and Azolla can be controlled with Reward at 1% solution. Reward, however, has a five day wait period before the water can be used for irrigation. This limits its usefulness, except for windows when we don't irrigate (winter/spring). It is recommended that application be done when wind has forced all the weeds to be collected along one side of the pond. Reward® will seldom kill all plants. Therefore, multiple applications about two weeks apart are typically needed to fully eliminate duckweeds. Survivors of the initial treatment can quickly reproduce and become a problem once more.

Parrotfeather Milfoil is another aquatic weed that is becoming more and more problematic. Several herbicides suppress it, but the best ones require a long wait period before the water can be used with irrigation. Rodeo, however, has a 0 day waiting period and if used often enough on the regrowth does a decent job of control.

All aquatic herbicides require an aquatic certification on your pesticide license. Other permits may also be required. Contact the WSDA for more information in this regard.

Insect Management

Guthion: 2006 will be the last year to use up your Guthion.

Weevil: A winter application of Admire for weevil larvae can still be made if you have not made a dormant season application yet. On peat soil, this time of year expect approximately 75% control.

Cranberry girdler: The SLN for Diazinon 14G is under revision. The WSDA has been carefully scrutinizing this issue and is going to request a surface water monitoring program. The details of this are currently being worked on. We will be limited to one application per year.

Girdler and Weevil damage: I know this may be impractical on a large-scale, but growers in BC have been having good success in recovering damaged beds by immediately sanding areas as soon as they see any signs of damage. Sand when you see sign of damage in the spring. If this is done while the vines are still alive they can re-root and recover. Sanding after they turn brown will marginalize the benefit.

Cranberry fruitworm. This year we had an unusually high level of cranberry fruitworm. I am not sure why it showed up this particular year when it has been more or less absent in previous years. Other states report similar concerns. An insecticide spray when berries are pea size usually takes care of the problem. With prolonged fruit set this becomes problematic. If you or your neighbor had a problem in 2005, you might want to consider fruitworm pheromone traps for use in 2006 to help spray timing and to know the level of infestation.

Research sites needed:

Weevil – We had several good weevil plots last year and are still interested in more sites. If you plan on taking out an infested bed this spring or next year, please let me know (360-642-2031 or pattenk@wsu.edu) so we can get some plots out. It doesn't have

to be in production. I just need sites with high weevil populations.

Fruit rot – We conducted several fruit rot trials last year and need sites for 2006. If you are interested in helping and had high rots in some of your beds in 2005, please let me know.

NEW PLANTINGS

Based on the number of beds I've seen these past few years, problems with off-type vines have reached pandemic proportions. This is not just a problem with cranberries, but has also plagued the blueberry industry. What do growers have to do to be confident they have quality vines that are what they are supposed to be? There is no 100% certainty at this point, but here are my best ideas.

1) We need to create a unique set of DNA fingerprints for all important cranberry cultivars using new microsatellite marker technology. Once we have these "fingerprints," a sampling protocol can be developed that growers can use to determine what they have or what they plan on planting and what percentage of those vines are pure to type. Until then it is just a guessing game.

In addition, there has been little success in pressing libel charges against prevailing off-type vines with genetic fingerprinting. Drs. Nahla Bassil and Kim E. Hummer, USDA-ARS NCGR at Corvallis, Oregon, will hopefully (if funded) begin a project to develop cranberry marker technology.

2) Avoid traditional "pruned" vines on beds that have been established and harvested for many years. This method of pruning runners selects for "off-type" vines.

3) Avoid vines that have been passed on from bed to bed using traditional pruning methods. After several generations of taking prunings off one bed and then from the next bed, the percentage of vines selected that are predisposed to runner growth compared to fruiting uprights is increased.

4) Use only mowed vines from producing beds or pruned vines from newly planted beds that you are very confident are true to type.

5) Establish a nursery bed that you use only for mowing for vines.

6) Carefully look at the beds you are going to get prunings from during the growing season. Patches of off-type color, growth habits, fruiting, and vigor within the bed is a sign that the bed is likely contaminated with off-types.

7) Waiting for vines to turn from unproductive to productive hasn't worked. Bite the bullet and replant as soon as you suspect something.

PESTICIDE STORAGE

Too wet to work outside, now is a perfect time to clean up and modernize your pesticide storage area.

- A pesticide storage facility should have a cement floor that is impermeable and easy to sweep or wash. The area should be well lighted and ventilated. Smoke alarms or carbon monoxide detectors should also be installed.

- Protect stored pesticides from freezing. Ideally, a storage facility should be well insulated and have sufficient heat provided to keep the temperature above freezing. Some pesticides (particularly liquid formulations) will break down or separate, making mixing difficult or impossible if allowed to freeze.

- Store herbicides, insecticides and fungicides in separate areas, if possible. Volatile herbicides may contaminate other pesticides if the containers are not securely sealed.

- Store dry chemicals such as powders and boxes on pallets or shelves to keep the packages dry and the labels legible. Don't store dry materials on shelves below liquids. Any liquid spills would contaminate lower dry chemicals.

- Metal containers should be placed on pallets over the winter to keep them dry and to prevent them from rusting.

- Always store pesticides in their original containers; labels should be intact, legible and plainly visible.

- Check stored materials periodically to make sure the containers are secure and the labels are still legible.

- Don't transfer pesticides to another container that held a different product.

- Mark the date of purchase or delivery on the container. This will help you rotate your stock. Most manufacturers recommend a shelf life of no more than two years. Once a package is opened, the shelf life is substantially reduced.

- Don't store respiratory and applicator safety equipment, fertilizer, feeds, seed or baits in the same area with pesticides.

- Make sure your pesticide storage area is secure. Mark the exterior of the storage facility clearly that pesticides are stored inside. Placards are available commercially.

- Have kitty litter or some other type of spill preparedness on-hand.

Adapted from "Pest Management Principles for the Commercial applicator--Fruit Crops"

WEATHER

If you have not used it yet, you should try accessing the WSU Long Beach Weather Station Go to http://agweathernet.com. The user name is cranberries and the password is wsulongbeach. Find Pacific County and check our box.

WINTER SHORT COURSE AGENDA, February 8, 2006, St Lawrence Church, Raymond.

1:00	What are the limits to achieving high yield? How much effect does extra fertilizer, irrigation and pest control really have on yield?	Teryl Roper, University of Wisconsin
1:45	Achieving optimal nutrient usage and crop production without ground or surface water contamination.	John Hart, Oregon State University
2:30	Fungi that harass cranberry vines and what you can do to prevent future harassment.	Frank Caruso, U. Massa-chusetts
3:30	New trends and products for insect and weed control in cranberries.	Kim Patten, WSU
4:00	Surface water quality monitoring results for 2005 - what it means for pest management in 2006 and beyond.	Kim Patten, WSU

Adaptive management: Growers are constantly trying out new ideas things – from fertilizers to pesticides. If this "trial and error" process is done correctly, we can learn how to do a better job of farming. All too often however, I don't see growers taking full advantage of this tool. Dr. Patricia McManus, a Plant Pathologist from the University of Wisconsin has developed the following tips for grower field research.

1. Choose a site where there is a problem; otherwise it is difficult to obtain a treatment effect. 2. A good experiment should have treatments and a control (i.e., a place where you leave everything as is so that you can compare your treatments to it). 3. Keep your treatments simple. 4. Ideally you have repetitions of your treatments within a single bed or the whole experiment in another bed and over multiple years. Cranberry data are almost always very variable. Without replication subtle differences are impossible to detect. 5. Be aware of the tendency to bias an experiment. Think uniformity when you set up plots; don't put one treatment at the bed edge and another in the middle of the bed. 6. Take data. The type and amount depends on your treatments. For some pests you can take data just once per year and get a pretty good idea of how a pesticide worked. For other pests, you might want to rate multiple times to see how sprays at different times of the year are working. 7. Analyze the data. Calculating averages may be enough to get the trend that the treatment may result in. If you need more analysis let me know and I'll be happy to do it for you. Remember to analyze cost vs. benefit. It's not yield but profitability that you want to improve. 8. Take good notes at every step. It is the only way to sometimes figure out what happened.

Devrinol: EPA just announced new changes in use patterns: 24 hour REI, 90 day PHI, a maximum of 90 pounds/acre/year and use is restricted to one application per year

Cranberry CD: University of Wisconsin Cooperative Extension has compiled a lot of information on a single CD on producing cranberries. It is a great resource to have on hand. If anyone wants a copy – lets me know and I'll make one for you.

WEATHER HISTORY

	Precipitation					Growing Degree Days				
Month	2002	2003	2004	2005	20 year average	2002	2003	2004	2005	20 year average
January	13	12.6	15.0	8.4	11.9	40	114	49	102	50
February	4.8	4.5	6.2	3.0	8.1	21	31	49	44	50
March	8.2	14.3	5.4	7.9	8.6	34	101	87	103	80
April	5.7	7.1	3.7	9.0	6.3	109	126	189	112	132
May	2.3	2.2	3.1	4.8	3.9	177	231	301	304	252
June	2.3	1.8	2.5	1.4	2.8	350	382	410	334	346
July	0.4	0.9	0.9	2.2	1.3	464	467	536	417	446
August	0.5	0.8	5.4	0.7	1.7	443	453	544	411	460
September	1.8	2.4	4.7	1.6	2.2	377	375	381	238	378
October	1.9	8.6	10.1	9.1	6.9	206	336	262	208	234
November	5.6	10.6	4.3	11.4	11.3	137	63	78	25	92
December	14.1	9.9	10.2	12.2	11.9	47	45	46	44	37
Totals	**60.6**	**75.6**	**71.4**	**71.6**	**76.9**	**2402**	**2723**	**2933**	**2342**	**2558**

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