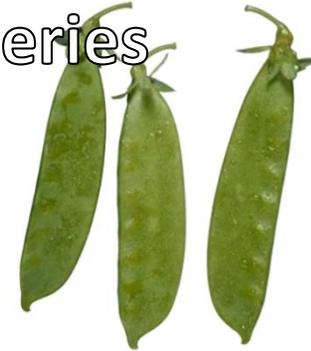


## Farm to Health Series

### MAXIMIZE YOUR NUTRIENTS FROM: GREEN BEANS & PEA PODS



Natural pigments in green beans and pea pods contribute color to the vegetables, but also have a health benefit. The yellow color is from carotenoids and the green is from chlorophyll. One cup of raw green beans or pea pods contains:

- 20-60% daily Value (DV) of vitamin C.
- 15-20% DV of vitamin A.
- 5-10% DV of fiber.

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#### HOW THEY IMPROVE HEALTH

- Carotenoids and vitamin C act as antioxidants in the body and may help to prevent age-related cancers and improve overall immune system. Chlorophyll may also act as an antioxidant.
- The yellow carotenoids can help to maintain eye health and reduce macular degeneration.

#### NUTRIENT AND PHYTONUTRIENT CHANGES

- Nutrients and phytonutrients are highest if green beans and pea pods are consumed within one week of harvest. Nutrients decrease quickly with prolonged storage.
- Freezing green beans and pea pods requires blanching first. Carotenoids and fiber are maintained during blanching, but losses of vitamins C and A occur.
- If cooking from fresh, steaming is the best method to maximize nutrients, carotenoids, and chlorophyll.
- If using canned vegetables, the liquid should be retained. The canning liquid contains many nutrients, and can be saved for another recipe. Low sodium canned varieties are best.

*This information is not meant to diagnose, treat, cure, or prevent any disease. This project is made possible by funding through OSU CARES - an initiative of OSU Extension and the OSU to expand faculty, staff and student partnerships with communities throughout Ohio.*

## Recipe: Green Bean and Mushroom Casserole

(Reprinted with permission from the American Institute for Cancer Research, [www.aicr.org](http://www.aicr.org))

This is a healthier version of the typical green bean casserole. It uses steamed green beans to maximize retention of nutrients and phytonutrients.



### Ingredients:

- Canola oil cooking spray
- 1 lb. green beans, trimmed and cut into 1-inch pieces, or frozen green beans
- 2 Tbsp. plus 2 tsp. canola oil
- 1/2 cup finely chopped onion
- 1/2 cup panko breadcrumbs
- 8 oz. white mushrooms, stemmed and cut into 4 to 6 pieces
- 1 large garlic clove, minced
- 2 Tbsp. rice or wheat flour
- 1 1/2 cups reduced-fat (2%) milk
- Salt and ground black pepper
- Pinch of cayenne pepper

### Directions:

- Preheat oven to 425°F. Coat 11x7-inch baking dish with cooking spray and set aside.
- Steam green beans until almost tender, 5 min. Transfer to bowl of ice water. When beans are cool, drain well and spread in prepared baking dish.
- Heat 2 tsp oil in skillet over medium-high heat. Add onion, cook until browned, 8 min, stirring often. Scoop onion into small bowl, add panko, and mix with fork to combine. Set aside.
- Return pan to medium-high heat. Add mushrooms and cook until they look wet, 2-3 min, stirring constantly. Add garlic and cook until mushrooms are tender, 5 min, stirring often. Add mushroom mixture to green beans.
- Add remaining 2 Tbsp of oil to pan. Sprinkle flour over oil and cook, using a wooden spoon to stir and scrape mushroom and garlic bits from bottom of pan. Cook for 1 min, stirring constantly, lowering heat as needed to prevent flour from browning. Pour in milk while stirring vigorously. When sauce boils, reduce heat and simmer until spoon leaves a wide path and sauce is thick enough to coat spoon well, 5-7 min. Season sauce to taste with salt, black pepper, and cayenne pepper. Stir sauce into vegetables. Spread in an even layer.
- Sprinkle topping over casserole and bake, uncovered, for 10 min, or until topping is crunchy and mostly golden brown. Let casserole sit 10 min before serving.



For more information or how to maximize nutrients in other fruits and vegetables, see <http://localfoods.osu.edu/maximizenuitrients>.

**Makes 4 servings. Per Serving:** 210 calories, 8 g total fat (1.5 g saturated fat), 29 g carbohydrate, 7 g protein, 4 g dietary fiber, 95 mg sodium, 727 IU vitamin A (15% DV), 18 mg vitamin C (30% DV), 56 µg folate (8% DV)



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