for your health

Peas, Beans, Lentils and Diabetes

The 2005 Dietary Guidelines for Americans, developed by the USDA, recommend eating three cups of legumes per week, including beans, peas, lentils and chickpeas.

Research has shown that diets including beans and other pulses in your diet may reduce risk of heart disease and certain cancers.

Pulses are a great fit for a healthy eating pattern as recommended by the USDA's food pyramid (My Pyramid) and Canada's Food Guide to Healthy Eating.

- 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.
- Pulses have a low glycemic index (GI) which is particularly beneficial for people with diabetes. The GI is a scale that ranks carbohydrate-rich foods by how much they raise blood glucose levels compared to glucose or white bread.[1-3]
- Diabetes, a disease characterized by high blood glucose levels (hyperglycemia), results from defects in insulin secretion, insulin action, or both. Chronic hyperglycemia is a serious health condition because it damages various organs, particularly the eyes, kidneys, nerves, heart and vascular system. Controlling blood glucose and insulin levels is critical for people with diabetes.[2,3]
- Foods with a low GI value (<55), including pulses, are a good choice for people with diabetes as they result in slower release of glucose following a meal, leading to minimal fluctuations in blood glucose levels and a more stable insulin response.[1-3]

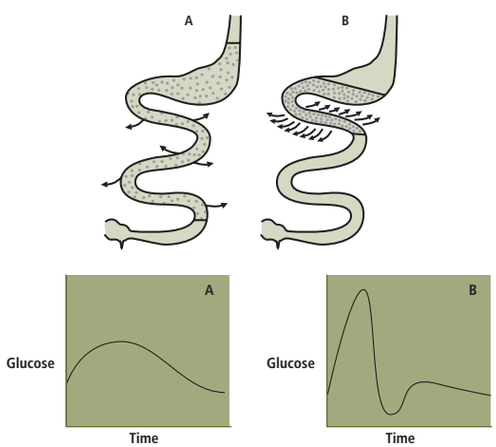

Figure 1. Illustration of the proposed effect of a low (A) or high (B) glycemic index diet on gastrointestinal glucose absorption and post-prandial blood glucose.

- Low GI foods are also recommended for people without diabetes, because hyperglycemia and/or increases in blood insulin levels are risk factors for cardiovascular disease, mortality, and type 2 diabetes.[1]
- Pulses contain complex carbohydrates including dietary fibre and starch that is resistant to digestion. These contribute to a reduced rate of digestion and low GI for pulses compared to other carbohydrate-containing foods.[4]
- Pulses are also low in fat, are an excellent source of protein and have been shown to improve blood lipid levels as well as overall metabolic control.[5]

REFERENCES:

1. Rizkalla, S.W., et al. 2002. Brit J Nutr; 88(Suppl 3): S255-S262.
2. Canadian Diabetes Association. www.diabetes.ca
3. American Diabetes Association. www.diabetes.org
4. Guillon, F., Champ, M.J. 2002. Brit J Nutr; 88 (Suppl 3): S293-S306.
5. Geil, P.B., Anderson, J.W. 1994. J Am Coll Nutr; 13(6): 549-558.
6. Foster-Powell, K, et al. 2002. Am J Clin Nutr; 76(1): 5-56.

TABLE 1. GLYCEMIC INDEX (GI) OF SELECTED FOODS[6]

	FOOD ITEM*	GI
	CHICKPEAS	39
	LENTILS	42
	NAVY BEANS	43
	SPLIT PEAS	45
	PINTO BEANS	55
	WHITE RICE	80
	WHITE BREAD**	100
	POTATOES	121

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

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This material has been made possible through Canada's Agricultural Policy Framework (APF), a Federal-Provincial-Territorial initiative.

Last updated 09/2007

CHICKPEAS BEANS PEAS LENTILS