

## Produce and Heart Health... What's the Connection?

### April 2007

Unless you have been living under a rock, I am sure that you have heard that eating 2 cups of fresh fruits and 2 1/2 cups of fresh vegetables each day\* leads to a lower risk of developing heart disease and may help prevent a second cardiac event if you already have heart disease<sup>1</sup>. But why is this? Why can't you get the same benefits from just taking a vitamin pill, taking a fiber supplement and drinking 100% fruit and vegetable juices?

Well, aside from the fact that there are few things in life more pleasurable than biting into a fresh Palisade Peach or eating a farm fresh tomato, there are plenty of healthy compounds in produce that cannot be found in even the most expensive vitamin pill or pharmaceutical. These compounds are called phytochemicals (phyto = plant). While we know quite a bit about a few of them, like beta carotene (the food source of vitamin A) and lycopene (found in red colored produce and thought to prevent prostate cancer among other things), there are thousands more we know are there but don't quite know what they do. The general consensus in the scientific community is that these phytochemicals may be as important as the vitamins, minerals and fiber found in fruits and vegetables in reducing risk of high blood pressure, high cholesterol, and other signs of heart disease<sup>2</sup>. Also, keep in mind that a trial to see if beta carotene supplements would prevent lung cancer and heart disease in smokers in the 1990's had to be halted due to adverse affects from the supplements, something that is rare when getting ones nutrients from foods<sup>3,4</sup>.

Now, back to getting your 4-5 cups of fruits and vegetables a day. While this may sound like a lot of produce for one day, this certainly does not mean that we must all become vegetarians to maintain heart health. Studies have shown that there is very little mortality difference between vegetarians and those that maintain a heart healthy lifestyle<sup>5</sup>. The key for all of us is to get a variety of produce every day to garner the most benefits from our produce.

While many believe that bananas are a very high food source of potassium (a mineral necessary to help maintain healthy blood pressure), did you know that 1 medium banana (422mg) is actually number 21, well behind the number 1 ranked baked medium sweet potato (694mg)\*\*?

Since all fruits and vegetables are a source of potassium as well as fiber, phytochemicals and other essential vitamins and minerals, getting a variety of produce every day will help you get the nutrients you need over the week to ensure heart health.

Plan on choosing produce for snacks and sides or even main dishes. That will make it easy to reach your produce goals! People who get the recommended amount of produce every day as well as at least 3 servings of whole grains, low-fat dairy and 5-6 ounces of protein containing foods (meat, poultry, fish, beans, nuts and seeds) and at least 30 minutes of moderate physical activity most days can lower their risk of many chronic diseases over their lifetime\*. It is never too late to start a heart healthy lifestyle to protect your heart – so start today!

By Stephanie Yoo, MS, RD  
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## Endnotes:

\*Serving recommendations are based on eating 2000 calories a day and My Pyramid (the new USDA Food Guide Pyramid introduced in 2005). Up to 8 oz. of 100% fruit juice or up to 8 oz. of low-sodium vegetable/tomato juice will count toward 1 cup of this goal. Visit [www.mypyramid.gov](http://www.mypyramid.gov) or [www.5aday.gov](http://www.5aday.gov) for more serving size information.

\*\* Appendix B: Food Sources of Selected Nutrients. Dietary Guidelines for Americans, 2005. Available at: <http://www.health.gov/dietaryguidelines/dga2005/document/html/appendixB.htm#AppB1>

<sup>1</sup> Appel LJ, et al. Dietary approaches to prevent and treat hypertension: a scientific statement from the American Heart Association. Hypertension [serial online]. 2006 Feb [cited 2006 Jul 22];47(2):296-308. Available from: <http://hyper.ahajournals.org/cgi/reprint/47/2/296>

<sup>2</sup> Heber D. Vegetables, fruits and phytoestrogens in the prevention of diseases. J Postgrad Med [serial online] 2004 [cited 2006 Jul 22];50:145-149. Available from: <http://www.jpjgmonline.com/article.asp?issn=0022-3859;year=2004;volume=50;issue=2;spage=145;epage=149;aulast=Heber>

<sup>3</sup> Mayne ST. Beta-carotene, carotenoids, and disease prevention in humans. FASEB J [serial online]. 1996 May [cited 2006 Jul 22];10(7):690-701. Available from: <http://www.fasebj.org/cgi/reprint/10/7/690>

<sup>4</sup> Neuhaus ML, et al. Fruits and vegetables are associated with lower lung cancer risk only in the placebo arm of the beta-carotene and retinol efficacy trial (CARET). Cancer Epidemiol Biomarkers Prev [serial online]. 2003 Apr [cited 2006 Jul 22];12(4):350-358. Available from: <http://cebp.aacrjournals.org/cgi/reprint/12/4/350>

<sup>5</sup> Chang-Claude J, Hermann S, Eilber U, Steindorf K. Lifestyle determinants and mortality in German vegetarians and health-conscious persons: results of a 21-year follow-up. Cancer Epidemiol Biomarkers Prev [serial online]. 2005 Apr [cited 2006 Jul 24];14(4):963-8. Available from: <http://cebp.aacrjournals.org/cgi/reprint/14/4/963>

## Further Study

For more information, and to have recommendations tailored to your lifestyle, contact Heart Center of the Rockies at (970) 221-1000 for an appointment with one of the Heart Center Dietitians, Stephanie Yoo, MS, RD or Jenifer Bowman, MS, RD.

For more information on produce – especially local produce and recipes – visit your local farmers’ market for a variety of produce in season and recently harvested to retain the most nutrients. Here are a few to visit this summer:

1. Larimer County Farmers’ Market (Remington and Oak Streets - Old Town, Fort Collins) July – October on Saturdays from 8 am-noon through. Call the CSU / Larimer County Cooperative Extension Office at (970) 498-6000 for more information or to ask a Master Gardener how to plant your own nutrient packed garden.
2. Fort Collins Farmers’ Market (Harmony Market Place - Lemay and Harmony, Fort Collins) May-October on Sundays from 11 am-3 pm and Mid-June - October on Wednesdays 11-3. (970) 495-4889 for more info.
3. Drake Road Farmers’ Market (802 W. Drake, Fort Collins) May – October on Saturdays 9 am-noon. (970) 218-5521 for more info.
4. Berthoud Farmers’ Market (3<sup>rd</sup> and Mountain Ave., Berthoud) June 15<sup>th</sup>- October 12<sup>th</sup> on Thursdays from 3 pm-7 pm. (970) 532-5199 for more info.
5. Estes Valley Farmers’ Market (470 Prospect Village Dr, Estes Park) June 1<sup>st</sup> - September 28<sup>th</sup> on Thursdays from 8 am-12:30 pm. (970) 532-4581 for more info.
6. Loveland Farmers’ Market (N. Garfield and Orchard, Loveland – near Hobby Lobby) May – October on Tuesdays from 11 am- 3 pm. (970) 495-4889 for more info.

Go to [www.coloradoagriculture.com](http://www.coloradoagriculture.com) and click on “2007 Colorado Farm Fresh Directory” for more places to get farm fresh produce in your area.

## Phytochemical Power Stir-fry with Tofu and Brown Rice

*This stir-fry is a powerhouse of phytochemicals, fiber and essential vitamins and minerals from the variety of vegetables as well as the brown rice. Plus, the canola oil and tofu are great sources of heart healthy monounsaturated fats. Enjoy!*

- 2 tablespoons water
- 1 1/2 tablespoons cornstarch
- 1 cup low-sodium canned vegetable broth
- 2 tablespoons low-sodium soy sauce
- 2 tablespoons fresh orange juice
- 1 tablespoon rice vinegar
- 1 teaspoon honey
- 1 teaspoon dark sesame oil
- 1/2 teaspoon crushed red pepper or to taste
- 3 teaspoons canola oil, divided
- 1 (12.3-ounce) package reduced-fat firm tofu, drained and cut into 1/2-inch cubes
- 1 cup thinly sliced onion
- 1 cup red bell pepper strips
- 3 cups sliced zucchini (about 3/4 lb)
- 1 cup snow peas, trimmed
- 1/2 cup diagonally sliced carrot
- 1 1/2 cups diagonally sliced bok choy (stem and greens)
- 1 (8-ounce) can sliced water chestnuts, drained
- 1 cup cilantro sprigs
- 3 cups hot cooked long-grain brown rice

Combine water and cornstarch in a bowl; stir with a whisk. Stir in broth and next 6 ingredients (broth through crushed red pepper).

Heat 2 teaspoons of canola oil in a large nonstick skillet over medium-high heat. Add tofu; stir-fry 8 minutes or until golden brown, stirring occasionally. Remove tofu from pan. Place tofu on several layers of paper towels.

Add 1 teaspoon canola oil to pan. Add onion and bell pepper, and stir-fry 2 minutes. Add the zucchini, snow peas, carrot, bok choy, and water chestnuts; stir-fry 1 minute. Add tofu and broth mixture. Bring to a boil, and cook 2 minutes. Stir in cilantro. Serve with rice.

**Yield: 4 servings (serving size: 1 1/4 cups stir-fry and 3/4 cup rice)**

### NUTRITION PER SERVING

CALORIES 365(18% from fat); FAT 7.4g (sat 1.3g,mono 2.2g,poly 3.2g); PROTEIN 15.1g;  
CHOLESTEROL 0.0mg; CALCIUM 129mg; SODIUM 387mg; FIBER 6.3g; IRON 4.3mg;  
CARBOHYDRATE 60.8g

## Farmers' Market Fresh and Easy Pasta Salad

*This deliciously tangy and spicy pasta salad is a great way to get your 5 A Day! One serving is equivalent to 1 cup of vegetables (1 ½ cups with the spinach or romaine) and one serving of whole grains. The black beans and pasta combine to provide a complete protein, the avocado and olive oil provide heart healthy monounsaturated fats, and the veggies provide essential vitamins, minerals and phytochemicals. Enjoy it this weekend after the Farmers' Market!*

6 ounces 100% whole wheat spiral shaped pasta (such as DaVinci)  
1 ½ cups cherry tomatoes (halved if they are large)  
¾ cup diced peeled avocado (about 1 avocado)  
½ cup chopped seeded fresh mild or medium Hatch or poblano chili (about 1)  
1 cup chopped zucchini or yellow squash  
½ pound green beans, strings removed (halved if desired)  
½ cup chopped red onion  
3 tablespoons chopped fresh cilantro  
1 (15-ounce) can black beans, drained and rinsed  
2 teaspoons grated lime rind  
3 tablespoons fresh lime juice  
1 ½ tablespoons cider vinegar  
3 teaspoons extra virgin olive oil  
1 clove garlic, minced  
¼ teaspoon salt  
1 pinch ground cayenne or chipolte pepper (optional)  
1 medium lime, cut in 6 wedges  
6 cups baby spinach or chopped romaine

Bring 2 quarts of water to a boil. Cook the green beans in boiling water for about 1 minute or until crisp tender. Remove green beans from boiling water with a slotted spoon and immediately cool under running cold water. Do not dump out boiling water!

Cook pasta according to package directions in the same water you cooked the green beans in, omitting salt and fat. Drain and cool completely by rinsing under running cold water.

Combine the tomatoes, avocado, chili, zucchini, green beans, onion, cilantro, and beans in a medium bowl, stirring well. Combine rind, juice, vinegar, oil, garlic, salt, and pepper in a small bowl, stirring well with a whisk. Add pasta and lime mixture to bean mixture; toss to combine. Serve over 1 cup of spinach or chopped romaine with lime wedges for a nutritious lunch or dinner.

**Yield: 6 servings (serving size: 1 ½ cups pasta and 1 lime wedge)**

CALORIES 214(30% from fat); FAT 7.1g (sat 1.1g,mono 4.4g,poly 0.9g); PROTEIN 6.3g;  
CHOLESTEROL 0.0mg; CALCIUM 47mg; SODIUM 107mg; FIBER 9.6g; IRON 2.4mg;  
CARBOHYDRATE 35.5g