

**THE EFFECT OF INCORPORATION CHICKPEAS ON THE  
QUALITY OF NON-FRIED INSTANT NOODLE**

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## ABSTRACT

### THE EFFECT OF INCORPORATION OF CHICKPEA ON THE QUALITY OF NON-FRIED INSTANT NOODLE

The effect of replacing wheat flour with chickpea flour (10%, 30% and 50%) on the quality of non-fried instant noodles was studied. Proximate compositions; calorie; color and texture; quantitative descriptive analysis (QDA); and hedonic scale (consumer acceptance characteristics) were measured. The protein (12.16% to 15.17%), fat (0.50% to 3.28%), ash (0.82% to 3.02%) and crude fibre (0.56% to 2.04%) content were increased significantly ( $P<0.05$ ) with increasing percentage of chickpea flour. The lightness ( $L^*$  value) decreased with increase in yellowness and the firmness decreased as the percent of chickpea was increased. The energy value (kCal/100g) was significantly increased. Quantitative descriptive analysis showed that the aftertaste (beany off-flavor) and color intensity increased significantly ( $P<0.05$ ) with the increase in the percentage of chickpea, whereas the intensity of appearance, firmness, elasticity, smoothness, overall texture quality and overall quality decreased. For the hedonic scale, the panelists preferred non-fried instant noodle with 10% of chickpea which overall acceptance of almost “like moderately”.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background and problem statement

Noodles originated from China as early as 5000 BC, and then spread to other Asian countries. Today, about 40% of the flour consumed in Asia is for noodle manufacture. In recent years, noodles have also become very popular outside Asia and this popularity is likely to increase. In Malaysia, noodle is one of the staple foods other than rice among Malaysian. It is easy to prepare and cheap. Noodles are eaten hot or cold, steamed, stir-fried, deep-fried, boiled, or served in a soup.

Noodles in various contents, formulations, and shapes can be made from wheat, rice, buckwheat, and starches derived from potato, sweet potato, and pulses. Noodles based on wheat are prepared mainly from three basic ingredients; flour, water, and salt which commonly salt or alkaline salt. Noodles are characterized by thin strips slit from sheeted dough. For the nutritionally inclined, noodles are an excellent source of protein. Besides being low in calories, they are extremely high in complex carbohydrates. Wheat flour-based noodles are commonly consumed in many countries. Even though the protein content of wheat flours