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Whole grain foods for health and wellness

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Abstract

Diseases of malnutrition due to hunger and diseases of affluence due to hidden hunger are matters of great global health concern. To a certain extent the consumption of highly refined forms of foods such as grain, oil, sugar, etc., lacking in micronutrients and phytochemicals is one of the reasons for that. Consumption of whole grain foods is reported to have protective effect against chronic diseases. Health beneficial effects are due to the nutrients and nutraceuticals present in the bran and germ. Major nutraceuticals in whole cereals are oryzanol and tocotrienol in rice; tocopherol and arabinoxylan in wheat; phytosterol and polyphenol in sorghum, carotenoids and phytosterol in maize; polyphenols and fibre in finger millet; carotenoids in foxtail millet; and beta-glucan in oats. These components affect the metabolic reactions in the body and act as antioxidant, anti-inflammatory, anti-cholesterol, anti-diabetic and anti-cancer agents. Globally R & D is going on for the development of whole grain based health foods, and CSIR-CFTRI also contributes in the research and innovation on bioactive components in whole rice varieties, development of shelf stable whole rice, bio-processed rice and whole rice convenience flour for traditional foods.

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