

PEAS, BEANS, LENTILS AND DIABETES CONTROL

Research has Shown Pulse Consumption Helps in the Management of Diabetes

- Peas, beans, lentils, and chickpeas are known as pulses. They are the dry seeds of plants belonging to the legume family which is characterized by pods containing seeds of variable size, shape and color. Research has shown that pulse consumption can be beneficial in the management of diabetes.
- Dietary pulses (chickpeas, beans, peas, lentils, etc) are a good source of slowly digestible carbohydrate, fiber and vegetable protein and a valuable means of lowering the glycemic index (GI) of the diet.
- Eighteen published research studies have reported the GI of various pulse types and pulse food forms (at the 50 g available carbohydrate level) compared to controls including white bread, glucose, or dextrose. These studies have ranged from 60 – 210 minutes in length and have been done in people both with and without diabetes. All of these studies found that pulses had a significantly lower GI than the controls.¹ The GI of pulses compared to control foods is shown in Table 1.²
- More than 30 published postprandial studies have compared pulses or pulse products (dose ranged from 30 to 762 g) to controls (e.g. potatoes, rice, white bread, pasta, grains, glucose, isolated fibers, etc). The majority of these studies (~83%) found significant reductions in postprandial peak glucose or area under the curve (AUC) compared to the control.³

- A recent meta-analysis of randomized controlled longer term experimental trials found that when eaten on their own, pulses significantly lowered fasting blood glucose and insulin levels. In studies where treatments were pulse-containing high-fiber or low-glycemic diets, pulses significantly lowered glycosylated hemoglobin (HbA1c). In fact, the significant reduction in HbA1c seen in people with Type 2 diabetes (~0.48%) was comparable to that achieved by oral medications.⁴
- Pulse consumption has also been shown to improve the blood lipid profile, reducing total cholesterol, LDL-cholesterol, triglycerides, and increasing HDL-cholesterol, and has been associated with decreased body weight.⁵

References

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Table 1. Glycemic Index (GI) of Pulses and Some Common Carbohydrate Foods

| Food Item* | Chickpeas | Lentils | Navy Beans | Split Peas | Pinto Beans | White Rice | White Bread** | Potatoes |
|------------|-----------|---------|------------|------------|-------------|------------|---------------|----------|
| GI | 39 | 42 | 43 | 45 | 55 | 80 | 100 | 121 |

* 150 g cooked except for white bread ** White bread was used as the reference food in an amount equal to the available carbohydrate in the test food

Pulses are recommended as a healthy food choice in Canada's Food Guide and the USDA's MyPyramid. Pulses are a protein rich food that is low in fat and saturated fat and provide fiber, vitamins and minerals in the diet. In fact, analysis of dietary intake data from the 1999-2002 NHANES found that adults consuming approximately 1/2 cup dry beans or peas resulted in higher intakes of fiber, protein, folate, zinc, iron, and magnesium with lower intakes of saturated fat and total fat.⁶