



CRANBERRY WEB

The Newsletter of the BC Cranberry Marketing Commission and the
British Columbia Cranberry Growers Association

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cranberries



New Commercial Cranberry Varieties Released by Rutgers University

Rutgers University in New Jersey have released three new cranberry varieties for commercial use. The three, Crimson Queen®, Demoranville®, and Mullica Queen®, are said to have significantly higher yields, colour and performance.

Rutgers reports that the first commercial plantings of these varieties came into maturity in 2009, and superior crop yields have been realized in most of the planting areas. In New Jersey, the Stevens variety usually yields between 300 and 350 barrels per acre. One of the first beds of Crimson Queen, planted in Wisconsin in 2005, yielded over 600 bbl/ac, substantially greater than the state average of about 250 barrels per acre. Crimson Queen and a second newly-released variety, Demoranville have each produced over 400 barrels per acre. Mullica Queen has yielded over 500 bbl/ac.

Of course, yields may vary by locale and grower practices.

Rutgers patented new cranberry varieties are available to commercial cranberry growers in the U.S. and Canada under license from Rutgers University.

Growers interested in Rutgers varieties can contact Rutgers as follows:

Leon Segal, PhD
Asst. Dir., Licensing and
Technology, SEBS
Office of Technology
Commercialization
Rutgers, The State University of New
Jersey
New Brunswick NJ
08901

Tel: 732 932-1000 extension 577
Cell: 908 239-3132
Email: segal@otc.rutgers.edu

*Note - it is expected that variety trials
will be a high priority for the new BC
Cranberry Research Farm.*

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BC Cranberry Research Farm

Slow but steady progress is being made by the Commission towards the establishment of a BC Cranberry Research Farm. An informal agreement on the land has been reached but no legal documents are yet in place.



Ralph May is assisting the Commission to establish a new legal structure to hold the land and operate the farm.

Contact the BCCMC
for a copy of the
complete research report



Cranberries a
“highlight product”
and sponsor at
BC Chefs Assn.
Hot Competition

Research Project Report: Cranberry Dieback Disorder (CDD)

by Dr. Siva Sabaratnam

*This is a four year project.
Below is a brief summary that includes
results to the third year.*

Project Summary

Field surveys and analysis of plant and soil samples identified an important root and runner rot pathogen, *Phytophthora cinnamomi* and a *Phytophthora sp.*, in two separate fields, one in Richmond and one in Delta, respectively, confirming, for the first time, their presence in cranberry soils in B.C. *P. cinnamomi* can cause considerable damage to cranberries under warm and wet conditions. Project work in 2007 also identified the presence of plant-parasitic nematodes, particularly *Paratrichodorus spp.* and *Hemicycliophora spp.* in many cranberry fields. Although these nematodes do not appear to be the primary cause of CDD, their contribution to root rot damage solely or synergistically with other soil-borne pathogens, such as *P. cinnamomi* and *C. destructans*, may be a contributor and is being further investigated.

The Greenhouse portion of study, conducted in 2008/2009, revealed an unidentified

Phomopsis sp. as one of the potential casual agents of CDD. A planned plant tissue inoculation study in the laboratory will further confirm the pathogenicity of *Phomopsis sp.* on cranberries and its contribution to CDD.

Although pathogens *Coniothyrium sporulosum* and *Cylindrocarpon destructans* did not cause any noticeable symptoms on cranberry under greenhouse conditions their frequency and distribution in CCD symptomatic fields and close association with symptomatic plant tissues warrants will now be investigated.

We now know that CDD is a complex disease instigated chiefly by *Phomopsis sp.* and, perhaps, other potential and/or secondary pathogens such as *C. sporulosum*, *C. destructans* and plant parasitic nematodes. Conducive field and climatic conditions and plant stress factors can play an important role in determining the activity, infection process and disease severity (i.e. total crop damage) expressed by these pathogens.

*Copies of the complete report are
available by contacting the Commission.*

Cranberry Promotion Activity Update

by Geraldine Auston

Things have been busy the last couple of weeks for cranberry education to the public! This is always a busy time of year and even though cranberry harvest is still a number of months away, it is the perfect time to get out there and get people thinking of the many ways they can incorporate cranberries into their diets every day of the year.

Agriculture in the City

The commission participated in two, one-hour cooking stages at this event that is held at Metro-Town in Burnaby. Organised by Agriculture and Agri-Food Canada, it is designed to connect the ever distant consumer back to the origin of their food... farms, not the grocery store! It was a great opportunity to talk about the long history and relationship cranberries have with BC, local farms, the connection of our farmers to Ocean Spray, health benefits and of course cranberries' instrumental role in making ordinary meals great!

BC Chefs Association Hot Competition

This year the BC Cranberry Marketing Commission was honoured to be a title sponsor for the newest Black Box Competition introduced by the BC Chefs Association! Cranberries were a highlight product and the sponsor of the grand prize for the Roasted Competition, where we were teamed with the very complimentary BC pork.

Great event, great response from the Chefs.



How BC Cranberry Production Research Funding Decisions are Made

The BC Cranberry industry has a well established, producer-oriented, process to identify issues that are limiting production and then to financially support projects that have a high probability of delivering information, techniques and tools required by growers to address those limitations.

A committee, chaired by Todd May, and including other producers appointed by the Commission and by the Association, Brian Mauza of Ocean Spray and Drs Sheila Fitzpatrick and Kim Patten, lead the process.

Research priorities are established each year based upon what is actually happening on BC cranberry farms. Those priorities are then segmented into “High”, “Medium” and “Long Term” and circulated to 56 cranberry researchers across North America with an invitation to submit project proposals to address the problems.

To keep growers informed, a report of research priorities is presented annually to the Cranberry Congress.

The committee then meets to review submitted proposals. If a proposal is received from a Committee member, that person is excused from Committee’s discussion and review of the proposal. The Committee then ranks proposals based on “Importance to Producers”, “Feasibility”, “Sound Science”, and “Value”.

Within budgets, projects that score the highest will be funded. Actual funding decisions are made only by the Producer members of the Committee.

Researchers are required to submit timely reports of the results achieved by the project. Those reports are first reviewed by the Committee who may request clarifications or further information or may approve the report.

Reports of Project results are presented to Growers at the Cranberry Congress, via Newsletters and on the website.

“...projects that score the highest will be funded.”



The 18th Annual Wellness Show

The commission sponsored the celebrity cooking stage at this well - attended Vancouver event. Three chefs chose to work with cranberries, and we were featured at 4 celebrity stage events!

- ◆ Antonio Cerullo, Executive Chef, Choices Markets made and sampled Turkey, Cranberry & Quinoa Meatballs.
- ◆ Robert Clark, Executive Chef, C Food Restaurant, nu restaurant & Raincity Grill, featured cranberries in his Fraser Valley Wellness Salad
- ◆ Jennifer Peters- Chef de Cuisine, Raincity Grill- made a scrumptious Pork Loin with Cranberry Agrodolce

Dietitians of Canada National Conference

I will be on my way to Montreal in two weeks to promote cranberries to as many as 700 Dietitians at their annual conference.

The BC Cranberry Marketing Commission is also sponsoring the conference’s walk-about-lunch and trade show, guaranteeing cranberry presence on the menu! Ocean Spray has also generously agreed to team up with us and will be shipping in individual bottles of their very new cranberry juice/vegetable blend juice as a give-away as well as their very handy shopping bags. The BCCMC has developed a 4-page brochure based on information from the Cranberry Institute as well as BC cranberry industry information to distribute to the Dietitians. This is a once-a-year event to get a chance to make personal contact with a large number of Registered Dietitians from all parts of Canada.

Geraldine Auston in Montreal to promote cranberries to 700 Dietitians



Canadian Cranberry Growers Coalition 2010 Health Research Project Proposals

The following research proposal abstracts (edited for length) were reviewed at the April 2010 Cranberry Institute Research Committee meeting and the CCGC has committed to fund these projects either in part or in full.



*Projects Funded
in Whole or Part
by CCGC*

Cranberry Phytochemicals and the Role of Hedgehog Signalling in Prostate Cancer

Co-Principal Investigators:

Dr. Catherine Neto, University of Massachusetts-Dartmouth, and
Dr. Robert Hurta, University of Prince Edward Island

The researchers propose to further investigate the effect of cranberry on mechanisms associated with metastatic prostate cancer, specifically the hedgehog signalling pathway. The hypothesis is that some of the constituents of cranberry will affect the expression of genes in this pathway. The proposed research may have broader implications since Hedgehog signalling plays a role in other metastatic cancers such as pancreatic and liver cancers. The study is designed to provide deeper information about the potential prostate cancer-fighting properties of cranberry for nutritionists, consumers and the cranberry industry.

CCGC contribution \$15,500 co-funded with Umass-D \$15,500 = Total \$31,000

Action of Cranberry Derived Proanthocyanidins Against Biofilm Formation and Cell Infection: Potential for Protection Against Urinary Tract Infection, Prostatitis and Pyelonephritis

Principal Investigator:

Nathalie Tufenkji, Dept of Chemical Engineering,
McGill University, Montreal, Quebec

To understand the potential of cranberry PACs in preventing or mitigating urinary tract infection, pyelonephritis, and prostatitis, we will further our investigation of the bioactivity of PACs against biofilm formation, placing emphasis on atmospheric conditions and the role of iron. To better understand the potential genetic mechanisms of PAC bioactivity, we will extend our work examining the metabolic response of selected pathogenic biofilms to PAC exposure using established molecular techniques. Finally, the antiadhesive and antiinvasive activities of PACs against bacterial pathogens interacting with human uroepithelial, kidney epithelial, and prostate epithelial cell lines will be examined. Fulfillment of these objectives will further the development of cranberry-related health research and clinical implementation, allowing medical professionals to take advantage of the potentially valuable properties of cranberry PACs.

CCGC Contribution \$27,500

The Influence of Cranberry Juice on MicroRNA Response in Senior Citizens

Principal investigator:

Dr. Carlo Selmi, University of California at Davis

The use of cranberry juice has implications for human health for populations undergoing chronic stress such as senior citizens because of their issues of immunosenescence. We propose herein to take advantage of the UC Davis Center for Aging and Health to feed healthy older subjects, i.e. subjects without chronic disease, a program containing cranberry juice and then do serial measurements of a large panel of serum miRNA both during and after the supplementation to determine the longevity of the cranberry juice effects. We will feed volunteers either cranberry juice or a control drink and thence perform a detailed miRNA analysis following a 6-week supplementation. The identification of changes in miRNA levels can extrapolate directly to individual proteins, thus leading to not only a better understanding of the biological functions of cranberry juice but also validate new programs to benefit a healthy lifestyle.

CCGC Contribution \$29,900 co funded with WI Cran. Bd. \$20,000 = Total \$49,900



The 8th Annual Canadian National Minor Use Priority Setting Workshop

May 2010

Agriculture and Agri-Food Canada Pest Management Centre (AAFC-PMC) hosted the 8th National Minor Use Priority Setting Workshop in Ottawa March 22-25, 2010.

BC cranberry industry interests were represented by Brian Mauza, Agricultural Scientist for OceanSpray and Mike Wallis, Executive Director for the BC Cranberry Growers Association. BC Cranberries were part of a contingent of the BC Berry Minor Use Committee that also represents raspberries, blueberries, strawberries and other minor berry crops. Representative from the Quebec cranberry industry and the Cranberry Institute were also in attendance.

The purpose of this annual meeting is to review the top minor use priorities identified by each of the provinces for all crops and to establish the top priority research projects to be conducted and funded by the AAFC-PMC for 2011.

The meeting brings together a wide range of participants from across Canada including Pest Management Regulatory Agency (PMRA) representatives, growers and grower organizations, crop extension specialists, provincial specialists, provincial minor use coordinators, university and federal researchers, pest control product registrants and manufacturers and other stakeholders. In addition, several individuals from the US IR-4 program also attend the meeting. Picture 200 plus people sitting in a huge conference room for three days of presentations, discussions, collaborations and horse trading, all designed to navigate the challenges in registering a crop protection product for minor use application, with the ultimate goal of providing growers with a safe, effective, registered pest control product for use in Canada.

The three days are divided into pest specific categories; day one involved entomology priorities for all crops, the second day

involved pathology priorities and the third day involved weed science priorities.

For each of the three disciplines, only 10 top priorities, ranked as A's, are chosen from a long list of identified pest control product solutions. Additional secondary priorities, ranked as B's, were also chosen for each discipline.

Cranberries were able to secure an 'A' research priority during Entomology discussions for the cranberry girdler, *Chrysoteuchia topiaria*. This means that during 2011, AAFC-PMC scientists will conduct the necessary residue and efficacy research required to submit a chosen pest management tools for minor use label expansion. The pest control candidate product selected was Movento (spirotetramat).

The BCCGA is the grower representative for the 2011 project and now the Association must develop, in conjunction with the registrant, Bayer Crop Science, the potential use pattern and rationale for use in cranberries. This project will then be submitted to the PMRA by the AAFC-PMC and data requirements should be completed in 2011-2012. Registration decision will likely occur in late 2014 and 2015.

*The final version of top A priority projects are available on the AAFC-PMC website:
www.agr.gc.ca/env/pest/index_e.php*



BC Cranberries part of the BC Berry Minor Use Committee



Cranberries On-Line

BC Cranberry Marketing Commission
BC Cranberry Growers Association

www.bccranberries.com
www.bccranberrygrowers.com





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Cranberry Delight Recipe
(serves 4-6)

1 1/2	tsp	gelatin
1/4	cup	cold water
3	large	eggs, separated
1/2	cup	orange juice
2	Tbsp	lemon juice
2	tsp	grated lemon rind
2/3	cup	granulated sugar
2	cups	cranberries, fresh or frozen
1	tsp	almond extract
1/8	tsp	cream of tartar
1/3	cup	sugar
1/2	cup	whipping cream

Lightly oil a 6-cup jelly mold.

In a small bowl, sprinkle the gelatin over 1/4 cup of cold water. Set aside.

In a medium bowl beat the egg yolks until smooth. Set aside.

In a medium saucepan, whisk the orange juice, lemon juice, lemon rind, 2/3 cup of sugar and the cranberries together. Bring to a boil and then reduce the heat and simmer until the cranberries begin to burst, stirring frequently. Remove from heat and strain the juice into a large bowl, setting the cranberries aside. Add the egg yolks, gelatin and almond extract and whisk until the gelatin is dissolved. Cool to room temperature.

In a clean, dry bowl beat the egg whites with the cream of tartar until soft peaks form.

Gradually add the 1/3 cup of sugar and beat until stiff peaks form.

In a clean bowl beat the cream until stiff peaks form.

Stir 1/3 of the meringue into the juice mixture to lighten it. Then gently fold the remaining meringue and the whipped cream into the mixture. Carefully fold in the cranberries.

Pour into the prepared mold and freeze overnight. Remove from freezer and let stand 20 minutes before serving.

See www.bccranberries.com for more delicious and nutritious recipes.



Cranberries were featured at the 18th Annual Wellness Show.

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