THE EFFECT OF INCORPORATION OF WHEAT BRAN ON THE QUALITY OF NON-FRIED INSTANT NOODLES

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ABSTRACT

THE EFFECT OF INCORPORATION OF WHEAT BRAN ON THE QUALITY OF NON-FRIED INSTANT NOODLES

The quality of non-fried instant noodles produced by addition of wheat bran was investigated. The quality of the non-fried instant noodles produced was compared with that of noodles made only of wheat flour (control). Tests were run on the samples to determine chemical composition (moisture, carbohydrate, fat, protein, crude fibre and ash), calorie content, physical properties (firmness and colour) and sensory attributes. Results shows that moisture (3.0% to 4.0%), protein (11% to 14.5%), fat (0.1% to 1.0%), crude fibre (0.6% to 4.5%) and ash (2% to 3.5%) content increased with addition of 10%, 30% and 50% wheat bran except for carbohydrate (82% to 77%). The calorie content of non-fried instant noodles increased (369 kcal to 383 kcal) with increasing addition of wheat bran. Addition of wheat bran also decreased the lightness ("L*" value) and yellowness ("b*" value) and increased the redness ("a*" value) of uncooked and cooked instant noodles. In addition, cooked noodles firmness (156 g/cm to 112 g/cm) decreased with increasing wheat bran content. Quantitative descriptive analysis (QDA) showed that the aftertaste and color intensity increased significantly ($P<0.05$) with increasing percentage of wheat bran, whereas the intensity of appearance, firmness, elasticity, smoothness, overall texture quality and overall quality decreased. However, non-fried instant noodles with 10% wheat bran were considered to be close to the control on hedonic scale ratings for all sensory attributes.

CHAPTER 1

INTRODUCTION

1.1 Background and problem statement

Instant noodles are fast food which is usually chosen by consumers nearly by all levels of society. This is mainly due to its convenience, availability in different varieties and affordable cost. However, as the gross domestic product, GDP, per capita rises, consumers are now considering secondary features such as health and nutritional aspects of the products they eat. Despite of many health problems associated with an effluent lifestyle such as hypertension, diabetes, colon cancer, obesity, etc, it is still that many individuals take less of dietary fibre than recommended for a healthy diet. In western countries, for example, the intake of total dietary fibre is often considerably less than the recommended 20-30 g/day for adults (Harris and Smith, 2006).

In relation to that, the development of high fibre instant noodles could benefit some group of people. It is because dietary fibre plays a very important role in human diet. Dietary fibre which includes polysaccharides, oligosaccharides, lignin and associated plant substances provides a variety of health benefits like