

Cranberry

Crop Management Newsletter

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Is Our Crazy Growing Season This Year Due to Climate Change?

Brent McCown, UW-Madison Cranberry Plant Breeder

While visiting our plots and grower's fields, and 'sweating' at the cranberry field day in August, the topic of the unique weather patterns being experienced this year and the effects of cranberry growth was often center stage in our discussions. As many of you know, I have been trying to follow the activities of some of the prominent study groups looking at climate change in WI. So, this year are we seeing some of the impacts of such climate change this season?

One thing that we now do know is that the climate in WI has changed significantly over the last 60 years. One very nice and heavily illustrated summary of this work is available on the internet (http://nrs.fs.fed.us/niacs/local-resources/docs/notaro_shared_lands_feb2010_sm.pdf). In short, it is clear that the following HAS occurred already:

- WI has become warmer, especially at night and in the winter and spring.
- WI has become wetter, especially in the NE regions and during the autumn season. This has led to a shorter snow season and less depth of snow cover.
- All these changes are complicated by differences in the amount of change between regions in WI. Especially intriguing for cranberry growers, the central and NW regions of WI have experienced the greatest changes.

One of the most intriguing accumulative results of this scenario is the effect on our growing season in WI: The date of the last spring freeze is now up to 20 days earlier and the first fall freeze is now up to 18 days later; thus as most of you have noticed over the last

years, our growing season is now noticeably longer. Of course, we humans are not the only ones to notice such climatic patterns. Geese are now arriving about one month earlier and the first spring song of the cardinals is now three weeks earlier. Plants like butterflyweed now flower two weeks earlier.

Another common result of such climate changes involving warming is an increase in the intensity of seasonal storms. We sure have had some intense stormy weather patterns this year, but of course, whether this year's pattern is mainly due to global climate change or just a part of our well-known variable weather cannot be readily determined. Nevertheless, the pattern we are seeing fits the predicted effects of a warming of our atmosphere and is paralleled by similar trends in many regions around the world.

So, this year, are we seeing the effects of climate change? Obviously, since such change has been occurring over the last 60 years, one cannot absolutely say 'yes'; BUT one cannot absolutely say 'no' either. In any case, it seems very wise to anticipate that climate change driven by a general warming of the atmosphere will continue. Probably the best general strategy is to increase as much as we can our 'resilience' or ability to flex with such change.

One very encouraging move to more resilience that we have been observing in the cranberry industry over the last 5 years is a marked increase in the genetic diversity of our cranberry plantings by utilization of new cultivars. At a minimum, this trend should afford us lower vulnerability by maximizing the flexibility of our cranberry plantings to respond to climate

Continued at **Our Crazy Growing Season** p. 5

Cranberry Tissue and Soil Analysis

Rebecca Harbut, UW-Extension Fruit Crops Specialist

It is that time of year again...time to check the nutritional status of your vines! Tissue and soil sampling is an essential component of cranberry crop management. Taking routine tissue samples can alert you to potential deficiencies before you see the visual symptoms. Soil samples can allow you to identify trends in soil nutrient concentrations, organic matter or soil pH. Samples collected this year will allow efficient nutrient management for next season.

Tissue testing is the single most important tool we have to determine the nutritional needs of the crop. However, information obtained from tissue analysis is only valuable if the tissue was collected correctly.

Sampling Time. Collect samples between mid-August and mid-September. Nutrient levels in cranberry tissue vary greatly throughout the season. For example, nitrogen content in the tissue is very high in the spring and continues to decline throughout the season, so tissue collected early in the season will often show high levels of nitrogen compared to those collected late in the season. Tissue nutrient status is most constant between mid-August and mid-September. Samples collected during this period are the most useful for determining vine nutrient status therefore standard tissue nutrient recommendations are based on this sampling time.

Sample the correct plant part. When you collect your tissue, be sure to only collect current season growth (Fig.1). This is the growth that is just above the berries on fruiting uprights and just above the bud break location on non-fruiting uprights. A sample from one bed should consist of about 20 cuttings from 10 different locations across the bed, totaling about 200 uprights (1 to 1.5 cups.) Walk across the bed in a zig-zag or 'W' pattern to collect tissue from all areas of the bed. Do not sample diseased, insect infested, damaged or abnormal tissue. A sample should consist of one variety and should not represent more than 10 acres.

Submitting the Sample. Be sure to properly label your samples with the bed identification and the date collected. Do not wash the sample. Allow the tissue to air dry at room temperature for a few days before mailing it to the lab. Send the tissue in a labeled paper bag or envelope, do not place in a sealed Ziploc bag as tissue may mold during transit.

Interpretation of results. When you receive your report from the lab, you can compare your results to the current tissue nutrient content guidelines (Table 1, see p. 5). Be sure to compare the results with previous years so you spot any upward or downward trends in nutrient levels. If nutrient levels are decreasing and reaching lower than sufficient

levels, additional fertilizer may be required. If nutrients levels are increasing, reduction in fertilizer use can avoid excessive vine vigor and unnecessary nutrient applications.

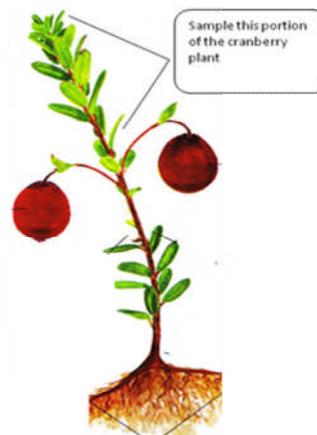


Figure 1. Sample current season growth on both fruiting and non-fruiting uprights. Image adapted from 'Nitrogen for bearing cranberries in North America' (<http://extension.oregonstate.edu/catalog/pdf/em/em8741.pdf>)

Soil Tests can provide valuable information about soil pH and % organic matter and will give an estimate of plant available nutrients. Taking regular samples from fertility management units can help track trends over time and allow for adjustments as necessary.

The considerations for taking soil samples are similar to tissue samples:

Sampling time. Take the soil sample at the same time as your tissue samples, Aug. 15-Sept. 15.

Sampling depth. Soil samples should be collected to a depth of six inches.

Take a representative sample. Walk the bed in a zig-zag or W pattern to ensure you are sampling from all parts of the bed, not just the edges or corners. You should collect about 2 cups of soil from each bed.

Submitting the sample. Place the sample into a heavy plastic bag labeled with the bed identification, date and farm name. Mail the sample promptly to the lab. To meet NRCS guidelines, soil samples should be sent to WDATCP approved labs. For information on approved labs, contact the WSCGA or NRCS.

Interpreting soil nutrient analysis. Soil tests are valuable for reporting soil pH and % organic matter. It is most useful when taken together with a tissue analysis.

When tissue and soil analysis are done together on a regular basis it is a valuable tool to develop an efficient and effective nutrient management plan. ❖❖❖

Heart of the Farm Bookkeepers' Boot Camp



Thursday, September 23, 2010

Skyline Golf course

612 N. 11th St.

Black River Falls, WI

9:30 am—2:30 pm

Sponsors



Jackson County



If you have any questions, please contact:

trisha.wagner@ces.uwex.edu
715-284-4257



University of Wisconsin-Extension, U.S. Department of Agriculture, and Wisconsin counties cooperating. UW-Extension provides equal opportunities in employment and programming, including Title IX and ADA.

Registration Form

Registration due by September 16, 2010

Send Registration form and check to:

Trisha Wagner
Jackson County UW-Extension
227 S. 11th Street
Black River Falls, WI 54615

Name: _____

Address: _____

City/ State: _____

Zip: _____ County: _____

Phone: _____

Pls. indicate dietary restrictions:

Registration Cost: \$10.00

Please make checks payable to:

UW-Extension

Heart of the Farm – Black River Falls

Mission

Farm Management and Production Education for Women

Improving Farm Business Decision-Making

Agenda

9:30 am	Registration
10:00 am	Welcome & Introductions
10:30 am	The How & Why of Managing Farm Records
Noon	Lunch (Provided) Special guest: Molly Hoffman
12:45 pm	Insurance and FSA Bookkeeping Requirements
1:15 pm	What Financial Recordkeeping Can Do for Your Bottom Line
1:45 pm	Recordkeeping Options
2:15 pm	Wrap up/Evaluations
2:30	Adjourn

Goal

The *Heart of the Farm – Women in Agriculture Conference* addresses the needs of farm women by providing education on pertinent topics, connecting them with agricultural resources, and creating support networks.



Please contact us for special assistance regarding our programs. Requests are confidential. UW-Extension provides equal opportunities in employment and programming, including Title IX and ADA.

Speakers

The How and Why of Managing Farm Records. Kay Wiener, Sr. Farm Accounting Specialist, Badgerland Financial. This session will help you understand what to keep, how long to keep them, and how to organize them for your taxes and your lender.

Luncheon Speaker: Molly Hoffman of Molly's Rude Awakening Coffee House, Black River Falls. Molly's Rude Awakening is really three businesses owned by Molly Hoffman. They are: 1. a coffee hut (or The Hut); 2. Funktional Junction (or Funky Junk) ~ a gift shop; 3. The Loopy Bin ~ a beer and wine lounge with music every Friday night. Molly will talk about the coffee she provided for the meeting and how she developed her three businesses.

Insurance and FSA Bookkeeping Requirements. Julie Dokkestul, Executive Director, Jackson County Farm Service Agency. Julie will discuss the types of information and bookkeeping necessary for government programs administered through FSA.

What Financial Record Keeping Can Do for Your Bottom Line. Trisha Wagner, Agriculture Agent, Jackson County UW-Extension. You know you need to keep records for taxes, for the lender, and government programs, but why do you keep records for yourself? Trisha will discuss how the analysis of good records and resulting management decisions can improve your bottom line.

Recordkeeping Options. Joy Kirkpatrick, Outreach Specialist, Center for Dairy Profitability. Ok, I'm motivated to use farm records to analyze my farm's performance and profitability, but how do I get started? This session will cover what a record system is, basic needs for record keeping systems, different formats, types and where to find more information. Both computer and ledger options will be discussed.

Hot in Wisconsin — Fruit Rot Update

Patty McManus, UW-Extension Cranberry Specialist

As I write this (Aug. 12) we're looking at another couple days of hot, humid weather before things cool off a bit. The early spring, abundant rains, and hot weather is making this year favorable for fruit rot. Indeed, we have confirmed early rot this year (apparently absent in 2009) and almost everyone saw some berries near ditches go bad after sitting in water for too long. We are well past the window when fungicides have their greatest impact—bloom and early fruit set stages. But if you did not spray earlier, would it be worth spraying now? If so, what to spray?

There's no easy answer to this, and you have to consider several factors. What is the situation on your own marsh in terms of crop load, canopy overgrowth, water, heat, and humidity? Very heavy crops, where berries are touching, tend to stay wet all day and are prone to rot. If you saved even just 1% of a heavy crop from rotting, the fungicide will pay for itself. Based on very limited research (more in progress this year), I think a late fungicide could save 1% of a crop with at least 6-8 weeks still ahead of us. If the canopy is overgrown, however, the fungicide will not reach the berries and would not be worth it. Abound and Indar have some systemic activity, and in our trials Abound is effective against *Colletotrichum*, the bitter rot fungus. Peter Oudemans in New Jersey reports that Indar, but NOT Abound, is effective in controlling *Phyllosticta vaccinii* (early rot) and *Physalospora vaccinii* (blotch rot). If you have never had a rot problem in the past and are growing the "old" varieties such as Stevens, Ben Lear, and Pilgrim, my guess is that you do not have *Phyllosticta*, but you probably DO have *Physalospora* and *Colletotrichum*. These are both really common pathogens in Wisconsin and that would argue for a mixture of Abound and Indar. If I had to choose one, I'd go with Abound, because it has outperformed Indar in our fruit rot trials in Wisconsin. Under high disease pressure, fungicides simply do better at higher ends of labeled rates, so I think if you're going to the effort and cost of spraying, the high rate would be worth it. Dithane (mancozeb) and Bravo (chlorothalonil) have a broad spectrum of activity, but they do not have systemic activity, and with each passing day will become less and less effective. Of course, you need to mind preharvest intervals and any special restrictions your handler might have in place.



Our Crazy Growing Season *(continued from p. 1)*

change. In addition, this strategy affords the opportunity to take advantage of a longer growing season by lengthening total harvest and processing times.

As most farmers have told me in one way or another, 'Any good farmer is able to tolerate and flex with change—or they won't be farming for long'. Fortunately, the cranberry industry in WI is well endowed with good farmers.



From *Cranberry Tissue and Soil Analysis* p. 2

Nutrient	Normal Range (%)	Nutrient	Normal Range (ppm)
N	0.9-1.1	B	15-60
P	0.1-0.2	Fe	>20
K	0.4-0.75	Mn	>10
Ca	0.3-0.8	Zn	15-30
Mg	0.15-0.25	Cu	4-10
S	0.08-0.25		

Address Correction

If you have any address corrections, additions, or deletions, please let us know. Please call 715-421-8440 or e-mail: mspencer@co.wood.wi.us
Thank you!

References to products in this publication are for your convenience and are not an endorsement of one product over similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.



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