

ملاحظات:

**PRODUCTION OF SOME NUTRACEUTICAL
FOODS FROM FOOD PROCESSING WASTES
FOR PRESCHOOL CHILDREN**

Submitted By

Wael Mohamed Mansour Sayed Mansour

B.Sc., Agric. Sc., Fac. Agric., Cairo Univ., 1996

A Thesis Submitted in Partial Fulfillment

Of

The Requirements for the Master Degree

In

Environmental Science

Department of Environmental Agricultural Sciences

Faculty of Environmental Studies and Research

Ain Shams University

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ABSTRACT

Wael Mohamed Mansour Sayed Mansour: “Production of some nutraceutical foods from food processing wastes for preschool children”. Unpublished M.Sc. Thesis in Environmental Agricultural Sciences, Faculty of Environmental Studies and Research, Ain Shams University, 2022.

Until recently, the aim of foods was to provide nutrients to humans and satisfy hunger, but nowadays the aim is to satisfy consumers' needs (appearance and health benefit), besides trying to avoid diseases related to nutrition. In this respect, functional foods play distinguished role. Hence, the concept of functional foods. Therefore, the present study aimed to produce low-calorie biscuits and crackers and to evaluate their effectiveness on the body weight gain using oat whole grain powder and sweet cheese whey by using different formulations. In addition to evaluate the effect of these products on lipid profiles, glucose level as well as kidney and liver functions in high fat diet fed rats.

The results of the arbitration of biscuits and crackers formulas ascertained high sensory acceptance of the following B3, B4 for biscuits formulas and C3, C4 for crackers formulas as they recorded high sensory acceptance compared to control and others formulas.

The proximate analysis of the biscuits and crackers formulas found biscuits (B4) had the highest in moisture (5.13%), ash (1.76%) and carbohydrates (33%) and the lowest in fat (16.71%) content as well as the lowest calories value (314.43 cal.). Also, the crackers formulae (C3 and C4) had the highest in moisture (11.52; 10.96 %) and ash (2.4; 2.58 %),

respectively. While, they recorded the lowest in fat (13.89; 13.89 %) contents and the lowest calories value (266.99; 273.69 cal.). Also, there were increase in both of antioxidants activity and phenols content for the biscuits and crackers formulas.

Feeding rats on different biscuits and crackers formulae decreased body weight gain and showed adipocyte histological alterations. Besides feeding rats recorded significantly decreased levels of both total cholesterol and LDL. Meanwhile, data revealed elevated HDL levels. In addition, noticeable improvement in the liver function enzymes (AST) and (ALT) and the kidney function parameters (Urea and Creatinine) at the end of experimental period (60 day). In conclusion, consumption of sweet cheese whey and oat whole-grain in form of low calorie biscuits and crackers formula reduced the adipocytes histological changes, resulting in reduction of the body weight of the rats.

Keywords: Whey Cheese, Oat whole-grain, Biscuits, Crackers, Proximate analysis, Antioxidant activity, Sensory evaluation, Weight Gain, Lipid Profile, Liver function, Kidney function, Histopathological alteration, Rats.

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