

JSCH-043

## Mung Bean Powder: A Protein and Fiber Fortificant in Fresh Egg Noodles

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### Keywords

egg noodles, fiber, mung beans,  
nutrient intake inadequacy, rotein

### Abstract

Many Filipinos have an inadequate intake of fiber and protein. Meanwhile, the Davao Region is a top producer of mung bean, which is high in these nutrients. With the popularity of noodles, this study was conducted to develop fresh egg noodles with increased fiber and protein using mung bean powder (MBP). Fresh egg noodles with 0%, 10%, 20%, and 30% MBP (flour basis) were produced, and the best formulation was selected based on cooking qualities. The physicochemical properties of MBP and the noodle samples were analyzed. The MBP had 3.89% crude fiber and 23.70% crude protein. Noodles became significantly darker and had more blue and red tones with increasing MBP. Among the formulations, noodles with 30% MBP were selected because of their low cooking time (1.17 min), cooking loss (2.26%), water absorption capacity (33.51%), resistance to water disintegration, and similar tensile strength and elongation values compared to other MBP-containing samples. The 30%-MBP substituted noodles had significantly higher crude ash (0.92%), crude fiber (0.40%), crude protein (6.60%), and total phenolic content (1.93 mg GAE/g sample) than the control. Their appearance, texture, flavor, and overall acceptability were comparable to the control, ranging from 6.47 (liked slightly) to 7.07 (liked moderately). The use of MBP as a fortificant improved the nutrient profile of fresh egg noodles, decreased cooking time, and caused no significant change in cooking loss or acceptability. It is recommended that other uses of MBP as a fortificant be explored, specifically in foods where a high amount of MBP can be incorporated. Further studies to analyze the dietary fiber of MBP and the fortified products are likewise recommended.