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Effect of fermentation on the phytochemical contents and antioxidant properties of plant foods

(Book Chapter)

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Abstract

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Plant foods are a natural source of functional phytochemicals that can exert antioxidative effects. However, most of the phytochemicals that exist naturally in plant foods are bound and are less bioavailable than the free form. These phytochemicals and their antioxidant properties could be altered by processing, such as fermentation. The microorganisms used in fermentation are capable of modifying the bioavailability of phytochemicals in plant foods. This chapter discusses the effect of fermentation on the phytochemical contents of plant-based diets including legumes, cereals, seeds, vegetables and fruits. The chapter then discusses the changes in antioxidant properties upon fermentation and the beneficial effects on health of fermented plant-based foods. © 2015 Elsevier Ltd. All rights reserved.

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

Chapters in this Book

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- Bioactive peptides from fermented foods and health promotion
- Conjugated linoleic acid production in fermented foods
- Effect of fermentation on the phytochemical contents and antioxidant properties of plant foods
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- Advanced methods for the identification, enumeration, and characterization of microorganisms in fermented foods
- Systems biology and metabolic engineering of lactic acid bacteria for improved fermented foods
- Designing wine yeast for the future
- Modern approaches for isolation, selection, and improvement of bacterial strains for fermentation applications
- Advances in starter culture technology: Focus on drying processes
- Controlling the formation of biogenic amines in fermented foods
- Biopreservation effects in fermented foods
- Lactic acid bacteria as antifungal agents
- Quality improvement and fermentation control in meat products
- Quality improvement and fermentation control in fish products
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