



GoBarley

Barley: Whole Grain Goodness!

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- Barley has the highest fibre content and lowest glycemic index of the cereal grains.
- Barley is an excellent source of the cholesterol-lowering soluble fibre β -glucan.
- Health Canada and the United States Food and Drug Administration permit the use of blood-cholesterol-lowering and cardiovascular health claims for barley.





Nutritional Profile of Barley

Barley is an ancient grain that has been cultivated for thousands of years. In North America, barley is a major crop used for animal feed, but it is also grown for the food and beverage industries, including the malting industry for brewing beer. Barley is increasing in popularity as people focus on consuming more local, healthy, whole grain foods.

Whole grains such as barley are an important source of dietary fibre, resistant starch, trace minerals, vitamins, phytoestrogens and antioxidants that are associated with disease prevention. Barley is one of the richest sources of the soluble fibre β -glucan, a non-starch polysaccharide found primarily in the cell walls of the endosperm and aleurone layer. The health benefits of β -glucan are the most extensively reported of all fibres. β -glucan delays gastric emptying, lowers serum cholesterol and attenuates the postprandial glycaemic response¹. β -glucan has also been reported to possess anti-cancer properties¹.

Barley has the highest fibre content of the cereal grains (Table 1)². Dietary fibre intake is inversely associated with risk of chronic disease, including coronary heart disease, stroke, hypertension, diabetes, obesity and metabolic syndrome³. High-fibre foods are recommended for gastroesophageal reflux disease, duodenal ulcers, inflammatory bowel syndrome, diverticular disease, constipation and hemorrhoids³. As the largest immune system organ in the human body, the gastrointestinal tract is key to overall health and high fibre intake may enhance immunity³. Unfortunately, 90 per cent of the U.S. population does not consume enough fibre⁴, and average fibre intake among Canadians is only about half the recommended amount⁵.

Pearl and pot barley are the most common barley products available⁶. Dehulled and hullless barley are also available and is the whole grain form because only the very outer husk, the hull, has been removed. The nutrition profile of pearl and dehulled barley is shown in Table 2. Pot and pearl barley have been processed or “pearled” to remove the inedible hull and polish the kernel. Pot and pearl barley are still excellent sources of β -glucan since the fibre is found throughout the kernel. The difference between pot and pearl barley is that pot barley has been pearled for a shorter amount of time, so some of the barley bran remains intact. Dehulled and hullless barley take longer to cook than either pearl or pot barley. Whole grain barley flour is also available and, depending on the product, can be fully or partially substituted for wheat flour in baking applications. Regardless of what barley ingredient you choose to use, all forms are healthy options and are included in the list of β -glucan sources under government health claim guidelines.

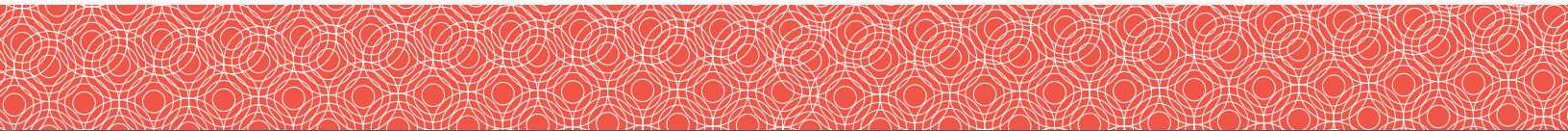
Table 1. Fibre content of selected foods²

Whole grain (dry)	Total dietary fibre (g/100g)
Barley, pearl	15.6
Rye	15.1
Wheat	12.2
Oats	10.6
Buckwheat	10.0
Corn	7.3
Quinoa	7.0
Wild rice	6.2
Brown rice, long grain	3.5

Table 2. Nutrition profile of pearl and dehulled barley^{*2}

	Pearl barley	Dehulled barley
Energy (kcal)	352	354
Total fat (g)	1.16	2.3
Protein (g)	9.91	12.48
Fibre (g)	15.6	17.3

**Per 100 g dry barley*



Barley Health Claims for Heart Health

Cardiovascular disease (CVD) is the number-one cause of death in the world, for which an estimated 90 per cent of Canadians have at least one risk factor⁷. In the United States, CVD accounts for one out of every three deaths⁸. In 2006, the United States Food and Drug Administration approved a health claim for barley: foods that contain barley and provide at least 0.75 grams of soluble fibre per serving can claim that they may help to reduce the risk of coronary heart disease⁹. In 2012, Health Canada approved the claim that barley-containing foods are a source of fibre shown to help lower cholesterol¹⁰. To be eligible to make the claim, the food must contain at least one gram of β -glucan per serving from dehulled barley, hullless barley, pearl or pot barley, barley flakes, grits, meal, flour, bran or β -glucan-enriched milling fractions¹⁰.

Other Health Benefits of Barley

Diabetes Prevention and Treatment

The number of people worldwide with diabetes is estimated at 371 million, or 8.3 per cent of the population¹¹. For people with diabetes, low-glycemic-index foods may provide additional benefit over tracking dietary carbohydrate alone¹². Barley has the lowest glycemic index of the food grains¹³.

Weight Management

Obesity is a global epidemic, and, between 2007 and 2009, was shown to affect 24.1 per cent of people in Canada and 34.4 per cent of people in the United States¹⁴. High-fibre foods such as barley contribute to satiety and weight management¹. A daily intake of approximately three servings of whole grains is associated with lower body mass index (BMI) and reduced central adiposity¹⁵. Barley is a high-fibre, low-fat, whole grain food with a low energy density that aligns with recommendations for a low-calorie, high-fibre diet for weight control¹⁶.





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