



# Cranberry Health News

A Publication of the Cranberry Institute

VOLUME 4, ISSUE 1

## In This Issue

**Special  
Dietetic  
Focus!**

ADA Dietary Practice  
Groups Get an Update on  
Cranberry Research  
*page 1*

Phytonutrients in Cranberry  
Extract Offer  
Cardioprotective Benefits  
*page 2*

Cosmopolitans Anyone?  
*page 2*

Featured Recipe: Spiced  
Yams with Cranberry Glaze  
*page 3*

Calendar of Events  
*page 3*

Free Recipe Calendar  
*page 3*



[www.cranberryinstitute.org](http://www.cranberryinstitute.org)

## ADA DIETARY PRACTICE GROUPS GET AN UPDATE ON CRANBERRY RESEARCH

Martin Starr, PhD, science advisor to the Cranberry Institute, provided an overview of the latest cranberry and health research at the 2005 American Dietetic Association Food and Nutrition Conference and Expo in St. Louis, Missouri. Dr. Starr addressed two practice groups, Nutrition Educators of Health Professionals and Nutrition Education for the Public, and reviewed the scientific data supporting various health benefits associated with cranberry consumption. Following are some highlights from those presentations.

### Bacterial Antiadhesion Benefits

The flavonoids in cranberries, known as proanthocyanidins (PACs), have a unique chemical structure that is thought to be responsible for their antiadhesion properties. It's that bacteria-blocking activity that makes cranberries so effective for helping prevent urinary tract infections (UTIs). An estimated 11 million women suffer from UTIs each year, and 25 percent have recurring infections. Regular cranberry consumption was shown to reduce the incidence of recurrent UTIs by as much as **40 percent**.

Researchers are exploring cranberries' potential impact on other bacteria-related conditions including dental carries and ulcers. In a clinical study conducted by Weiss et al. cranberry mouthwash reduced salivary *S. mutans* and total bacteria, suggesting it may be useful in preventing plaque aggregation. Researchers also explored the efficacy of cranberry juice on *H. pylori* infections known to cause ulcers and saw significant reduction or prevention in *H. pylori* infections. They concluded that regular consumption of cranberry juice can suppress *H. pylori* infections in endemically-afflicted populations, which could have far-reaching public health implications.

### Antioxidant Capacity and Disease Prevention

Compared with other common fruits, cranberry has the highest concentration of total antioxidants. Research has shown that the flavonoids and other phenolic compounds common in cranberry provide a variety of health benefits and may help prevent cardiovascular disease and certain types of cancer.



## Cosmopolitans Anyone?

The trendy cranberry cocktail that made a comeback after being featured on the HBO hit comedy *Sex and the City* may actually help ward off cancer. A group of researchers from the University of Massachusetts-Dartmouth discovered that a newly identified compound in the proanthocyanadin family can inhibit the growth of human lung, colon and leukemia cells in culture without affecting healthy cells.

The compound appears to work by interfering with a key family of enzymes called matrix metalloproteinases (MMPs). These enzymes are used by tumor cells to invade and metastasize. Researchers believe that MMP-inhibiting compounds, such as those found in cranberries, could help prevent tumor growth.

Related chemicals in grapes have been shown to work better in wine than in grape juice. Such might be the case with cranberries, since these cancer-fighting compounds are active in ethanol. The latest research was done on whole, crushed cranberries so additional research is necessary to establish the effectiveness of cranberry juice. There may be good reason to enjoy the occasional cosmopolitan.

**Source:** Adapted from *Chemistry & Industry*, October 17, 2005.

## PHYTONUTRIENTS IN CRANBERRY EXTRACT OFFER CARDIOPROTECTIVE BENEFITS

Cardiovascular disease (CVD) is the leading cause of death in the United States and claims more lives each year than the next five leading causes of death combined. The annual CVD death rate exceeds one million and associated annual costs are estimated at over \$350 billion. It's no wonder that much attention has been focused on preventing CVD through dietary and lifestyle modifications.

It is fairly well established that increased consumption of fruits and vegetables reduce the risk of CVD. The phytonutrients found in plants are thought to be partly responsible for these cardioprotective benefits. With that in mind, Cornell University researchers examined the potential role of cranberries in the prevention of CVD. Their objectives were to determine the antioxidant activity of cranberries against human LDL oxidation and to investigate the effect of cranberries on the expression of hepatic LDL receptors and intracellular uptake of cholesterol.

LDL oxidation plays a significant role in the initiation and acceleration of atherosclerosis. The antioxidant capacity of cranberries against LDL oxidation was assessed at physiological conditions using an assay that measured hexanal, one of the major end products of lipid oxidation. Complete inhibition of LDL oxidation occurred at 10 mg cranberry/mL, with partial inhibition occurring at 1, 2.5 and 5 mg.

In addition to preventing LDL oxidation, another strategy is to reduce excessive circulating LDL by up-regulating hepatic LDL receptors to enhance clearance of plasma cholesterol, further reducing CVD risk. Researchers tested the effects of cranberry extracts on LDL receptor expression in HepG2 hepatocytes and found that the addition of 15 and 30 mg/mL significantly increased receptor expression by 230% and 540% respectively when compared to the control ( $p < 0.05$ ). The uptake of cholesterol increased by 270% and 280% with the addition of 15 and 30 mg/mL when compared to the control ( $p < 0.05$ ).

Results of this study suggest that cranberries may be beneficial in preventing CVD by inhibiting LDL oxidation, inducing LDL receptor expression and increasing uptake of cholesterol.

**Reference:** Chu, Y, Liu, R.H. Cranberries inhibit LDL oxidation and induce LDL receptor expression in hepatocytes. *Life Sci*. 2005 Aug 26;77(15): 1892-901.

*Cranberry has the highest phytonutrient content among 21 commonly consumed fruits and vegetables, and possesses the most potent antioxidant and antiproliferative activities.*



## Calendar of Events

**American Overseas Dietetic Association**, March 23-25, 2006, Dublin, Ireland. For more information, visit [www.dietetics.com/aoda/](http://www.dietetics.com/aoda/)

**American Academy of Physician's Assistants – Visit the Cranberry Marketing Committee booth**, May 27-June 1, 2006, San Francisco, CA. For more information, visit [www.aapa.org](http://www.aapa.org)

**American Association of Nurse Practitioners – Visit the Cranberry Marketing Committee booth**, June 20-25, 2006, Grapevine, TX. For more information, visit [www.aanp.org](http://www.aanp.org)

**School Nutrition Association Annual Meeting – Visit the Cranberry Marketing Committee booth**, July 16-19, 2005, Los Angeles, CA. For more information, visit [www.schoolnutrition.org](http://www.schoolnutrition.org)



## Spiced Yams with Cranberry Glaze

These are delicious served with roast chicken or as a vegetarian dish over brown rice. Make in advance and reheat to serve.



2 pounds	Yams, peeled, cut into 1-inch cubes
1 tablespoon	Olive Oil
1 teaspoon	Salt
1 teaspoon	Curry powder
3 cups	Cranberry juice cocktail
1	Jalapeno chile, halved, seeds removed
1 tablespoon	Maple syrup
1 tablespoon	Butter
1 tablespoon	Parsley, chopped

Preheat oven to 450°F.

Place yams, olive oil, salt and curry powder in large resealable plastic bag. Shake until yams are coated. Place spiced yams in 13 x 9 x 2-inch pan.

Bake at 450°F for 25 to 30 minutes or until yams are tender and browned, turning once.

Bring cranberry juice to boil in medium pan. Add chile and boil for 15 minutes or until liquid is reduced to 1 cup. Remove chile.

Add maple syrup and butter and boil for 5 to 7 minutes or until mixture is reduced to 1/2 cup. Pour over cooked yams. Sprinkle with parsley and serve. Makes 8 servings.

**Nutritional Analysis per Serving:** Calories 270 (14% Calories from Fat), 2g Protein, 47g Carbohydrate, 5g Fiber, 3.5g Fat, 1g Sat. Fat, 5mg Cholesterol, 320mg Sodium

**FREE!** While supplies last...

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