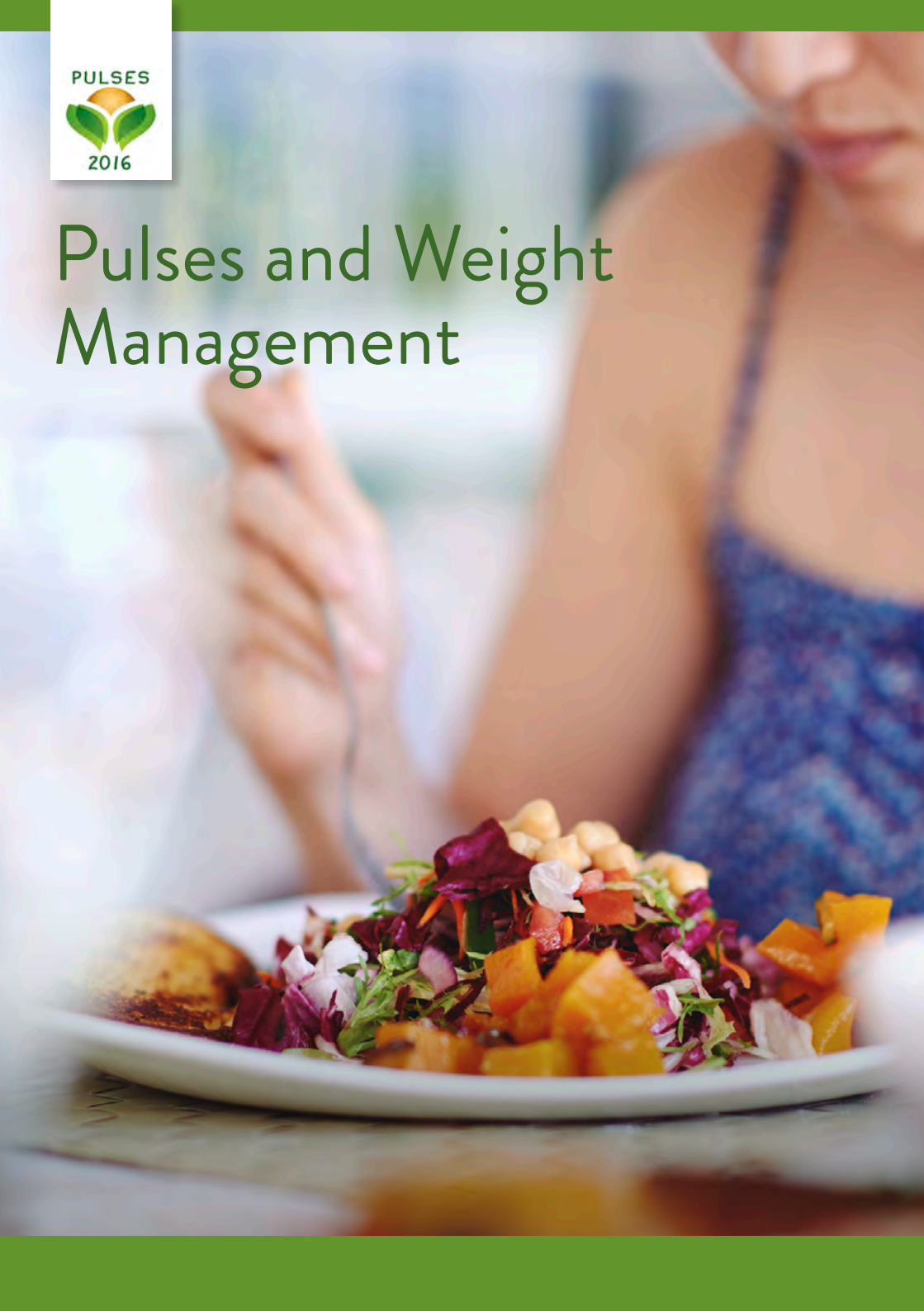


PULSES



2016

# Pulses and Weight Management



Obesity is a major risk factor for developing heart disease, hypertension, type 2 diabetes and several cancers. It's become a major global concern, with worldwide obesity rates more than doubling since 1980.<sup>1</sup>

Yet, obesity and overweight can be prevented by making healthy lifestyle choices, in particular through proper nutrition and diet.

Mounting evidence suggests that eating one daily serving of pulses – beans, peas, lentils and chickpeas – is a useful weight control strategy. This short guide was created to help people make healthier dietary choices. Under the guidance of leading nutritionist Leslie Beck RD, it flags some of the important science on the role of pulses in weight management.

We hope the guide will encourage professional dieticians and nutritionists to look afresh at these ancient, affordable and highly nutritious crops.

**HUSEYIN ARSLAN, PRESIDENT,  
GLOBAL PULSE CONFEDERATION**

## Pulses for weight management

A 2016 meta-analysis of 21 randomized controlled trials conducted in 940 overweight or obese men and women found an overall small, but significant, weight reduction of 0.34 kilograms in participants whose diets included about  $\frac{3}{4}$  cup (175 ml) of pulses each day compared to those who did not consume pulses. **Weight reduction occurred even in trial participants whose diets were designed to maintain, not lose, weight.**<sup>2</sup>

A weight loss of less than one kilogram may seem minimal, however, these new findings are encouraging. They suggest that eating pulses can help patients prevent incremental weight gain that often occurs with age. Consuming pulses may also be an effective strategy for patients to maintain a weight loss, something that is often a clinical challenge.

**Consuming pulses may also be an effective strategy for patients to maintain a weight loss, something that is often a clinical challenge.**

Observational data supports the weight control benefits of pulses. A review of the U.S. National Health and Examination Survey (NHANES) data from 1999-2002, for example, found people who reported eating pulses on the day of the survey were more likely to have a lower body weight and waist circumference. **Furthermore, people who ate pulses were 22 per cent less likely to be obese than those who didn't consume them.**<sup>3</sup>



## Pulses and satiety

A number of studies have confirmed the satiating properties of pulses, attributed to their high protein and fibre content.<sup>4-6</sup> In 2014, researchers from Toronto, Canada analyzed nine randomized controlled trials and concluded that meals containing 160 grams (less than one cup) of dietary pulses produced a 31 per cent greater satiety effect than did control meals.<sup>7</sup>

Protein in pulses stimulates the release of gastric hormones that cause the feeling of fullness. Fibre in pulses increases chewing time and delays gastric emptying, thereby reducing food intake and signaling early satiety.

Pulses also have a low glycemic index value. **By slowing the rise in glucose and insulin, pulses may help prevent overeating. In so doing, dietary pulses may improve adherence to a weight reduction diets.**

## Reduced calorie absorption from pulses

The reduced availability of calories from starch in pulses may also contribute to their weight loss properties. White beans, for example, have intact cell walls that encapsulate starch granules, preventing them from being absorbed in the gut.<sup>8</sup>

## Pulses and nutrition

Nutrient-dense, pulses are comprised of 23 per cent protein, supply gluten-free and low glycemic carbohydrates and provide 7 to 17 grams of fibre per one-half cup (125 ml). They are also an excellent source of iron, potassium, magnesium, zinc and B vitamins including folate, thiamin and niacin.

And pulses are cholesterol-free and very low in saturated fat.

### KEY NUTRIENTS IN PULSES (PER ½ CUP COOKED)

	Protein (g)	Fibre (g)	Folate (mcg)	Magnesium (mg)	Iron (mg)	Potassium(mg)
<b>Adzuki beans</b>	13	12.6	209	90	3.5	918
<b>Black beans</b>	11.5	11.2	192	90	2.7	458
<b>Chickpeas</b>	11	9.3	212	59	3.6	358
<b>Kidney beans</b>	11.5	8.5	173	56	3.0	538
<b>Lentils</b>	13.5	11.7	269	53	5.0	548
<b>Navy beans</b>	11.2	14.3	191	72	3.2	531
<b>Pinto beans</b>	11.6	11.5	221	64	2.7	559
<b>Split peas</b>	12.3	12.2	96	53	1.9	532

Source: US Department of Agriculture, Agricultural Research Service, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference, Release 28. Version Current: September 2015. <http://www.ars.usda.gov/nea/bhnrc>

## Pulses and health

The health benefits of pulses extend beyond weight control. **Studies suggest that, if eaten regularly, pulses help lower the risk of heart disease, hypertension and type 2 diabetes.** Inclusion of pulses in a heart-healthy diet has also been shown to reduce elevated blood cholesterol and blood pressure.<sup>9-12</sup>



## Tips to help patients and clients eat more pulses

Pulses are one of the most versatile and affordable foods on the planet. Yet many people don't eat them on a regular basis simply because they don't know how to incorporate them into their diet.

**The following tips can help clients/patients increase their intake of pulses.**



- > Add cooked black beans or kidney beans to an omelet for a protein-packed breakfast.
- > Toss cooked lentils into a leafy green salad.
- > Add chickpeas to a Greek salad to increase its protein and fibre content.

- > Enjoy minestrone, split pea, black bean or lentil soup for a satisfying lunch or dinner.
- > Spread sandwiches with hummus (chickpea purée) instead of mayonnaise.
- > Add cooked pulses to whole grain side dishes such as quinoa, barley and brown rice pilafs.



For more pulse inspiration, recipes are available at [PULSES.ORG](https://pulses.org) or see how our **GOURMET GURUS** transform the humble pulse into highly creative culinary inventions.



- > Blend mashed cooked white kidney beans into mashed potatoes for a nutrient-rich side dish.
- > Stir cooked white kidney beans or Great Northern beans into a tomato-based pasta sauce for a Mediterranean inspired meal.
- > Toss cooked lentils into sautéed leafy greens such as spinach or Swiss chard for a nutrient-rich vegetarian meal.

- > Make chili with chickpeas and black beans in addition to kidney beans.
- > Add cooked black beans or pinto beans to tacos and burritos. Use half the amount of lean ground meat you normally would and make up the difference with beans.
- > Add mashed cooked pulses to burger recipes to reduce saturated fat and increase fibre.



## PULSE RESOURCES FOR FURTHER READING

Meet Pulses: The Health Powerhouses. Global Pulse Federation.

[http://pulses.org/pulse-hub/fact-sheets/download?path=iyp\\_factsheet\\_healthpowerhouse.pdf](http://pulses.org/pulse-hub/fact-sheets/download?path=iyp_factsheet_healthpowerhouse.pdf)

The Many Nutritional Benefits of Pulses. Global Pulse Federation.

[http://pulses.org/pulse-hub/fact-sheets/download?path=iyp\\_factsheet\\_nutrition.pdf](http://pulses.org/pulse-hub/fact-sheets/download?path=iyp_factsheet_nutrition.pdf)

Molecular, Functional and Processing Characteristics of Whole Pulses and Pulse Fractions and their Emerging Food and Nutraceutical Applications.

Food Research International 2010; 43 (2): 397-664. (Special Issue.)

<http://www.sciencedirect.com/science/journal/09639969/43/2>

Meet Pulses: The Sustainable Superfoods. Global Pulse Federation.

[http://pulses.org/pulse-hub/fact-sheets/download?path=iyp\\_factsheet\\_sustainablesuperfood.pdf](http://pulses.org/pulse-hub/fact-sheets/download?path=iyp_factsheet_sustainablesuperfood.pdf)

Pulses and Food Security. Global Pulse Federation.

[http://pulses.org/pulse-hub/fact-sheets/download?path=iyp\\_factsheet\\_pulses\\_and\\_food\\_security.pdf](http://pulses.org/pulse-hub/fact-sheets/download?path=iyp_factsheet_pulses_and_food_security.pdf)

Cooking with Pulses: A New Era for an Ancient Crop.

Global Pulse Federation.

[http://pulses.org/pulse-hub/fact-sheets/download?path=iyp\\_factsheet\\_worldcuisines.pdf](http://pulses.org/pulse-hub/fact-sheets/download?path=iyp_factsheet_worldcuisines.pdf)

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