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Psycho-chemical, sensory quality of whole wheat based pasta incorporated with defatted soy flour and spinach powder

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ABSTRACT

Pasta was prepared from whole wheat flour, defatted soy flour with spinach powder (WWF:DSF:SP). Soy flour was incorporated with 10, 15, and 20 per cent and spinach powder 5 per cent in all combinations on the basis of sensory evaluation. The flour pasta was improved in nutrient content of moisture, protein, ash, fibre, carbohydrate, fat, iron, calcium of the pasta. 10 per cent defatted soy flour pasta was found best with regard to nutrient content and sensory characteristics.

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Key Words : Pasta, Whole wheat flour, Soy flour, Spinach powder

INTRODUCTION

Consumer interest in the relationship between diet and health has increased the demand for information on functional foods. Pasta is an extensively food usually made from wheat, which is consumed in most countries worldwide. It is however, rather low in protein and is relatively deficient in lysine, an essential amino acid. This is especially important for efforts to feed the hungry using pasta as the primary source of calorie and protein. Therefore, there have been many studies to supplement pasta with protein rich in lysine, such as soy protein (Paulson, 1961; Calusi, 1971 and Siegel *et al.*, 1975). Pasta products such as macaroni, spaghetti, noodles are very popular in Europe and in the western hemisphere. However, the consumption of the convenience food is increasing rapidly with the advance in economic condition of developing countries too. In India, use of pasta products are increasing steadily. Pasta products are good source of carbohydrate and moderate source of proteins, but some essential amino acids and fibre content are low (Sowbhgya and Ali, 2001). Chung *et al.* (2004) reported that lutein, a carotenoid protective against eye diseases such as age-related macular degeneration and cataract, is found in green vegetables, especially spinach, as well as kale and broccoli. Soybean is one of the nature's wonderful nutritional gifts. It is one of the very few plants those provides a high quality protein with minimum saturated fat. Soybean helps people feel better and live longer with

an enhanced quality of life. Soybean contains all the three macronutrients required for good nutrition as well as fibre, vitamins, minerals. Soybean protein provides all the essential amino acids in the amounts needed for human health. Soybean is the most economical source of proteins available. It also fits in amino acid profile that allows substitution without sacrificing nutrition (Langsdorf, 1981).

METHODOLOGY

Soy flour and whole wheat flour were purchased from the local market and spinach leaves was also purchased from the local market and cleaned, washed, dried (hot oven 75°C for 5 hour) and after drying, ground the leaves, then sieved in 20 mesh sieves then produced powder. Spinach powder was incorporated with whole wheat flour at different levels 03, 05, 07, 10 per cent to standardize the level of spinach powder to make pasta and cooked with organoleptic evaluation by semi skilled panel. On the basis of overall acceptability, 5 per cent spinach powder was acceptable. Pasta was prepared with the help of the pasta making machine (La man farina, Italy). Pasta contained whole wheat flour, soy flour and spinach powder in different blends (85:10:05, 80:15:05 and 75:20:05).

Proximate analysis:

Pasta prepared from different blends were analyzed for their proximate composition using standard method of AOAC (1995).