

Where Dry Beans Fit In 2015 Dietary Guidelines for Americans

By Jennifer Erickson, RD, and Joanne Slavin, PhD, RD

The 2015 Dietary Guidelines Advisory Committee (DGAC) recently released its report and most found the report supportive of a more vegetarian intake, which should bode well for dry beans.¹ Yet the changes in subcommittee structure from the 2010 DGAC made it difficult to see if the advancing scientific findings on dry beans were added to the Nutrition Evidence Library (NEL). Also, confusion on where dry beans fit in the USDA food guidance system continues to concern dietitians who would prefer more clear dietary rules for increasing consumption of dry beans and peas.

Advancing Science

The relationship between intake of dry beans and health outcomes was considered in the 2010 DGAC.² For all questions, the body of evidence was limited because of few published studies on this topic. Since that time, more research has been published, including meta-analyses of the relationship between intake of dry beans and measures of food intake.³ The developing literature base is limited by the lack of accepted terminology for the dry beans and peas group. USDA has traditionally called the group “dry beans and peas” most likely to differentiate it from green beans and peas—which fit in the vegetable group. Actually, USDA says dry beans and peas can be in both the vegetable group and the protein group. The MyPlate.gov food guidance system that is based on the 2010 DGAC states that a serving of dry beans and peas can be counted as either a vegetable or a protein, but not both.

RDN Takeaway #1:
MyPlate.gov states that a serving of dry beans can be counted as either a vegetable or a protein.

The 2015 DGAC report is confusing since it recognizes the health benefits of dry beans, but the report omits “pulse” crops (dry beans, peas, lentils, and chickpeas) from the description of foods in the protein group. The report defines protein foods as a “broad group of foods including meats, poultry, fish/seafood, soy, nuts, and seeds.” Pulses/dry beans are not mentioned.

The recommendations state that a diet high in plant-based foods promotes good health. And pulses are among the plant-based foods specifically mentioned elsewhere in the report. It is likely that the exclusion of pulses from the protein group is an oversight and the 2015 *Dietary Guidelines for Americans*, expected out later this year, will include pulses in the protein group. It is not known whether MyPlate.gov will also be modified, so the place where pulses fit on the plate may change, as well.

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Please send comments to:

Dry Bean Quarterly

P.O. Box 237

Jefferson City, MO 65102

DBQ@mail.com

Northarvest Bean Growers

Association

50072 East Lake Seven Road

Frazee, MN 56544

Tim Courneya,

Executive Vice President

www.beaninstitute.com

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Agreement on Nomenclature and Measurement

Although pulses have the unique ability to be both a vegetable and protein source in dietary guidance, this flexibility may actually be a detriment to increasing consumption of dry beans. USDA has continued to keep the group name as dry beans and peas, a descriptor that has little appeal or understanding for consumers. "Pulse" is the descriptor generally used in recent scientific literature, although "legume" is also often used. The lack of a broadly accepted name for this group of foods will continue to make it difficult to agree on where pulses fit on the plate and how many servings to recommend for different age groups.

Domestic vs. Global Consumption

Global consumption of pulses is rising, but in the U.S. consumption remains low. An analysis of NHANES data for 1999–2002 found that on any given day, only 7.9% of U.S. adults aged

RDN Takeaway #2:

Consumption of dry beans worldwide is up, but domestic consumption remains low.

19 years or older consume dry beans (excluding soybeans) and peas. Consuming ½ cup per day of dry beans or peas was associated with increased intake of fiber, protein, folate, zinc, iron, and magnesium, with decreased intakes of saturated fat and total fat.⁴ There is an inverse association between high pulse consumption and body weight, according to NHANES cross-sectional data.⁵

To determine the relationship between intake of a food group and health outcomes, it is important that subjects in prospective cohort studies consume enough of the food to divide subjects into quintiles of intake. Since pulse consumption is so low, little information is available from these trials to link pulse consumption to positive health outcomes.

New Studies on Pulses and Health Outcomes

Recent published feeding studies find that pulses are protective against diabetes⁶ and metabolic syndrome.⁷ Li, et al,³ conducted a

systematic review and meta-analysis of acute feeding trials on dietary pulses, satiety, and food intake. Nine trials met the eligibility criteria. Dietary pulses produced a 31% greater satiety incremental area under the curve (AUC) without affecting second meal intake. Data were limited by small sample sizes, narrow participant characteristics, and significant unexplained heterogeneity among the available trials.

Pulses are of interest in dietary guidance because they include a wide range of vitamins, minerals, and phytochemicals; they are low in fat; and they are high in protein and dietary fiber. The importance of dietary fiber and other non-digestible carbohydrates in gut health is gaining recognition.⁸

Pulses are often not consumed because of concern about gastrointestinal intolerance and flatulence.⁹ The fermentation of non-digestible carbohydrates in the gut produce more than gas; the short chain fatty acids produced lower fecal pH and provide an important energy source for the intestinal cells. Also, fiber feeding studies, with fiber blends that include pea fiber, find that this fermentation increases bifidobacteria and lactobacillus,¹⁰ considered healthier microbiota. Pulses are much higher in dietary fiber than other accepted fiber sources, whole grains, vegetables, and fruits. More research is needed on the gastrointestinal effects of pulses in health and disease.

RDN Takeaway #3:

Acceptance of one name for this group of foods—perhaps pulses—would make it easier to identify and promote consumption of dry beans and peas.

Conclusion

Pulses are an important food source. Their nutrient composition, including protein, fiber, fermentable carbohydrate, vitamins, minerals, and phytochemicals, makes them a versatile food source that is under-consumed in most populations.¹¹ Although inclusion in both the vegetable and protein group in U.S. dietary guidance appears to be an advantage, the lack of clarity on how many servings of pulses to include in the diet for different ages is more



likely a barrier to increased consumption. Although pulses are an important protein source, they are underutilized in programs such as school lunch, WIC, and SNAP. No doubt that acceptance of one name for this group of foods—perhaps pulses—would make it easier to identify and promote consumption of dry beans and peas. 🌱

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About the Authors

Jennifer Erickson, RD, is a graduate student in the University of Minnesota's Department of Food Science and Nutrition.

Joanne Slavin, PhD, RD, is a professor in the University of Minnesota's Department of Food Science and Nutrition. She was a member of the 2010 Dietary Guidelines Advisory Committee.

Scenes from 2015 Bean Cooking Day

Cary Skelton, RDN, from Lee's Summit, Missouri, joined us in the Bean Institute kitchen recently. She prepared four easy, and very good, recipes from the BeanInstitute.com web site. Watch for the videos on our social media platforms and the web site. Here are some shots from the cooking day.



Mmm . . . Fudgy Black Bean Brownies

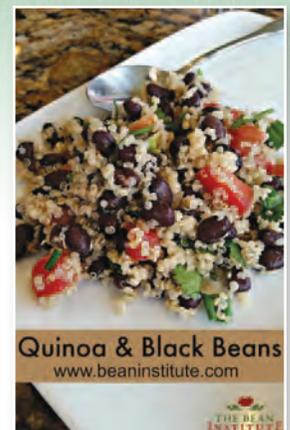


Ready to make hummus

Quinoa and Black Beans

Ingredients:

- 2 cups cooked quinoa
- 2 cups cooked black beans
- ½ cup chopped green onions
- 2 medium tomatoes, diced
- ½ cup chopped cilantro
- 1 Tablespoon minced jalapeno (optional)
- 2 teaspoons lime zest
- 2 Tablespoons fresh lime juice
- 2 Tablespoons olive oil
- ½ teaspoon sugar
- ¼–½ teaspoon salt



Tasty and filling!

PREPARATION

1. Combine first six ingredients in bowl.
2. Whisk remaining ingredients in small bowl; then add to first six ingredients.
3. Serve at room temperature or chilled.

NUTRIENT INFORMATION PER SERVING:

Calories: 300; Fat: 9g; Protein: 12g; Total Fiber: 12g; Cholesterol: 0mg; Calcium: 46mg; Iron: 3mg; Sodium: 156mg; Carbohydrates: 43g

These and more recipes available at BeanInstitute.com



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Managing Editor's Note: We're glad to share this feedback from DBQ readers. Please send us your thoughts and comments about dry beans to DBQ@mail.com.

"I've enjoyed your bean smoothie (recipe) for a number of years now. I enjoy serving it to people and seeing how surprised they are to learn their smoothies contain beans."

Robin Dahm, RDN, LDN
Washington Township, NJ

"My dad raised pinto beans and I started eating them at an early age. My favorite after school snack was a bean tostada. Now, as a dietitian, I encourage my clients to use beans on a daily basis as part of a healthy diet."

Kristin Kesterson, RDN
Alliance, NE

"Beans are wonderful for older adults that have difficulty chewing, and they also assist in food cost control."

Tessa Henard, RDN
Stillwater, OK

"Adding canned black beans to a jar of store-bought salsa is fast, easy, and cheap—and a step that most patients would be willing to try, with little effort."

Kaitlin McKenzie
Dietetics Student, College of St. Elizabeth
Morristown, NJ

"Continue to promote beans as a great food for infants and children. It worked well for my kids (now 15 and 13). I plan bean-based meals once or twice a week at home and never have complaints."

Ann Shetler, MA, RDN, LDN
Pearland, TX

"I come to your (web) site often for new information on bean consumption data or scientific details about the benefits of beans."

Adrienne Arnold
Tremont, IL

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