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Education

- B.S. in Dietetics, University of California, Davis
- Dietetic Internship, University of Minnesota Hospital & Clinics
- M.S. in Nutrition Communication, Tufts University School of Nutrition Science & Policy

Employment History

- Fleishman Hillard, 1997-1998
- Rippe Lifestyle Institute, 1998-2000
- Dole Food Company, 2000-2005
- California Walnut Commission, 2005-2007
- The Culinary Institute of America, 2007-2014
- Farmer's Daughter Consulting, 2014-present



Financial Disclosures

- Academy of Nutrition and Dietetics Research DPG honorarium for webinar
- American Egg Board / Egg Nutrition Center *consultant*
- Bayer Crop Science L.E.A.D. Network Member, consultant
- Bayer Vegetable Seeds Horticultural Advisory Council member
- Beef Checkoff– member of Beef Expert Bureau, honoraria for speaking
- California Foundation for Agriculture in the Classroom honoraria for speaking
- Dairy Council of California honoraria for speaking
- Dole Packaged Foods, LLC consultant
- Duda Farm Fresh Foods, Inc. consultant
- Hinoman USA consultant
- HZPC Americas Corp. consultant
- National Dairy Council Ambassador, consultant
- National Resource Center on Nutrition and Aging consultant
- North American Meat Institute honorarium
- Pacific Northwest Canned Pear Service consultant
- Phoenix Media Network / Produce Business Magazine columnist, honoraria for speaking
- Potatoes USA honoraria for speaking
- Produce for Better Health Foundation consultant
- Texas A&M AgriLife External Advisory Board member
- The Culinary Institute of America *consultant*
- University of California Davis Honey and Pollination Center honoraria for speaking
- USA Pulses / USA Dry Pea & Lentil Council consultant, honorarium for this webinar



Learning Objectives

After attending this webinar, participants will be able to:

- 1. Cite at least three nutrition and health benefits of pulses (e.g., dry peas, dry beans, lentils, and chickpeas).
- 2. Discuss budget-friendly benefits of cooking with pulses.
- 3. List at least three consumer-friendly tips for cooking with pulses.
- 4. Cite two resources for RDNs and consumers who are seeking more information on pulses.

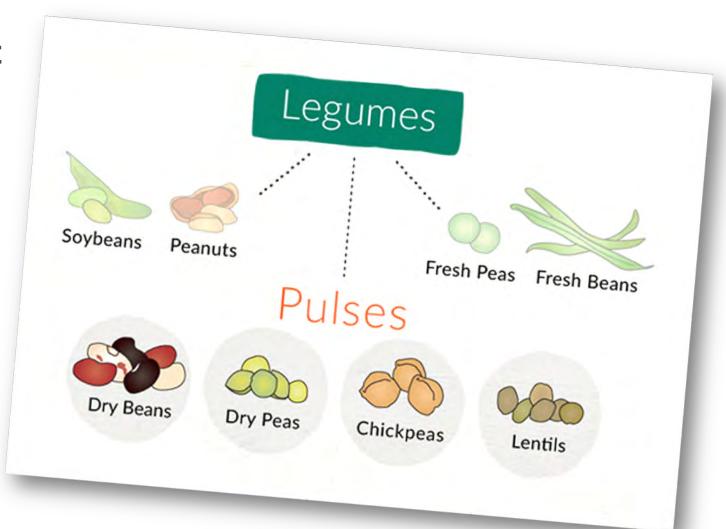


Suggested Performance Indicators

- 1.3.2 Recognizes the strengths and limitations of a customer.
- 6.2.5 Applies research/evidence-based findings to improve practice, service delivery, and health and nutrition of customers.
- 8.1.3 Interprets and applies current food and nutrition science and principles in dietetics practice.
- 8.4.3 Demonstrates and applies knowledge of culinary practices to effect behavioral change, taking into consideration customer needs and demands.

What's the difference between a legume and a pulse?

- A *legume* refers to a plant from the *Fabaceae* family.
- A *pulse* is the dry, edible seed from a legume plant that is harvested dry.



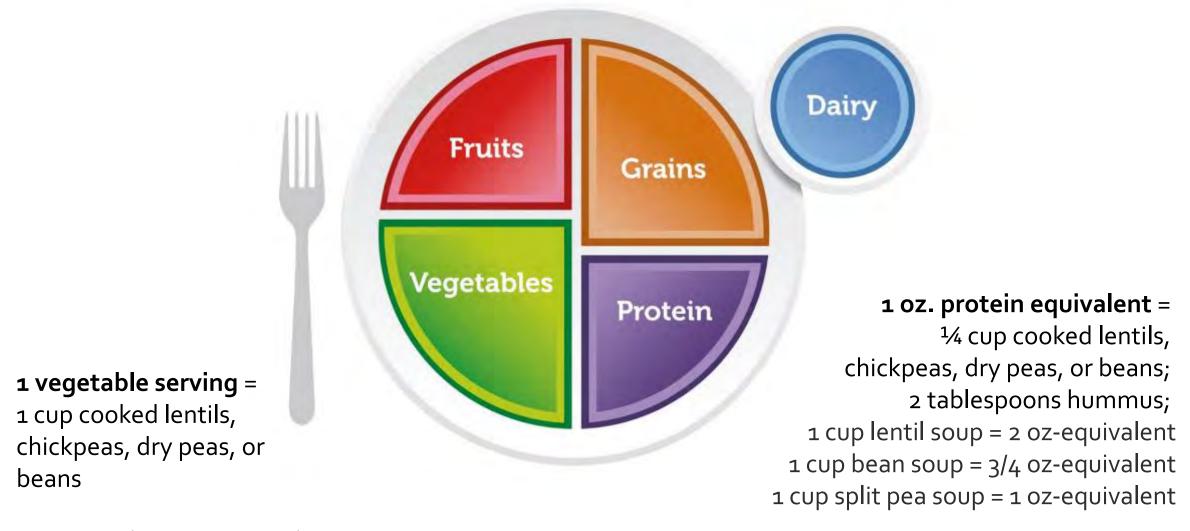
The Top 10 Benefits of Pulses

- 1. Pulses can count as either a vegetable or protein source.
- 2. Pulses provide a good source of protein.
- 3. Pulses are an excellent source of dietary fiber.
- 4. Most pulses are a good source of iron.
- 5. Pulses are natural sources of zinc, magnesium, and choline.
- 6. Pulses are naturally gluten-free.
- 7. Pulses are a low-cost ingredient.
- 8. Pulses are a very versatile ingredient.
- 9. Pulses can help reduce food waste.
- 10. Pulses are sustainable, eco-friendly crops.



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Pulses can count as either a vegetable or protein source.



Sources: Vegetables | MyPlate, Protein Foods | MyPlate

Americans who eat more pulses are more likely to meet their nutrient needs.

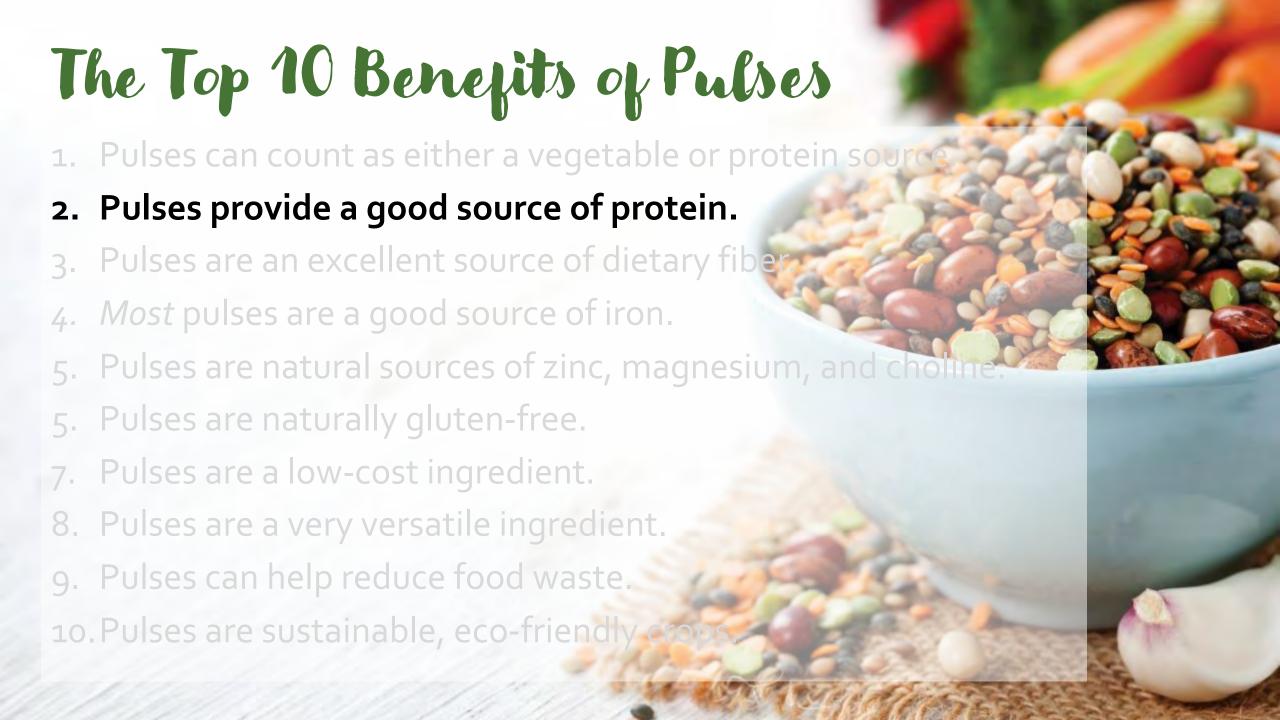
- NHANES data show beans, peas, and legumes are consumed in relatively small amounts, at an average of 0.1 cup eq/day (or < 1 tablespoon).
- Americans reporting 3 meals per day were more likely to have higher intake of several adequacy components, including total vegetables, greens and beans, compared to Americans who eat 2 meals per day.

How Pulses Fit Into USDA Food Patterns

Food Group	Healthy U.S. Style Pattern 2,000 calories/day	Vegetarian Pattern 2,000 calories/day	Mediterranean- Style Pattern 2,000 calories/ day
Vegetables (cups/week) • Beans, peas, lentils	1.5	1.5	1.5
Protein Foods (oz eq/week) • Beans, peas, lentils		6 1.5 cups / week	

Sources: (1) Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. (2) Dietary Guidelines for Americans, 2020-2025 (3) Vegetables | MyPlate





Pulses provide a good source of protein.

A "good source" provides 10-19% of the Daily Value (50 grams).

Pulse	Blackeyed Peas	Chickpeas	Kidney Beans	Lentils	Pinto Beans	Split Peas	Black Beans
Portion	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked
Protein (g)	7	7	8	9	8	8	8
% Daily Value	14%	14%	16%	18%	16%	16%	16%

A Quick Pulse Protein Quiz

1. Which contains more protein?

- a. ½ cup of cooked black beans
- b. ½ cup of cooked corn

2. Which contains more protein?

- a. ½ cup of cooked lentils
- b. ½ cup of cooked quinoa

3. Which contains more protein?

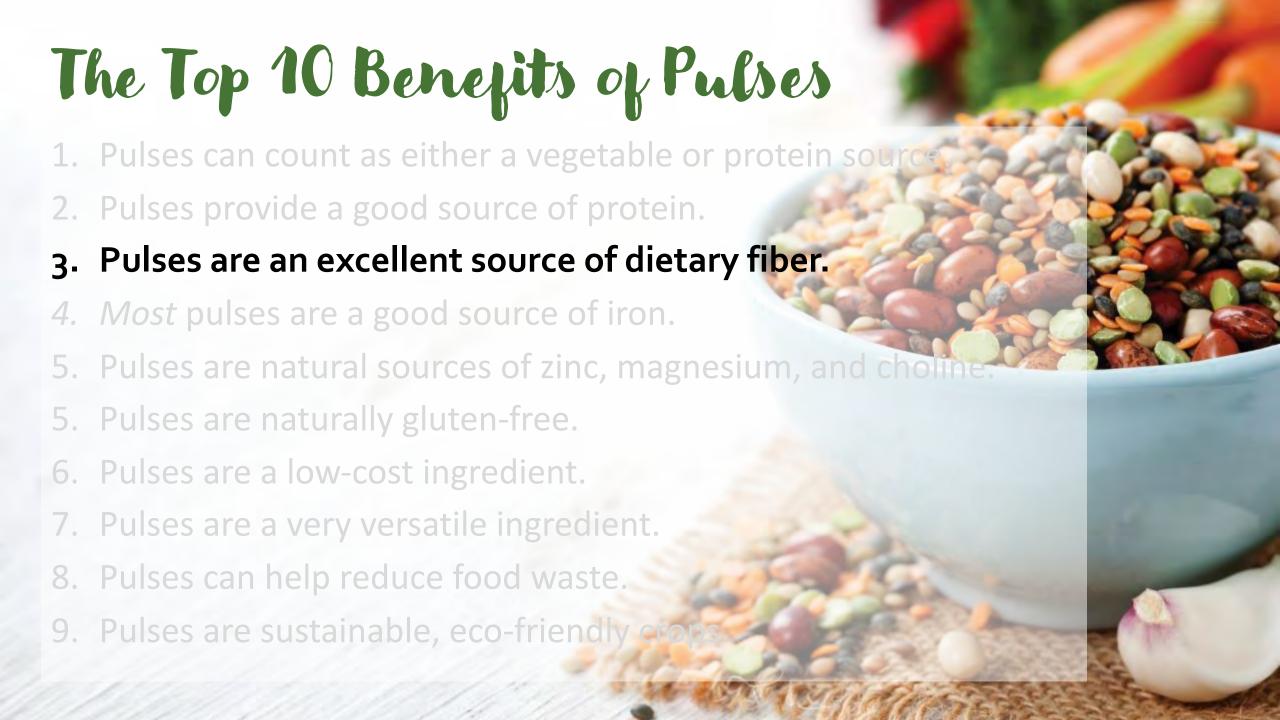
- a. ½ cup of chickpeas
- b. ½ cup of cooked brown rice



A Quick Pulse Protein Quiz

- 1. Which contains more protein?
 - a. 1/2 cup of cooked black beans (8 grams)
 - b. ½ cup of cooked corn (2.5 grams)
- 2. Which contains more protein?
 - a. 1/2 cup of cooked lentils (9 grams)
 - b. ½ cup of cooked quinoa (4 grams)
- 3. Which contains more protein?
 - a. 1/2 cup of chickpeas (7 grams)
 - b. ½ cup of cooked brown rice (2.5 grams)





Pulses are an excellent source of dietary fiber.

An "excellent source" provides 20% or more of the Daily Value (25 grams).

Pulse	Blackeyed Peas	Chickpeas	Kidney Beans	Lentils	Pinto Beans	Split Peas	Black Beans
Portion	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked
Fiber (g)	6	6	6	8	8	8	7
% Daily Value	21%	21%	21%	29%	29%	29%	25%

Adequate Intake (AI) for Fiber

Men, ages 19-50 = 38 g/day Women, ages 19-50 = 25 g/day

Nutrients of Public Health Concern

Nutrients of *Substantial*Public Health Concern for all Americans age 1 and older:

- Vitamin D
- Calcium
- **Dietary fiber** (mean intake = 16.4 g/day)

Potassium

Nutrients Under-Consumed by the Entire Population:

- Magnesium
- Choline
- Vitamin A
- Vitamin C
- Vitamin E
- Vitamin K

Nutrients Under-Consumed by Females of Reproductive Age:

- Iron
- Folate

Nutrient Under-Consumed by Adolescent Girls:

Protein

Nutrient Under-Consumed by Older Adults

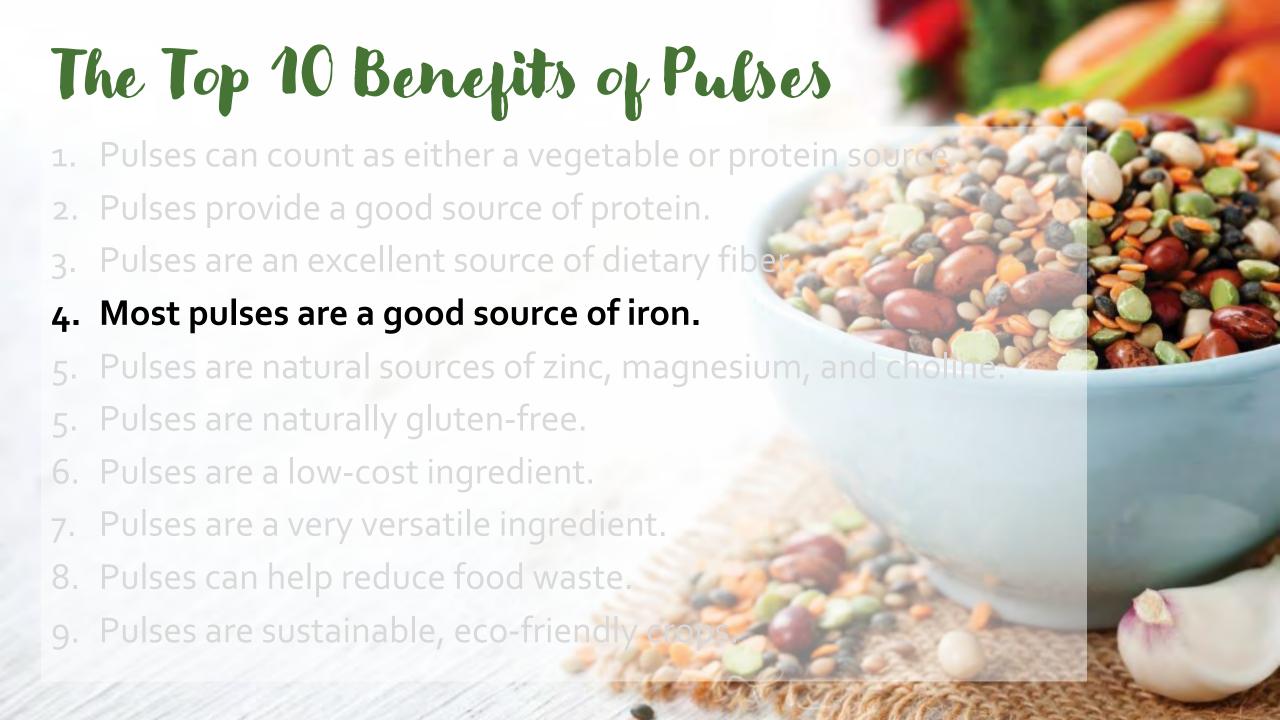
- Protein
- Vitamin B12



Source: Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.

A Quick Primer on Fiber

- **Dietary Fiber** is defined as nondigestible carbohydrates and lignin that are intrinsic and intact in plants.
- Functional Fiber is defined as isolated, nondigestible carbohydrates (e.g., inulin) that have been shown to have beneficial physiological effects in humans.
- Total Fiber is the sum of Dietary Fiber and Functional Fiber.
- Viscous (e.g., soluble) fibers **delay the gastric emptying** of ingested foods into the small intestine, which can result in a **sensation of fullness**. This delayed emptying effect also results in **reduced postprandial blood glucose concentrations**.
- Viscous fibers can also interfere with the absorption of dietary fat and cholesterol, as well as the enterohepatic recirculation of cholesterol and bile acids, which may result in reduced blood cholesterol concentrations.
- The Adequate Intake (AI) for dietary fiber is based on the association between higher intakes of fiber and reduced risk of coronary heart disease.



Most pulses are a good source of iron.

A "good source" provides 10-19% of the Daily Value (18 mg).

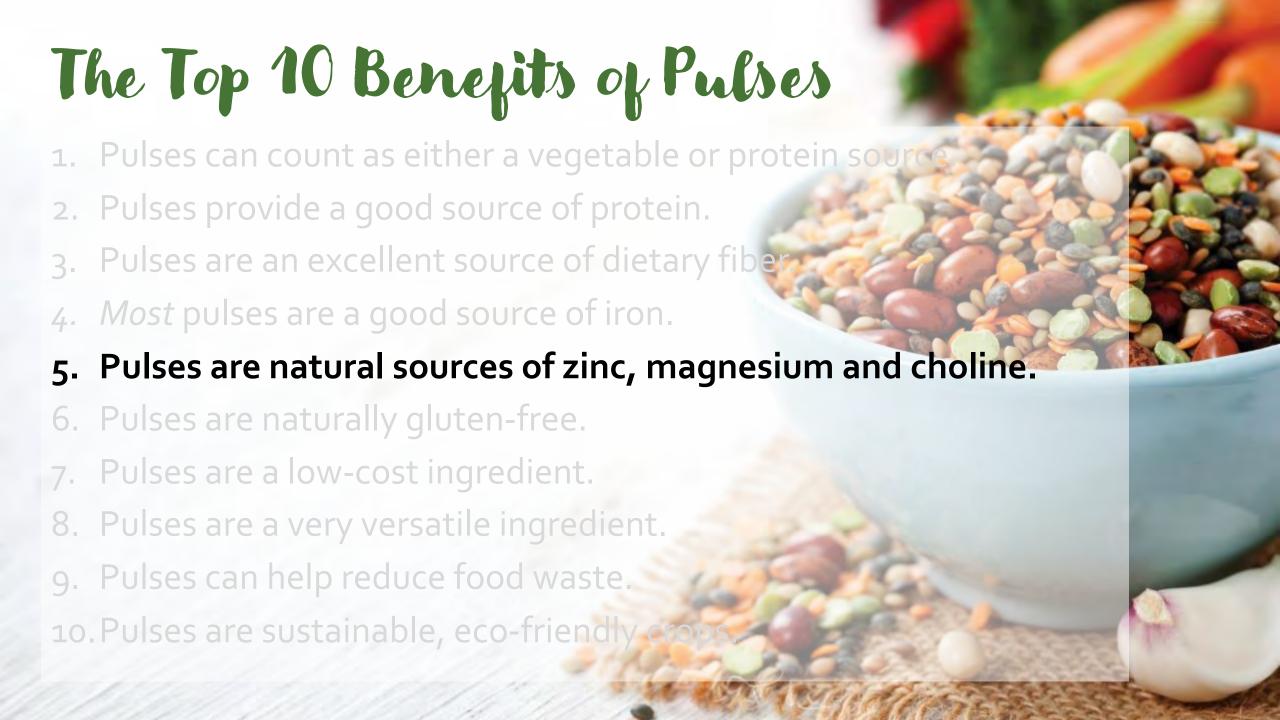
Pulse	Blackeyed Peas	Chickpeas	Kidney Beans	Lentils	Pinto Beans	Split Peas	Black Beans
Portion	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked
Iron (mg)	2	2	2	3	2	1	2
% Daily Value	10%	10%	10%	15%	10%	6%	10%

Heme versus Non-Heme Iron in Foods

- Heme iron is found in blood and muscle.
- Non-heme iron comes from plant-based sources.
- Heme iron is more bioavailable.
- The absorption of non-heme iron can be improved by combining foods rich in vitamin C—like canned tomato products—with foods that contain non-heme iron.
- Cooking in cast iron can increase iron intake; iron leaches from the pan into the food, especially when vitamin C-rich ingredients are used in cooking.
- The iron requirement for people who eat a vegetarian diet is approximately twice that of people who consume non-vegetarian diets.





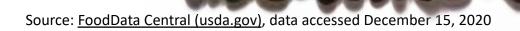


Pulses are natural sources of zinc, magnesium, and choline.

DAILY VALUE	Pulse	Blackeyed Peas	Chickpeas	Kidney Beans	Lentils	Pinto Beans	Split Peas	Black Beans
	Portion	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked	½ cup cooked
11 mg	Zinc (mg)	*	1.03	0.93	1.1	0.84	0.89	0.97
420 mg	Magnesium (mg)	*	40	45	30	50	32	60
*	Choline (mg)	*	35	46	28	31	29	28

The Adequate Intake (AI) for choline, as established by the <u>Food and Nutrition Board</u> of the National Institute of Medicine, for adults is **550 mg per day for men and breastfeeding women**; **425 mg per day for women**; and **450 mg per day for pregnant**

women.



Pulses are natural sources of zinc, magnesium, and choline.

- **Zinc**: under-consumed by most Americans
- Magnesium: under-consumed by most Americans, especially women who are pregnant and lactating
- **Choline**: intake of choline is below the Adequate Intake (AI) for several segments of the population, including pregnant and lactating women

"Encourage women to consume foods and beverages that are good sources of iron, folate, calcium, choline, magnesium, protein, fiber, and other potential shortfall nutrients."

Scientific Report of the 2020 Dietary Guidelines Advisory Committee, Chapter 2, Strategies for Women of Reproductive Age



Who needs or wants gluten-free foods?

People with celiac disease (1% of U.S. population or 3.3 million Americans).

• People with non-celiac gluten sensitivity (1-3% of U.S. population or 3.3 million to 10 million Americans).

• In the IFIC 2020 Food & Health Survey, 6% of respondents reported following a gluten-free diet sometime in the past year.

Sources: www.celiac.com

Non-celiac gluten sensitivity - Harvard Health
International Food Information Council 2020 Food & Health Survey







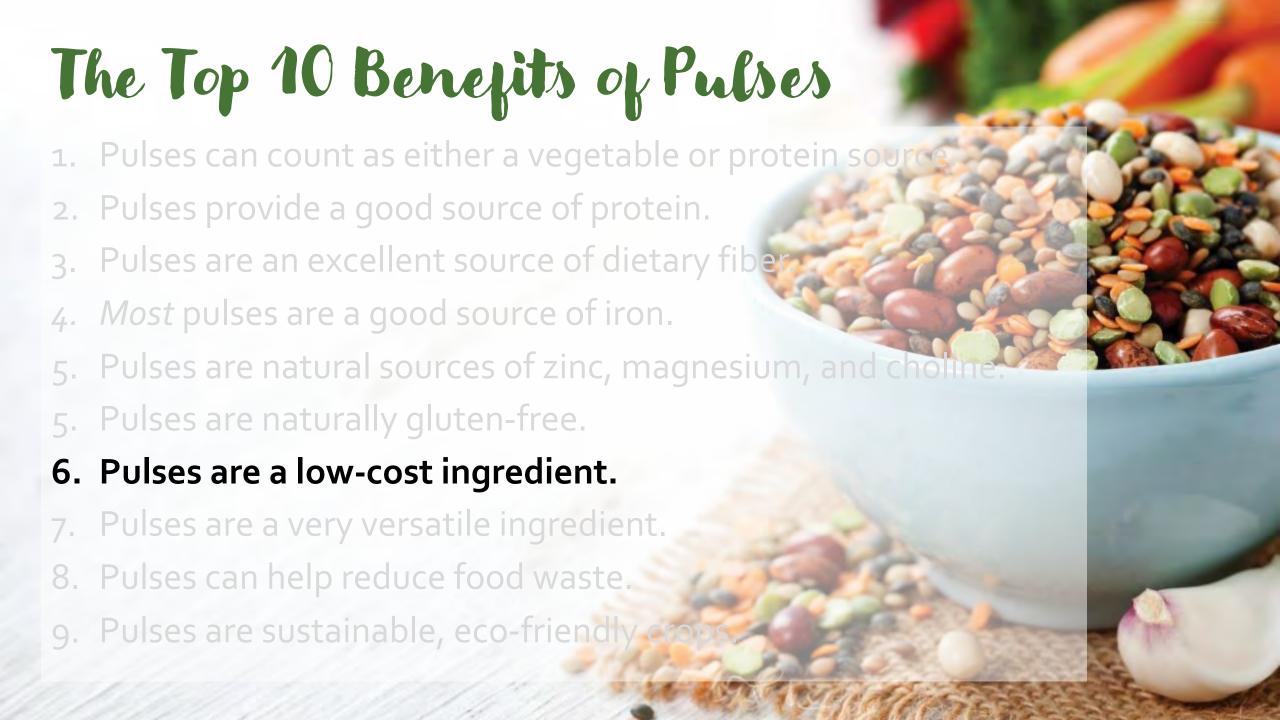












Price Per Pound Depends on Processing

PULSE	DRY	CANNED	FROZEN	FLOUR
Blackeyed Peas	\$2.19/pound	\$0.98/15.5 oz. can	\$1.98/pound	\$25.00 (eBay price)
Chickpeas	\$1.99/pound ~10% moisture	\$1.99/15.5 oz. can	n/a	\$2.99/pound ~10% moisture
Kidney Beans	\$2.19/pound	\$0.98/15.5 oz. can	n/a	n/a
Lentils	\$2.29/pound	n/a	n/a	n/a
Pinto Beans	\$2.98/pound	\$0.98/15.5 oz. can	n/a	n/a
Split Peas	\$1.99/pound	n/a	n/a	n/a
Black Beans	\$1.69/pound 12 servings \$0.14/serving	\$0.98/15.5 oz. can 3.5 servings \$0.28/serving	\$1.98/pound 3.5 servings \$0.57/serving	\$9.99 (Amazon price)

GET COOKING

3 EASY STEPS TO COOK SPLIT PEAS



- 1. Rinse split peas with water—no need to soak!
- 2. Combine split peas and water, bring to a boil. For every cup of split peas, use 2 cups of water.
- 3. Simmer for 35-40 minutes.

TIP: ½ cup dry = 1 cup cooked

■ DOWNLOAD "HOW TO COOK SPLIT PEAS" (359 KB)

Source: Get Cooking - USA Pulses







Make Food Dollars Go Further with Pulses

Combining protein-rich pulses like beans, dry peas, lentils, and chickpeas with favorite proteins like meat, poultry, and seafood can help keep food budgets on track. Try these tips for combining animal protein foods with pulses for a flavorful nutrition boost that is easy on the budget.

Double the amount of beef-based chili you make without doubling the cost by adding in pinto beans, kidney beans or black beans. This adds flavor, texture, and a budgetfriendly protein boost that pairs well with beef.

Try a Little Tenderloin

Pork tenderloin is a super lean cut of meat. Cube it, sear it in oil, and then cook it the oven or a slow cooker with beans or lentils, canned tomatoes, and some oregano or thyme for a savory supper to serve over mashed potatoes or rice.

Chickpeas Love Chicken You can add chickpeas to nearly any chicken dish from curries and chillis to chowders and casseroles. Adding drained, rinsed chickpeas to a ready-to-eat chicken salad from the deli. It's a great way to boost nutrition and extend the servings in a salad most people love.

Loaf Around with Lentils

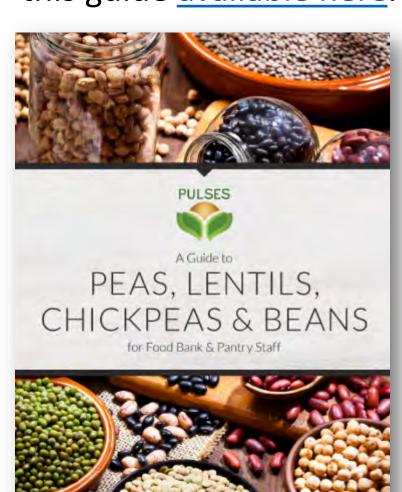
The next time you make meatloaf add in lentils, They help keep the meatloaf moist, and they add important nutrients like additional protein (from plants!) and fiber.

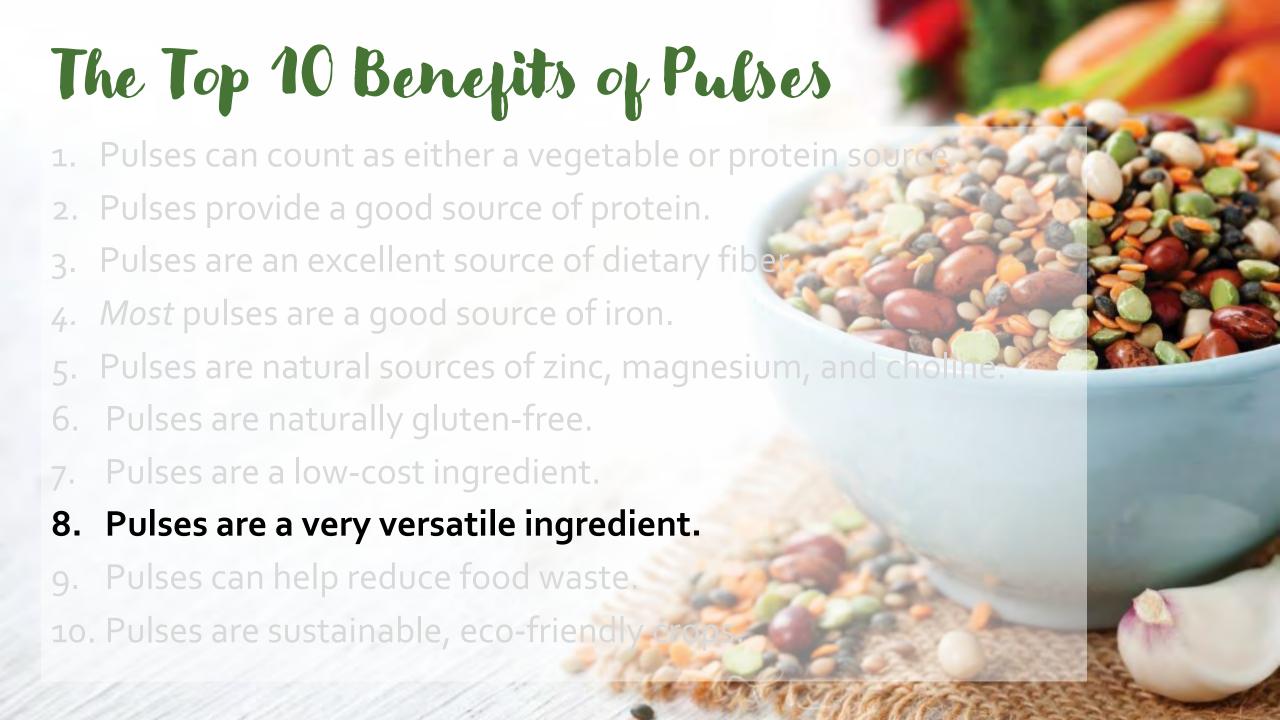
Whether you make your meatballs with beef, pork, or a combination of the two, add in mashed lentils or beans. You'll make more meatballs, and they'll be moister, juicier, and more nutrient rich, too.

Smart Seafood Strategies

Canned tuna plus chickpeas with a little mayo and relish makes an awesome tuna sandwich. Create more budget-friendly nutrient-rich servings per meal by mixing canned salmon with mashed chickpeas or lentils and breadcrumbs to make delicious salmon burgers. Combining canned shrimp, tartar sauce, and chickpeas is another way to stretch your seafood dollar.

Find more tips & resources in this guide available here.







Breakfast	Appetizers	AFRICA: Egypt, Ethiopia, Morocco, South Africa
Brunch	Drinks	ASIA: China, India, Japan, Myanmar, Singapore
Lunch	Desserts	AUSTRALIA
Dinner	Entrées	MIDDLE EAST: Israel, Lebanon
Snacks	Salad	EUROPE: Belgium, France, Greece, Italy, Macedonia,
	Sandwiches	Netherlands, Portugal, Spain, Ukraine, United Kingdom
	Sauces	NORTH AMERICA: Canada, Mexico, United States
	Smoothies	SOUTH AMERICA: Argentina, Brazil, Chile, Colombia,
	Snacks	Peru, Venezuela
	Soup & Stews	You can find recipes for these countries <u>here</u> .



"Consumers of chickpeas and/or hummus have been shown to have higher nutrient intakes of dietary fiber, polyunsaturated fatty acids, vitamin A, vitamin E, vitamin C, folate, magnesium, potassium, and iron as compared to non-consumers."

Source: Wallace TC, et al. The Nutritional Value and Health Benefits of Chickpeas and Hummus. Nutrients. 2016 Nov 29;8(12):766.















Lentil Penne Pasta with Parmesan and Basil











PREPARED FOODS

Breads and Baking Mixes & Flours

Burritos and Enchiladas

Cereals, Chips & Crackers

Dips, Sauces, and Spreads

Frozen Meals and Entrees

Pea Protein Powders

Pulse-Based Milk Alternatives

Pastas

Soups & Stews

Tortillas

And so much more!

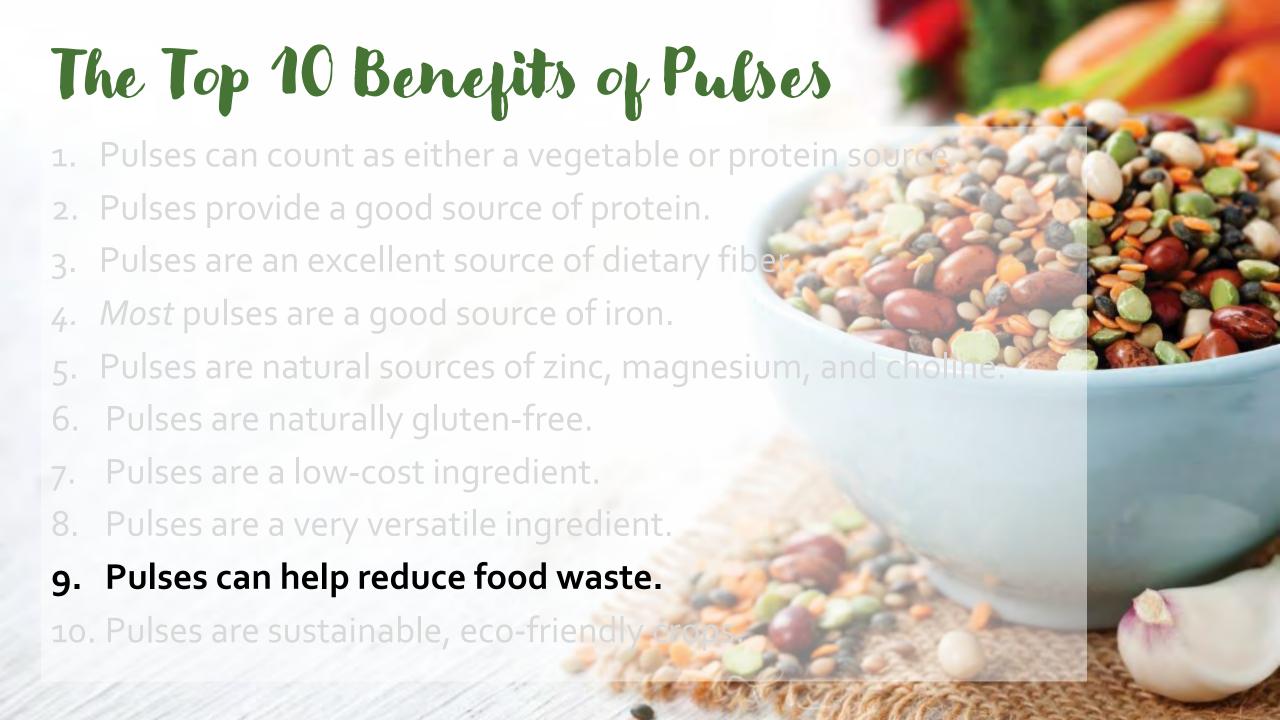
















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#WorldPulsesDay Good for people, good for the planet #LovePulses













Pulses enrich the soil where they grow, reducing the need for



Drought-tolerant and resistant to cold weather

Pulse crops can grow in harsh environments



Pulse crops have one of the lowest carbon footprints of any food Low carbon footprint



It takes 43 gallons of water to produce 1 lb. of pulses



Pulse crops require little or no irrigation

Source of protein + Water efficient

it takes roughly 200-1800 gallons of water to produce 1 to of meat

HTTP://WORLDPULSESDAY.ORG

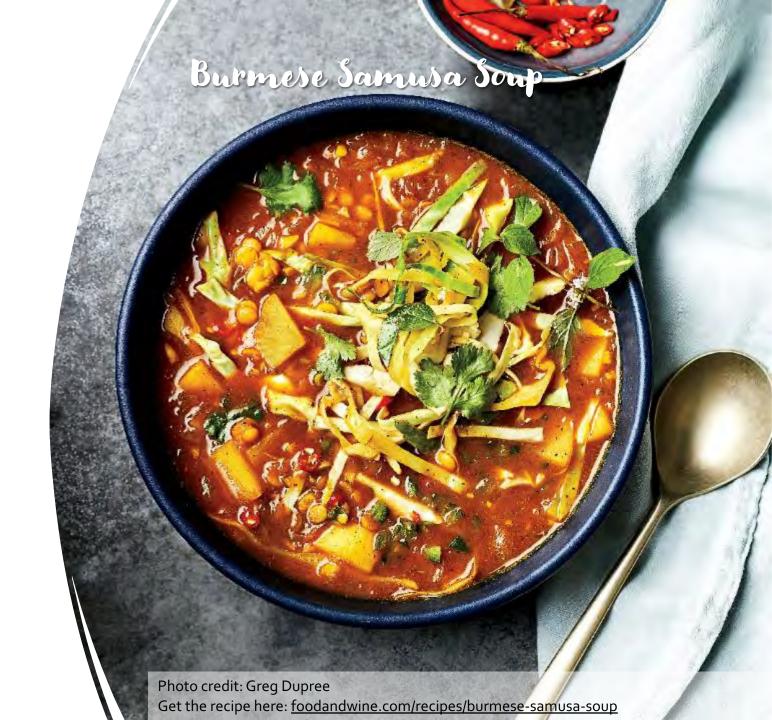
World Pulses Day February 10, 2021

Celebrating Sustainable Pulse Production Around the World



Join the Celebration on World Pulses Day!

- 1. Tie into American Heart Month promotions and outreach.
- Talk about your love of pulses with family, friends, colleagues, clients and patients.
- Share recipes and tips for enjoying pulses via social media; use the hashtag #worldpulsesday.
- 4. Show people how you love to eat pulses by eating them on World Pulses Day!



The Top 10 Benefits of Pulses

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Additional Pulse Resources

If you need more information, social media inspiration, access to research, or recipes, here are some wonderful sources:

- A Guide to Peas, Lentils, Chickpeas & Beans for Food Bank and Pantry Staff
- USA Pulses Recipes
- USA Pulses Health Professional Resources
- www.usapulses.org
- Half Cup Habit
- World Pulses Day
- www.facebook.com/USAPulses
- https://twitter.com/USAPulses
- https://www.Instagram.com/USAPulses



A Few #Dyk Facts About Pulses

- One serving of dry peas contains as much potassium as a banana.
- Chickpeas contain 1.5 times more folate than kale.
- Chickpeas have 2.5 times as much iron as chicken.
- Black beans provide 4 times as much fiber as brown rice.
- A ½ cup of lentils contains more protein than a large egg.
- Pulses require less nitrogen than other crops; they create their own fertilization by pulling nitrogen from the air and into the soil.
- Pulses are a **drought-tolerant crops**; they extract water from a shallower depth, leaving more water deep in the soil for other crops.















@AmyMyrdalMiller



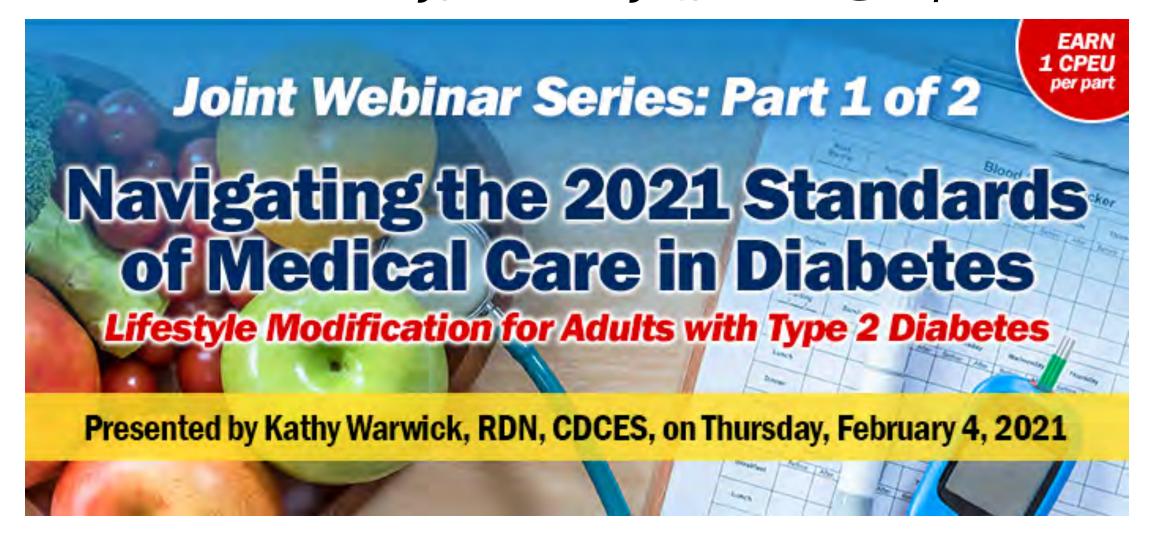
www.FarmersDaughterConsulting.com



www.usapulses.org



Join Us: Thursday, February 4, 2021 @ 2 p.m. ET



Register on the Becky Dorner & Associates Website: https://tinyurl.com/y4fsjmue

Credit Claiming

You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for 1 year; you do not have to complete it today.

CREDIT CLAIMING INSTRUCTIONS:

- 1. Login to www.ce.TodaysDietitian.com.
- 2. Click "My Courses" and select this webinar's title.
- 3. Click "Take Course" on the webinar description page.
- 4. Select "Start/Resume" to complete the course and submit the evaluation.
- 5. Download and print your certificate.

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