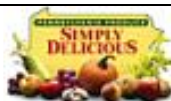


Broccoli

Volume 1, Issue 9



<http://panen.psu.edu>

panen@pahunger.org

(717) 233-1791



What's So Great about Broccoli?

Why is Vitamin C Important?

Vitamin C, also known as ascorbic acid, is needed for growth and repair of body tissue. Vitamin C helps the body make collagen, a tissue needed for healthy bones, teeth, gums and blood vessels.

Vitamin C is water-soluble (dissolves in water), which means that you should have it every day, because your body does not store it. Broccoli is an excellent source of vitamin C.

Broccoli is an excellent source of vitamin C and dietary fiber. Broccoli is a good source of potassium and vitamin A.

Broccoli is low in calories. It is also fat and cholesterol free.

Broccoli contains the phytonutrient (plant-nutrient) sulforaphane (pronounced: sul-for-a-fain). Sulforaphane has been shown in some studies to reduce risk of cancer.

Broccoli can be mixed with a variety of foods. It can be used as a soup, salad, flavoring for grains, or even as a main dish.

Selecting and Storing Broccoli

Broccoli is available all year. In some markets the florets (tops) of the broccoli are sold without the stalk.

Look for:

- Firm, tightly bunched florets
- Florets should be dark green, sage green, or even greenish purple



- Stems should not be too thick or too tough

Avoid:

- Open buds or yellow flowers
- Yellowish-green color
- Wilted or limp broccoli
- Soft, slippery, water-soaked spots on buds



Storage

Place unwashed broccoli in a plastic bag. Keep the broccoli in the vegetable crisper of the refrigerator. It will keep in the refrigerator for up to 4 days. Cooked leftovers may be refrigerated for 2 to 3 days in a tightly covered container.

Varieties of Broccoli

The most common type of broccoli sold in the U.S. is called sprouting, or Italian green, broccoli. Another name for this type of broccoli is Calabrese. This name came from the Italian province of Calabria, where it was first grown. Sprouting broccoli has light-green stalks. Umbrella-shaped groups of purplish-green florets top the stalks.

Sprouting Broccoli



Other broccoli varieties are:

Broccolini

This type is a cross between broccoli and Chinese kale.



Broccoflower

This type is a cross between broccoli and cauliflower. This broccoli comes in a single large head. Broccoflower is a light green, which is a mix of the white cauliflower and dark green broccoli.



Broccoli sprouts

Broccoli sprouts are a good source of sulforaphane. These tend to be expensive. Mix them with other vegetables to keep costs low.



Preparation Tips

Did you know?

Broccoli florets cook much faster than the stalks. Cut the stalks lengthwise. This causes the stalk to cook faster. Another option is to cut off the florets and add them to the pot after the stalks have cooked for 2 to 3 minutes.

For boiling or steaming, use a non-aluminum pot or pan. Aluminum enhances broccoli's cooking odors.



Boiling: Boiling broccoli creates a mild taste. Boiling can cause a loss of vitamin C and other nutrients. When boiling, bring the water to a rapid boil before adding the broccoli. Cooking time is 5 to 7 minutes.

Stir-frying: Stir-fry broccoli for two minutes. Add a little broth or water. Cover the pan. Let the broccoli steam until crisp-tender. Cooking time is 4 to 5 minutes.

Steaming: Steaming preserves the most nutrients. Steaming also keeps the florets from breaking apart. Steam broccoli for 1 to 2 minutes. Then uncover the pot for 10 to 15 seconds. Uncovering the pot lets the gasses escape. Total cooking time is 5 to 7 minutes.



Microwaving: In microwave-safe dish, arrange one pound of broccoli in a wheel-spoke fashion. The florets should point toward the center. Add 1/4 cup water and cover. Rotate the container halfway through the cooking time. Total cooking time is 6 to 10 minutes.

Nutrition Facts

1 cup cooked Broccoli

Nutrition Facts	
Serving Size (148g)	
Servings Per Container	
Amount Per Serving	
Calories 40	Calories from Fat 5
% Daily Value*	
Total Fat 1g	1%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 40mg	2%
Total Carbohydrate 8g	3%
Dietary Fiber 4g	16%
Sugars 3g	
Protein 4g	
Vitamin A 90%	Vitamin C 230%
Calcium 8%	Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
Calories: 2,000 2,500	
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

Key nutrient facts are circled in green.

Fitting Broccoli into MyPyramid



The **green** triangle of MyPyramid is the vegetable section. Vegetables may be raw or cooked; fresh, frozen, or canned. Age, gender, and level of physical activity determine the daily vegetable need. For a 2000 calorie diet, it is recommended having about 2 ½ cups of vegetables daily.

On MyPyramid, broccoli is a **dark green** vegetable. For a 2000 calorie diet, 3 cups of dark green vegetables are recommended per week. That's less than ½ cup per day! For more information on vegetable serving sizes visit www.mypyramid.gov.

Recipe Collection

Nutrient Data

1 cup Broccoli Soup

Nutrition Facts	
Serving Size (221g)	
Servings Per Container	
Amount Per Serving	
Calories 120	Calories from Fat 50
% Daily Value*	
Total Fat 6g	9%
Saturated Fat 1.0g	5%
Cholesterol 0mg	0%
Sodium 400mg	17%
Total Carbohydrate 11g	4%
Dietary Fiber 2g	8%
Sugars 4g	
Protein 5g	
Vitamin A 10%	Vitamin C 70%
Calcium 10%	Iron 6%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
Calories: 2,000 2,500	
Total Fat	Less Than 65g 80g
Saturated Fat	Less Than 20g 25g
Cholesterol	Less Than 300mg 300 mg
Sodium	Less Than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

Creamy Broccoli Soup

Serves 4

Ingredients

1 1/2 cups chicken broth
1/2 cup chopped onion
2 cups cut broccoli
1/2 teaspoon dried, crushed thyme
2 small bay leaves
2 Tablespoons margarine
2 Tablespoons flour
1/4 teaspoon salt
few dashes of pepper
1 cup nonfat milk
Garlic powder to taste

Estimated cost:

Per Recipe: \$ 1.75

Per Serving: \$ 0.44



Instructions

1. In a saucepan combine chicken broth, chopped onion, broccoli, thyme, bay leaf and garlic powder.
2. Bring mixture to a boil. Reduce heat. Cover and simmer for 10 minutes or until vegetables are tender. Remove bay leaf.
3. Place half of the mixture in a blender or food processor. Cover and blend 30 to 60 seconds or until smooth. Pour mixture into a bowl. Repeat with remaining vegetable mixture. Set all aside.
4. In the same saucepan melt the margarine. Stir in flour, salt, and pepper. Add the milk all at once. Stir rapidly with a wire whisk.
5. Cook and stir until mixture is thickened and bubbly. Stir in the blended broccoli mixture. Cook and stir until soup is heated through. Season to taste with additional salt and pepper.

Options:

Use butter in place of the margarine. Other types of milk (1%, 2%, whole) can be used in place of non-fat milk. These would change the nutrition information slightly. Chicken broth can be canned, boxed, or homemade.

Nutrient Data

½ cup Broccoli Salad

Nutrition Facts

Serving Size (117g)
Servings Per Container

Amount Per Serving

Calories 140 **Calories from Fat 30**

% Daily Value*

Total Fat 3.5g **5%**

Saturated Fat 1.0g **5%**

Cholesterol 0mg **0%**

Sodium 220mg **9%**

Total Carbohydrate 28g **9%**

Dietary Fiber 2g **8%**

Sugars 18g

Protein 2g

Vitamin A 8% • Vitamin C 80%

Calcium 4% • Iron 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Calories 2,000 2,500

Total Fat Less Than 65g 80g

Saturated Fat Less Than 20g 25g

Cholesterol Less Than 300mg 300 mg

Sodium Less Than 2,400mg 2,400mg

Total Carbohydrate 300g 375g

Dietary Fiber 25g 30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Broccoli Salad

Serves 8

Ingredients

6 cups chopped broccoli
1 cup raisins
1 medium peeled and diced red onion
2 Tablespoons sugar
8 cooked and crumbled bacon slices (optional)
2 Tablespoons lemon juice
¾ cup low fat mayonnaise



Instructions

1. Combine all ingredients in a medium bowl
2. Mix well
3. Chill for 1 to 2 hours
4. Serve

Options:

Regular mayonnaise can be used in place of low fat mayonnaise. This would increase the fat grams. Bacon can be omitted from the recipe. The bacon adds to the total fat, cholesterol, protein, and sodium.

Estimated cost:

Per Recipe: \$ 2.82

Per Serving: \$ 0.35

Nutrient Data

½ cup Casserole

Nutrition Facts

Serving Size (177g)
Servings Per Container

Amount Per Serving

Calories 180 **Calories from Fat 50**

% Daily Value*

Total Fat 6g **9%**

Saturated Fat 1.5g **8%**

Cholesterol 45mg **15%**

Sodium 470mg **20%**

Total Carbohydrate 11g **4%**

Dietary Fiber 1g **4%**

Sugars 1g

Protein 19g

Vitamin A 8% • Vitamin C 25%

Calcium 2% • Iron 6%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

Calories 2,000 2,500

Total Fat Less Than 65g 80g

Saturated Fat Less Than 20g 25g

Cholesterol Less Than 300mg 300 mg

Sodium Less Than 2,400mg 2,400mg

Total Carbohydrate 300g 375g

Dietary Fiber 25g 30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Broccoli Chicken Cheese Casserole

Serves 8

Ingredients

1 cup rice, uncooked
1 package (10 ounce) broccoli, frozen
3 cups chicken, cooked
2 Tablespoons margarine or butter
¼ cup flour
2 cups chicken broth*
¼ cup Parmesan cheese (optional)

*Chicken broth can be canned, boxed, or homemade (from cooking the chicken).

Estimated cost:

Per Recipe: \$ 8.97

Per Serving: \$ 1.12

Instructions

1. Cook rice in 2 cups of water or per the directions on the package.
2. Let broccoli thaw.
3. Make sure there are no bones with the chicken. Make chicken into bite-sized pieces.
4. Melt butter in large sauce pan.
5. Add flour to melted margarine and stir. This will be lumpy.
6. Slowly add chicken broth to margarine/flour. Stir to remove lumps and thicken.
7. Add cheese and stir.
8. Add rice, broccoli, and chicken. Stir.
9. Put in a casserole pan. Bake at 350°F for 25-30 minutes.



Picture courtesy of gourmetfoodmall.com

Grow Your Own Broccoli



Broccoli plants are often started indoors. Then broccoli is transplanted (moved) outdoors when the small plants are an inch or two tall.

Broccoli can survive through frost. But broccoli does not grow well in very hot weather. Plant broccoli in the spring or fall. For fall planting, start seedlings in midsummer. Transplant into the garden in late summer.

Plant seeds 1/4 to 1/2 inch deep. Set transplants slightly deeper than they were grown. Plant 18 to 24 inches apart in the row. Space rows 36 inches apart. Broccoli plants grow tall, often reaching a height of 2 1/2 feet.

Green buds develop first in one large central head. Later buds grow in several smaller side shoots.

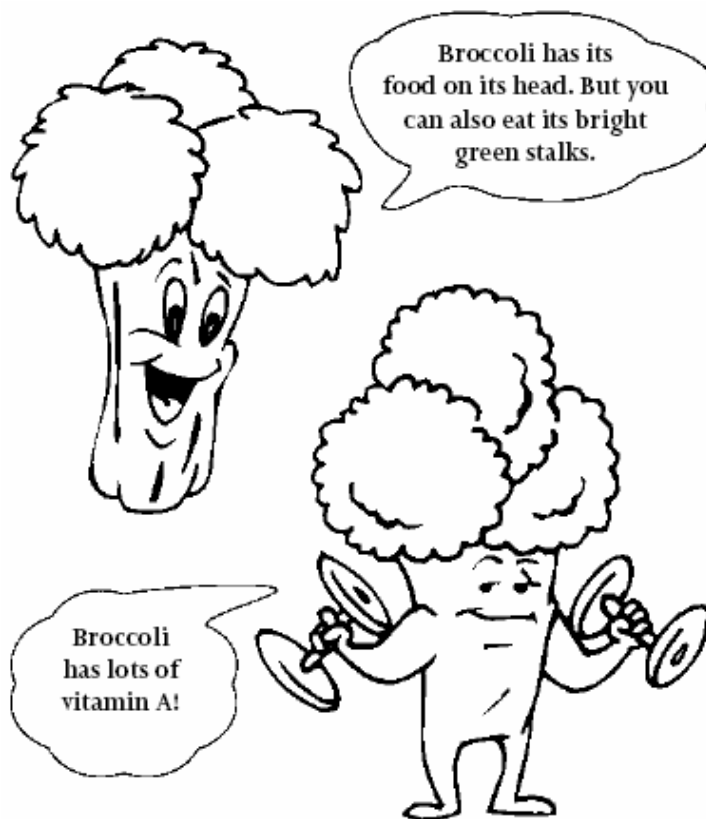
After the central head of the broccoli has grown, cut it with 5 to 6 inches of stem. Do this after the head is fully developed, but before it begins to loosen and separate. Removing the central head makes the side shoots grow out from the lower leaves. Broccoli can be harvested for several weeks this way.

For more information, contact your local Cooperative Extension Educator in the phone book or at <http://www.extension.psu.edu/>

Activity Alley

Broccoli Coloring Activity

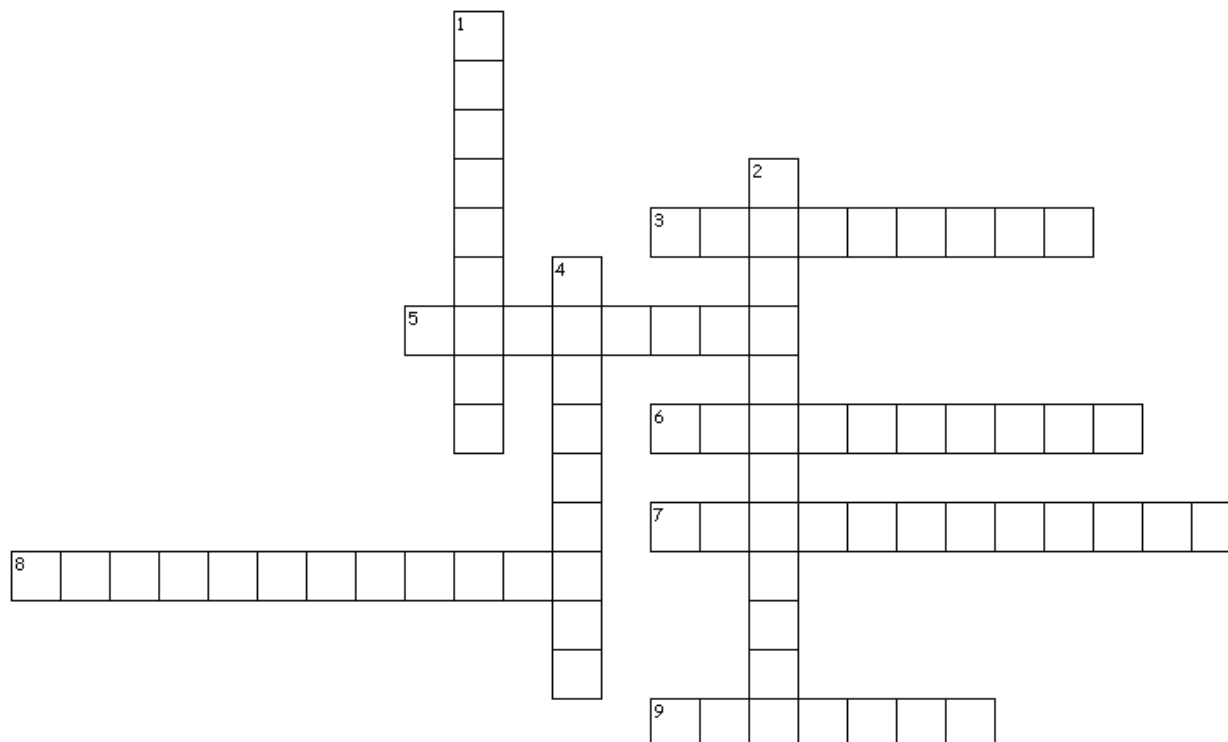
Directions: Color the picture below.



Coloring design was prepared by Katherine Cason, associate professor of food science at PSU.



Directions: Answer the clues to test how much you know about broccoli.



Across

3. In MyPyramid, broccoli is a _____ vegetable. For a 2000 calorie diet, it is recommended that you eat about 3 cups of this colored vegetable per week.
5. Broccoli is an excellent source of this.
6. _____ variety of broccoli is a mix of broccoli and Chinese kale.
7. Avoid purchasing this color of broccoli.
8. Broccoli contains this phytonutrient. This phytonutrient has been found to help prevent cancer.
9. Broccoli _____ are a good source of sulforaphane.

Down

1. This variety of broccoli is most common in the US. It has light-green stalks. Umbrella-shaped groups of purplish-green florets top the stalks.
2. This variety is a cross between broccoli and cauliflower.
4. Another name for sprouting type of broccoli is _____.