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Fruit Juices: Bioactive Properties, Consumption and Role in Disease Prevention

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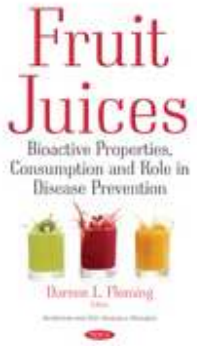
Editors: Doreen L. Fleming

Book Description:

This book provides new research on fruit juices. Chapter One focuses reports on the validation of an analytical method for the simultaneous determination of citric, malic and lactic acids in fermented passion fruit. Chapter Two analyzes citrus pectin as a prebiotic in beverages containing *Lactobacillus rhamnosus* ATCC 7469. Chapter Three provides a critical review of fruit juices as a nutrient-dense food for health enhancement. Chapter Four examines the role of fruit juice or fruit components in general in the prevention of some of the most relevant neurodegenerative diseases. (Imprint: Nova)



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Chapter 5

PHYTOESTROGENS AS BIOACTIVE COMPOUNDS WITH BENEFICIAL EFFECTS FOR HUMAN HEALTH

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ABSTRACT

Phytoestrogens, also called estrogens, are bioactive compounds original from plants. They are similar in structure and functionality to the estrogenic hormones in animals. It has been documented that these compounds have several effects on the human body, namely in terms of carbohydrate, protein, lipid and mineral metabolism. Some of the most known effects of these substances are related to their roles in the women's reproductive system.

The dietary phytoestrogens are present in vegetable sources, like some herbs, grains or fruits. Their structure is similar to that of estradiol, which can act in the body both as estrogenic or antiestrogenic. They are classified into the following categories: i) isoflavones, which are essentially present in legume beans, and particularly soy beans and soy products; ii) lignans, which are part of foods rich in dietary fibre, like cereal brans, beans, legumes or oilseeds; iii) coumestans, found in various beans such as split peas, pinto beans or lima beans, and also in alfalfa and clover sprouts; iv) mycoestrogens, which are produced by molds.

Phytoestrogens can be used as human health enhancers, and have many documented beneficial effects on the human body. They are reported to diminish the incidence of some types of cancer, as well as to minimize menopausal symptoms and prevent osteoporosis. Also some benefits have been associated with the ingestion of these bioactive compounds and protection against cardiovascular diseases.

Hence, this chapter aims at reviewing the scientific literature about the structure of PEs, as well as their natural sources and health effects.

Keywords: phytoestrogen, estradiol, isoflavone, menopause, osteoporosis