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Amaranth grain and its action on blood glucose level

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Amaranth grain is a highly nutritional, reasonably well balanced, pseudocereal with superior contents of fiber and protein when compared to true cereals. Among its functional and medicinal benefits, action on blood glucose has been cited.

The action of amaranth on the levels of blood glucose seems to be somewhat controversial. While some investigators report that the consumption of either the grain or the oil may protect against insulin deficiency, others assert that the high glycemic index (GI) of the starch is a liability to diabetic patients. On the other hand, earlier studies have found that because of the high digestibility of its starch, amaranth grain may not be suitable for diabetics.

High GI foods promote hyperglycemia and hyperinsulinemia. A high GI diet shows lower satiety, which may result in excess food ingestion, changes in the lipid profile and insulin secretion, and possibly favoring an increase in body weight, the development of cardiovascular diseases and diabetes mellitus. Amaranth grain has a GI value of 107 and an insulin curve that suggests an insulinogenic effect. Its high GI value is probably due to the small size of its starch granules, the low content of resistant starch (<1%) and the tendency of the starch to completely lose the crystalline and granular structure during heat processing.

Caution should be exercised when recommending this product to celiac and diabetic patients because of its elevated glycemic index associated with the highly digestible starch typical of both popped and extruded forms of the grain.

Biography

Valéria Caselato is a nutritionist who has completed her PhD in "Food and Nutrition" from University of Campinas, Brazil (2012). Presently she is an Adjunct Professor at the Federal University of Rio de Janeiro. Her experience in Nutrition comprises the following themes: elderly, functional foods, technology of special foods and development of dietetic products.

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