



CRANBERRY HEALTH NEWS

A publication of the Cranberry Institute

VOLUME 11 - ISSUE 11

SPRING 2012

Meet University of Laval's Cranberry Health Researcher, Daniel Grenier, Ph.D.

With more than 14 published scientific papers on the role of cranberry proanthocyanidins (PACs) and oral health, Dr. Daniel Grenier is one of the world's foremost authorities on this relatively new area of cranberry research (Results from one of his most recent studies are highlighted below). Dr. Grenier conducted his first cranberry PACs study in 2004, when he received a research grant from the Cranberry Institute. Since that time, he's received funding from various organizations including the Canadian Institutes of Health Research.



Dr. Grenier's lab has found that cranberry PACs offer unique opportunities to help protect against periodontal disease. "Our research shows that PACs may act on different targets including oral bacterial adherence, secretion of inflammatory mediators by immune and mucosal cells and other factors," Dr. Grenier stated. "We hope that someday we'll see chewing gum and toothpaste and other oral care products that contain natural cranberry PACs for localized application on diseased periodontal sites."

In the past two decades, researchers are just starting to better understand the overall systemic health risks associated with oral bacteria and infections of the teeth and gums that lead to chronic inflammation that may increase risk for other chronic diseases, such as heart disease. Periodontal disease (gum disease), which is caused primarily by the buildup of bacteria from plaque, affects nearly 75 percent of Americans and is the major cause of adult tooth loss. If cranberry PACs can provide some protection against oral bacteria adherence, much like they do in the urinary tract, they could help reduce the occurrence of this major public health threat.

Dr. Grenier makes sure to help keep his teeth and gums healthy by adding dried cranberry fruit to salads, couscous, cereals and other grain dishes.

IN THIS ISSUE...

[Meet University of Laval's Cranberry Health Researcher, Daniel Grenier, Ph.D.](#)

New Cranberry Health Research

[Cranberry May Protect Against Oral Cavity Yeast Infections](#)

[Cranberry May Reduce UTI Risk Among Postmenopausal Women](#)

Cranberry Miscellaneous

[Cranberries and Rice: A Dynamic Duo to Meet MyPlate Recommendations](#)

Cooking with Cranberry

[Maple-glazed Chicken With Cranberry Arugula Rice](#)
[Cranberry-Pistachio Biryani](#)

New Cranberry Health Research

The Cranberry Institute tracks and funds cranberry health research around the globe. The CI also partners with industry organizations such as the Wisconsin Cranberry Board and Canadian Cranberry Growers Coalition, to fund research on the health benefits of the cranberry.

Cranberry May Protect Against Oral Cavity Yeast Infections

Candida albicans (C. albicans) is commonly associated with yeast infections of the urinary tract. However, the yeast is also present in the

oral cavity, where it may colonize and cause infections and systemic inflammation. In fact, denture stomatitis (swollen, painful gums) is a common form of oral candidiasis affecting 30 to 60 percent of all denture wearers and is characterized by an inflammation of the oral mucosal areas induced by *C. albicans*. Those at increased risk include individuals taking antibiotics or steroidal medications, smokers and those with diabetes and nutritional deficiencies.

In this laboratory study, researchers at the University of Laval and the Marucci Center for Blueberry and Cranberry Research, Rutgers University, studied the role cranberry PACs play in preventing *C. albicans* from adhering to cells that line the gums. Because adherence is necessary to initiate infections, reducing the ability of the yeast to attach to the gums should help reduce infection rates.

The authors reported that cranberry PACs prevented biofilm formation and reduced adherence of *C. albicans* to oral epithelial cells and saliva-coated acrylic resin discs. In addition, cranberry PACs significantly decreased the inflammatory response of epithelial cells stimulated with *C. albicans* and exposed to cranberry PACs. Taken together, these results show that cranberry PACs have the potential to modulate *C. albicans* attachment and they do so in a dose-dependent manner.

Reference: Feldman M, Tanabe S, Howell A, Grenier D. Cranberry proanthocyanidins inhibit the adherence properties of *Candida albicans* and cytokine secretion by oral epithelial cells. *BMC Complement Altern Med*. 2012 Jan 16;12(1):6.

Cranberry May Reduce UTI Risk Among Postmenopausal Women

Urinary tract infection (UTI) is the most common bacterial infection in women. While most studies about cranberry and UTI infections have been conducted on younger, pre-menopausal women, postmenopausal are at high risk for these infections due to lower estrogen levels. In fact, an estimated 10 to 15 percent of women over 60 years of age have frequent UTIs. According to a recent scientific review, "Urinary Tract Infection in Postmenopausal Women," published in the *Korean Journal of Urology*, alternative methods that don't promote antibiotic resistance are needed because of the alarmingly high risk of developing antibiotic-resistant bacteria through traditional use of antibiotics to treat UTIs.

The review paper focuses on 25 published primary research papers, including those that used estrogen therapy, probiotics, as well as cranberry-containing foods, beverages and supplements that may be a preventative option for postmenopausal women.

According to the author, "Cranberries contain a proanthocyanidin that can prevent the colonization of the *E. coli* uropathogen in the vaginal mucosa and reduce the frequency of bacteriuria." One study, in which the antibiotic treatment with trimethoprim provided no benefit over cranberry capsules, found that the group taking trimethoprim reported more adverse effects and withdrawals.

Based on the studies reviewed, the authors concluded that additional randomized clinical trials with postmenopausal women are needed to provide feasible alternatives to antibiotic treatments for managing urinary tract health among postmenopausal women.

Reference: Raz R. [Urinary tract infection in postmenopausal women](#). *Korean J Urol*. 2011 December; 52(12): 801–808.

Cranberries and Rice: A Dynamic Duo to meet MyPlate Recommendations

The Cranberry Marketing Committee and USA Rice Federation teamed up to showcase meals that help consumers meet the new USDA MyPlate recommendations. MyPlate recommends that at least half of your plate should come from fruits and vegetables and ¼ from grains.

These colorful and delicious recipes with cranberries and rice are the perfect addition to a healthy diet.

Cooking with Cranberry

Maple-glazed Chicken with Cranberry Arugula Rice



Ingredients:

3 tablespoons butter
1/4 cup maple syrup
1/2 cup dried cranberries
2 cups grilled sliced chicken breast
1/2 teaspoon salt
1/2 teaspoon pepper
3 cups cooked medium or long grain brown rice
1 6-ounce package, about 5-6 cups, fresh baby arugula
1/2 cup crumbled Gorgonzola cheese

Directions:

1. Melt butter in large nonstick skillet over medium heat. Stir in maple syrup and cranberries; cook 1 minute. Add chicken, salt and pepper.
2. Cook 1 minute or until hot; remove chicken using slotted spoon. Add rice and toss to coat; remove from heat.
3. Toss in arugula; spoon rice mixture onto platter. Top with chicken and cheese. Serve immediately.

Servings: 4

Cranberry-Pistachio Biryani



Ingredients:

2 cups dried cranberries
2 1/2 cups basmati rice
2 tablespoons vegetable oil, plus more for frying
1 large red onion, thinly sliced
1 teaspoon saffron threads
1/2 cup milk
2 teaspoons cumin seeds
3 garlic cloves, minced
2-inch piece fresh ginger, peeled and finely julienned (1/4 cup)
2 cups plain yogurt
1/2 teaspoon cayenne pepper
1 cup water
2 1/2 cups unsalted, shelled, pistachios (8 1/2 oz.)

- ½ cup chopped, for garnish
- 1 tablespoon garam masala Salt
- 4 tablespoons unsalted butter, melted
- 2 serrano chiles, seeded and minced
- ½ cup finely chopped mint
- ¼ cup finely chopped cilantro

Directions:

1. In a large bowl, cover the cranberries with warm water and let stand for 1 hour; drain. In a medium bowl, cover the rice with water and let soak for 30 minutes, drain.
 2. Meanwhile, in a medium saucepan, heat 1-inch of vegetable oil to 325 degrees. Add the onion slices and fry, stirring occasionally, until browned and crisp, about 7 minutes. Drain on paper towels.
 3. In a large saucepan, toast the saffron over moderately high heat, 30 seconds. Transfer the saffron to a small bowl and let cool. Crumble the threads and add the milk.
 4. In the same large saucepan, heat the 2 tablespoons of oil. Add the cumin seeds and cook over moderately high heat until fragrant. Add the garlic and 2 tablespoons of the ginger and cook over moderately high heat until the garlic is golden. Add the yogurt, cayenne pepper, and the 1 cup of water and simmer over low heat, stirring occasionally, for 5 minutes. Add the cranberries, pistachios, and gram masala and simmer for 5 minutes, stirring occasionally. Season to taste with salt.
 5. Preheat the oven to 325 degrees. In another large saucepan of boiling, salted water, cook the rice until al dente. Drain and return to the saucepan. Stir in half of the saffron milk, cover, and set aside. Add the remaining saffron milk to the cranberry-pistachio-yogurt mixture.
 6. Spread half of the cranberry-pistachio-yogurt in a large, deep casserole or Dutch oven. Drizzle 1 tablespoon of the melted butter over the yogurt and top with half of the chiles, fried onions, and 1 tablespoon ginger. Spread half of the rice in the casserole and drizzle with 1 tablespoon of the melted butter. Spread with the remaining cranberry-pistachio-yogurt mixture, drizzle with 1 tablespoon of the butter, and scatter the remaining chiles, fried onion, and 1 tablespoon ginger on top. Cover with the remaining rice and drizzle on the remaining 1 tablespoon of melted butter. Cover the casserole tightly with foil, then cover with a lid.
- Bake the biryani for about 15 minutes, until heated through. Uncover and garnish with the chopped pistachios, mint and cilantro, and serve immediately.

Servings: 6

Recipes all courtesy of the Cranberry Marketing Committee, and are available at <http://www.uscranberries.com/recipes/default.aspx>.

Health and Research Professionals:

The Cranberry Health Newsletter is designed to bring the latest research about cranberry and health to practitioners concerned about the health and well being of patients.

If you would like a colleague to receive updates about cranberry health, subscribe by sending an email to (cinews@earthlink.net).