

PULSES

GOOD FOR YOU, GOOD FOR THE PLANET

Pulses are the nutritionally dense, edible seeds of legumes including dry peas, beans, lentils, and chickpeas. They contain essential nutrients such as potassium, magnesium, zinc, B vitamins and iron. Pulses have up to 9 grams of protein per ½-cup serving, which makes them a good source of plant-based protein.

Pulses contain high amounts of soluble and insoluble fiber, which increases satiety and supports digestive health. Just one ½-cup serving of pulses, such as chickpeas or lentils, can meet about a third of the Recommended Dietary Allowance (RDA) for fiber (women and men up to age 50 need 25 grams/day and 38 grams/day, respectively). Pulses may help reduce the risk of heart disease and diabetes due to their ability to improve blood sugar levels, reduce blood cholesterol and reduce blood pressure.

GROWING PULSES

Pulses are grown in the U.S. in the Northern Plains, which includes Montana, North Dakota, and South Dakota, and the Palouse, which includes eastern Washington, northern Idaho, and northeastern Oregon. Planting and harvest times vary depending on the region. In the Palouse, planting is typically done in April and May, with an August through October harvest. In the Northern Plains, due to the colder climate, planting and harvest dates are about two to three weeks later. Harvest usually starts late August and ends in early September.

Dry peas, dry beans, lentils, and chickpeas are typically grown in rotation with cereal grains. This method reduces the risk of diseases and helps to control weeds, insects, and other pests through increasing microbial diversity in the soil. Most pulses can withstand severe weather conditions, like droughts, making them an ideal crop for farmers living on arid land. All pulses are harvested in a dry, shelf-stable form making them a sustainable food choice.

Pulses are an affordable, plant-based choice costing less per serving than animal proteins including beef, pork and chicken.

COST PER SERVING	LENTILS	\$0.10
	CHICKEN	\$0.63
	PORK	\$0.73
	BEEF	\$1.49



HEALTH OF THE PLANET

Pulses Are a Sustainable Food Source

Pulses are one of the most sustainable crops because they require very little water and fertilization to grow. Compared to pulses, the water footprint per gram of protein for milk, eggs, and chicken is nearly 1.5 times higher. Per gram of protein for beef, the water footprint is about 6 times larger than for pulses.¹

Pulses require less land to grow than animal-based foods and emit fewer greenhouse gasses.² Pulses are unique crops because they have nodules on their roots that pull nitrogen into the soil reducing the need for nitrogen fertilizers that other crops may require. This process also means that nitrogen-rich residues remain after harvest, adding beneficial microbes and nutrients that increase the fertility of the soil.³

Created by Sara Haas, RDN, LDN for USA Pulses

References:

- Mekonnen M, Hoekstra M. The green, blue, and grey water footprint of farm animals and animal products. Volume 1: Main Report. Daugherty Water for Food Global Institute: Faculty Publications. 2010. 83.
- Stagnari F, Maggio A, Galieni A, Pisante M. Multiple benefits of legumes for agriculture sustainability: an overview. Chemical and Biological Technologies in Agriculture. 2017 Dec;4(1):2. Accessed Jan. 13, 2022.
- "Delicious and Nutritious - Pulse Recipes, Facts and Videos." Pulses, <https://pulses.org/future-of-food/pulses-sustainable-food>. Accessed Jan. 5, 2022.

LENTIL FRITTERS

with Lemon-Garlic Yogurt

INGREDIENTS

FOR THE FRITTERS

- 1 tablespoon + ¼ cup avocado oil, divided
- ½ cup finely diced white onion
- 2 cloves garlic, minced
- 2 teaspoons ground cumin
- 2 teaspoons ground turmeric
- ½ teaspoon cayenne
- ½ cup chickpea flour

- ½ teaspoon kosher salt
- ¼ teaspoon cracked black pepper
- ½ cup red lentils, picked over and rinsed
- 1 ½ cups of water

FOR THE YOGURT

- 2 cloves garlic
- ½ teaspoon kosher salt
- ½ cup plain Greek yogurt
- 1 teaspoon lemon zest
- 1 tablespoon lemon juice
- ½ teaspoon freshly cracked black pepper

INSTRUCTIONS

1. Heat 1 Tbsp. oil in a medium saucepan over medium heat. Add onions; cook, stirring occasionally, until softened, 3 to 4 minutes. Add garlic, cumin, turmeric and cayenne and cook, stirring constantly, until fragrant, about 1 minute. Transfer to a mixing bowl along with the chickpea flour, salt and pepper. Return saucepan to stove and add lentils and water, bring to a boil over medium-high heat; reduce heat to medium-low to maintain a simmer. Cover and cook until the lentils are tender, 20 minutes.

2. Meanwhile, make the yogurt. Chop the garlic, then finely mince. Sprinkle with ½ teaspoon kosher salt and using the back of your knife, smash and smear salt into garlic. Run knife through mixture, then smash and smear again. Repeat the process until you create a garlic paste. Add paste to a bowl with the yogurt, lemon zest, lemon juice and remaining ½ teaspoon pepper. Cover and refrigerate until ready to eat.

3. Drain lentils and transfer to the bowl with cooked onions, garlic, seasonings and chickpea flour. Using a large spoon, mix to combine. Shape into 8, equal-sized patties.

4. Set a skillet over medium-high heat, add ¼ cup oil. Once hot, add half of the fritters and cook, turning once, until golden brown on both sides, about 3 to 4 minutes per side. Transfer to a paper towel-lined plate. Repeat with the remaining fritter mixture, adjusting heat as needed.

5. Serve fritters topped with yogurt.

Recipe twist: Add ¼ cup chopped nuts to the fritter batter for a bit of crunch.

DEFINED: What does it mean when we say "picked over"? It means looking over them or sorting through them in the strainer and pulling out any broken beans or debris, such as little stones, before rinsing.

