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250 200 150 100 50

■ Total Antioxidants Per Calorie

In a separate study led by Dr. Joe A. Vinson of University of Scranton, PA, researchers studied the phenol content of 20 different fruits commonly consumed in America, including apple, avocado, banana, blueberry, cherry, grape, and cranberry, among others. The polyphenol concentration of the fruits was measured as both free and total phenols. Cranberries, by far, had the highest fresh-weight content of flavonoids and related phenolic acids among the 20 fruits tested.

Blueberries Cranberries Blackberries Raspberries Strawberries

CRANBERRIES: THE MOST ANTIOXIDANTS PER CALORIE

Martin Starr, PhD, science advisor to the Cranberry Institute, recently exhibited at the 2006 American Academy of Nurse Practitioners (AANP) National Conference and Expo in Grapevine, TX, bringing the latest cranberry and health research to a key audience in the healthcare community. Attending nurse practitioners who visited the Cranberry Institute booth were eager to learn more about cranberries' unique combined benefit of antiadhesion and antioxidants. While antiadhesion was featured in the past issue, this article examines cranberry's antioxidant profile.

Cranberries have long been recognized as one of the best sources of antioxidants. But how do they stack up against other popular foods? According to Men's Health Magazine and NutritionData.com, cranberries offer the most antioxidants for the fewest calories.



Did you know?

New White Cranberry Concentrate Coming to Market Soon

This fall, you may see a new product at the local store. Several key producers of cranberry products have announced the launch of a white cranberry concentrate, just in time for early fall.

Harvested one month before the red color of the cranberry develops, white cranberry concentrate has a lower acidity level than the traditional red berry and delivers a delicate color and flavor profile. The concentrate's attractive color and mild taste allows it to combine well with other fruits, while retaining all the health properties of the North American cranberry (Vaccinium macrocarpon).

Source: "White Cranberry Concentrate Launched" Food Ingredients First. May 12, 2006.

New Cranberry Extract Promotes Healthy Bladder and Artery Health

A leading supplier of standardized antioxidants recently launched a proprietary cranberry extract. This new product is 100 percent cranberry extract, contains no preservatives, sweeteners, or flavoring, and provides 120 mg/100g of anthocyanins in combination with 45,000 mg/100g of natural cranberry fiber. This latest supplement offers another way to help patients reap the health benefits of cranberries.

The protective effects of the antioxidants in cranberries are not due solely to the mild metal binding capacity flavonoids display, but to the free radical scavenging abilities of cranberry's components. For example, quercertin, a flavonol found in high concentrations in cranberry, is readily absorbed into the bloodstream. Flavonols present in cranberries also spare the *in vitro* oxidization of vitamin E, an important nutrient proven to inhibit LDL oxidization *in vivo*.

Many studies have shown that diets that include a generous amount of fruits such as cranberries are associated with a lower risk of cancer and heart disease.

When whole fresh or frozen berries are unavailable, patients can still get the antioxidant punch of cranberries. Cranberry powders, 27 percent cranberry juice cocktail, dried cranberries, and cranberry sauce all contain beneficial antioxidants.

References: *Men's Health*/June 2006. NutritionData.com. Institute of Medicine of the National Academy of Sciences.

X. Wu, G.R. Beecher, J.M. Holden, D.B. Haytowitz, S.E. Gebhardt, R.L. Prior. Lipophilic and hydrophilic antioxidant capacities of common foods in the United States. *Journal of Agricultural and Food Chemistry*. 2004 June 16;52(12):4026-37.

J.A. Vinson, X. Su, L. Zubik, P. Bose. Phenol Antioxidant Quantity and Quality in Foods: Fruits. *Journal of Agricultural and Food Chemistry*. 2001 November; 49(11): 5315-5321.

Diets Rich in Antioxidants May Reduce Risk of Developing Asthma A new study -- led by Dr. Nick Wareham, Director of the Medical Research Council-Epidemiology Unit in Cambridge, UK, and published in the journal *Thorax* -- found that a dietary intake of vitamin C and manganese were inversely and independently linked to symptomatic asthma. An increase in vitamin C intake corresponded with a 12 percent reduction in incidence and a 15 percent reduction with increasing manganese intake.

This study adds to a growing body of research linking increased antioxidant intake to a reduced risk of asthma.

Most cranberry juice products are fortified with 130 percent of the Recommended Dietary Allowance (RDA) for vitamin C. A healthy diet that includes cranberries is an easy way to accelerate daily antioxidant intake.

Reference: B.D. Patel, A.A. Welch, S.A. Bingham, R.N. Luben, N.E. Day, K.-T. Khaw, D.A. Lomas, and N. J. Wareham. Dietary antioxidants and asthma. *Thorax*. 2006 May; 61:388-393.

Cranberry and Cancer Prevention

Researchers at the University of Texas' M.D. Anderson Cancer Center recently found resveratrol, an antioxidant found in cranberries, may be linked to anticancer activity including skin cancer. While findings attributing cranberry's components to a decreased risk of cancer are preliminary, *in vitro* studies suggest cranberries contain components that can inhibit carcinogenesis.

Reference: "Two-thirds of Skin Cancer Preventable" United Press International. March 31, 2006.

Free Materials For You

The Cranberry Institute introduces another free brochure, just for nurse practitioners!

The Nurse Practitioner Brochure focuses on how cranberries can make patient care easier for nurses, as an efficient and cost-effective form of disease prevention.

To order samples, e-mail: kauilani.ostrem@publicis-usa.com

Nurse Practitioner Brochure









2 1/4 cups Flour, all-purpose

1/2 cups Flour, whole wheat flour

1/3 cupsGranulated sugar1 tablespoonBaking powder2 teaspoonsGinger, ground1/2 teaspoonOrange peel

1/4 teaspoon Salt 1 1/4 cups Milk

5 tablespoons Butter, melted

Egg

1 cup Cranberries, fresh or frozen (thawed), halved or sliced

Preheat oven to 350°F. Grease or butter muffin pan.

Mix flours, sugar, baking powder, ginger, orange peel and salt in medium bowl; set aside.

Blend milk, melted butter and egg in separate bowl. Add wet ingredients to dry ingredients and mix just until just blended. Do not overmix.

Stir in cranberries until evenly distributed. Divide batter among muffin cups. Sprinkle decorative sanding sugar on top of muffins, if desired.

Bake at 350°F for 15 to 18 minutes until lightly browned. Makes 10, 3 oz. Muffins.

Nutritional Analysis Per Serving: Calories 350 (27% Calories from Fat), Protein 7g, Carbohydrate 58g, Fiber 3g, Fat 11g, Sat. Fat 6g, Cholesterol 55mg, Sodium 340mg