

Beans, Peas, and Lentils: Health Benefits¹

Lakshmi Mahan, Lauren Foster, and Wendy J. Dahl²

Bean Basics

Bean, peas, and lentils are known collectively as legumes or pulses. Beans are great sources of many nutrients, including protein, fiber, and potassium.

Beans, peas, and lentils can be placed either in the vegetable group or the protein group of MyPlate, the food groups that are the building blocks of a healthy diet (<http://www.choosemyplate.gov/index.html>) (USDA n.d.-a). The food group you decide to place beans, peas, and lentils in depends on how successful you have been in meeting the suggested servings for the two groups. If you have consumed enough protein choices, then you can count beans, peas, and lentils in the vegetable group, and vice versa. For example, vegetarians, especially vegans, tend to consider legumes as their primary protein source. Meat eaters may choose to count legumes as vegetables because obtaining sufficient protein through meats and dairy is rather easy.

Beans, Peas, Lentils, and Nutrition

The fat content of beans, peas, and lentils is generally very low, and there is no cholesterol. Protein content is relatively high, more than the amount of protein that is found in cereal grains (USDA n.d.-b). Obtaining protein from legumes is a healthy choice.

Another important component of beans, peas, and lentils is fiber. Fiber is a part of plant foods that cannot be digested. Beans, peas, and lentils have about 7 g of dietary fiber in a 1/2-cup serving and are especially high in insoluble fiber

(USDA n.d.-b). Insoluble fiber bulks stool and decreases transit time through the colon, thereby preventing constipation. The soluble fiber in beans, peas, and lentils is highly fermentable in the colon, which is thought to be health enhancing. However, fermentation also produces some gas (flatulence) that may cause discomfort for some individuals. Enzyme preparations containing alpha-galactosidases may lessen gas production.

Beans, peas, and lentils are also rich sources of some vitamins and minerals, such as folate, iron, potassium, and magnesium (USDA n.d.-b). Folate and iron are important for preventing anemias, as well as maintaining many normal metabolic functions. Potassium and magnesium are important for muscle and nerve function.

Health Benefits

Cardiovascular Disease

Cardiovascular disease is the leading cause of death in the United States, as well as many developed countries (CDC n.d.). Because processed and red meats are associated with an increased risk of cardiovascular disease (Abete et al. 2014), choosing legumes in place of some meat may benefit health and improve overall diet quality (Mitchell et al. 2009). The Dietary Guidelines for Americans 2015–2020, recommend that we consume 1.5 cups of legumes each week. Research has shown that consumption of beans may reduce heart disease risk (Afshin et al. 2014).

1. This document is FSHN13-06, one of a series of the Food Science and Human Nutrition Department, UF/IFAS Extension. Original publication date May 2013. Revised May 2016 and January 2020. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.

2. Lakshmi Mahan, former MS-DI student; Lauren Foster, former student; and Wendy J. Dahl, associate professor, Food Science and Human Nutrition Department; UF/IFAS Extension, Gainesville, FL 32611.

Cancers

Cancer is the second leading cause of death in the United States (CDC n.d.). Consuming legumes (including soybean) is linked to a lower risk of colorectal cancer (Zhu et al. 2015) and prostate cancer (Diallo et al. 2016). The dietary fiber found in beans, peas, and lentils may help to reduce the risk of certain types of cancer (Dahl and Stewart 2015). Beans, peas, and lentils also contain significant levels of antioxidants and phytochemicals, which are substances associated with preventing chronic diseases like cancer (Sanchez-Chino et al. 2015).

Diabetes

The glycemic index (GI) is a scale that ranks foods based on how they raise blood glucose levels compared to glucose, a sugar. Beans, peas, and lentils are foods that typically have a lower GI (Mudryj, Yu, and Aukema 2014). Low-GI foods provide a slower release of glucose into the blood, and thus, decrease after-meal peaks in blood glucose levels. For people who have diabetes or are at risk of developing diabetes, low-GI foods are good choices (Wang et al. 2014). The fiber in beans, peas, and lentils may help slow the rate of digestion of the starch and absorption of glucose, which helps regulate blood glucose levels.

Celiac Disease

Individuals with celiac disease must follow a lifelong diet free of gluten. Gluten is a common name for certain proteins in wheat and related grains such as rye, barley, triticale, and spelt. Beans, peas, and lentils are gluten free and are an excellent starchy alternative to these foods, allowing people with celiac disease to also consume adequate amounts of fiber.

Summary

Consuming beans, peas, and lentils may decrease your risk of chronic disease. Substituting legumes for less healthy foods may help to manage conditions such as diabetes and provide those affected by celiac disease with tasty, high-fiber options.

Where can I get more information?

The family and consumer sciences agent at your county UF/IFAS Extension office may have more information and nutrition classes for you to attend. Also, a registered dietitian can provide you with reliable information. If you have concerns about your specific health condition, speak to your doctor.

References

- Abete, Itziar, Dora Romaguera, Ana Rita Vieira, Adolfo Lopez de Munain, and Teresa Norat. 2014. "Association between total, processed, red and white meat consumption and all-cause, CVD and IHD mortality: a meta-analysis of cohort studies." *British Journal of Nutrition* 112 (5):762–75. doi: 10.1017/s000711451400124x.
- Afshin, Ashkan, Renata Micha, Shahab Khatibzadeh, and Dariush Mozaffarian. 2014. "Consumption of nuts and legumes and risk of incident ischemic heart disease, stroke, and diabetes: a systematic review and meta-analysis." *American Journal of Clinical Nutrition* 100 (1):278–88. doi: 10.3945/ajcn.113.076901.
- Centers of Disease Control (CDC). n.d. Underlying Cause of Death 1999–2013. Accessed January 24, 2020. <https://wonder.cdc.gov/wonder/help/ucd.html>
- Dahl, Wendy, and Maria L. Stewart. 2015. "Position of the Academy of Nutrition and Dietetics: Health Implications of Dietary Fiber." *Journal of the Academy of Nutrition and Dietetics* 115 (11):1861–70. doi: 10.1016/j.jand.2015.09.003.
- Diallo, A., Mélanie Deschasaux, Pilar Galan, Serge Herberg, Laurent Zelek, Paule Latino-Martel, and Mathilde Touvier. 2016. "Associations between fruit, vegetable and legume intakes and prostate cancer risk: results from the prospective Supplementation en Vitamines et Minéraux Antioxydants (SU.VI.MAX) cohort." *British Journal of Nutrition* 1–7. doi: 10.1017/s0007114516000520.
- Mitchell, Diane, Frank Lawrence, Terryl Hartman, and Julianne Curran. 2009. "Consumption of dry beans, peas, and lentils could improve diet quality in the US population." *Journal of the American Dietetic Association* 109 (5):909–13. doi: 10.1016/j.jada.2009.02.029.
- Mudryj, Adriana, Nancy Yu, and Harold Aukema. 2014. "Nutritional and health benefits of pulses." *Applied Physiology, Nutrition, and Metabolism* 39 (11):1197–204. doi: 10.1139/apnm-2013-0557.
- Sanchez-Chino, Xariss, Cristian Jimenez-Martinez, Gloria Davila-Ortiz, Isela Alvarez-Gonzalez, and Eduardo Madrigal-Bujaidar. 2015. "Nutrient and nonnutrient components of legumes, and its chemopreventive activity: a review." *Nutrition and Cancer* 67 (3):401–10. doi: 10.1080/01635581.2015.1004729.

United States Department of Agriculture (USDA). n.d.-a. "Choose MyPlate." Accessed January 24, 2020. <http://www.choosemyplate.gov>

United States Department of Agriculture (USDA). n.d.-b. "FoodData Central." Accessed January 24, 2020. <https://fdcnal.usda.gov/>

Wang, Qion, Wei Xia, Zhigang Zhao, and Huifeng Zhang. 2014. "Effects comparison between low glycemic index diets and high glycemic index diets on HbA1c and fructosamine for patients with diabetes: A systematic review and meta-analysis." *Primary Care Diabetes*. doi: 10.1016/j.pcd.2014.10.008.

Zhu, Beibei, Yu Sun, Lu Qi, Rong Zhong, and Xiaoping Miao. 2015. "Dietary legume consumption reduces risk of colorectal cancer: evidence from a meta-analysis of cohort studies." *Scientific Reports* 5:8797. doi: 10.1038/srep08797.