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Book Review

Len Marquart, David R. Jacobs Jr, Graeme H. McIntosh, Kaisa Poutanen and Marla Reicks (editors) *Whole Grains and Health*. Oxford: Blackwell Publishing 2007, pp. 316, £105.00. ISBN 9780813807775hb.

Whole Grains and Health presents a scientific discussion of whole grains and their increasing roles in health and disease. A panel of expert authors present a review of current scientific knowledge of whole grains, and the huge potential for development of whole-grain products. It is a comprehensive body composed of twenty-six chapters organised into four main subject areas. These include an introductory overview followed by detailed discussion within three main areas: whole grains, dietary fibre and chronic disease; grain technology and health-related outcomes; and finally consumer and regulatory issues.

It is accepted that the intake of whole grains and dietary fibre is generally insufficient, especially in contemporary western society. Therefore there is a wide division between actual consumption and the recommended intake levels. The last decade has provided increasing evidence of the positive health effects of whole grains on health, with major studies linking whole-grain consumption to reduced incidence of chronic illnesses such as CHD and type 2 diabetes. Therefore scientific evidence is strong. Whole grains have even been regarded as a potential global strategy to help combat rising obesity levels which can lead to secondary health complications.

Part two of the book describes the effects of whole-grain foods and dietary fibre and their relationship with chronic disease. There is an emphasis on diabetes, weight gain, CVD and prevention of cancer. Although there is a comprehensive survey of intervention and experimental studies, discussion of the mechanisms involved in protection against chronic diseases like colon cancer and type 2 diabetes is too limited, maybe reflecting more limited knowledge in these areas.

The effect of carbohydrate fermentation on the gut microbiota is an important area as selective substrates with a bifidogenic effect are considered prebiotic and evidence is emerging that whole grains may have natural prebiotic components. Recently there has been discussion about the role of dietary

fibre and their effects on the immune system (mediated via the gut microbiota). This is also an important and contemporary area with the recent upsurge in interest in gut health in general, and the increased availability of functional foods. Any evidence showing a positive association between consumption of whole-grain foods and reduction in chronic disease is of interest to health professionals, research scientists, industry and consumers alike.

Various questions have been posed to try to explain the situation of insufficient intake of whole grains and fibre and it is thought that increased consumer research and education might help to alleviate the current trends. Increased information and education worldwide also requires investment from manufacturers and health agencies alike. A particularly interesting feature of this book is the devotion to consumer and regulatory issues surrounding whole grains. It is important to understand the reasons for the lack of consumption in order to address this. Therefore consumer perceptions and barriers to consumption are discussed. Also the role of technological innovations, which can change the organoleptic qualities of whole-grain foods and which may help to increase consumption rates are discussed.

The book is both comprehensive and informative, reflecting the current scientific evidence for whole-grain consumption, both from applied and intervention studies. It is of interest to research scientists wanting a contemporary overview of a particular topic, including both bioactive components and technological issues but also to scientists within the social sciences and public health arena as there is an exploration of food choices and science communication issues.

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