PROFIL SENYAWA GIZI, ANTIGIZI SERTA NILAI CERNA PROTEIN PETAI (*Parkia speciosa* Hassk) PADA VARIASI PROSES PENGOLAHAN

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ABSTRAK

Biji petai (*Parkia Speciosa* Hassk) merupakan kacang-kacangan khas Indonesia dengan kandungan protein dan senyawa anti gizi yang tinggi, sehingga dapat menurunkan nilai cerna proteinnya. Proses pengolahan dapat menurunkan senyawa anti gizi dan meningkatkan nilai cerna protein biji petai, tetapi akan berdampak pada komponen gizi lainnya. Penelitian ini bertujuan untuk menentukan pengaruh proses pengolahan (kukus, rebus, goreng) terhadap perubahan senyawa gizi (air, abu, protein, lemak, karbohidrat, profil asam amino), anti gizi (asam fitat, tanin, tripsin inhibitor) dan nilai cerna protein biji petai secara in vitro.

Penelitian dilakukan dalam 2 tahap. Tahap pertama bertujuan untuk memperoleh waktu optimum dari setiap proses pengolahan, yang menghasilkan biji petai dengan karakteristik fisik terbaik. Perebusan selama 6, 8 dan 10 menit pengukusan dilakukan selama 6, 8 dan 10 menit, dan penggorengan dilakukan selama 1,5, 2, dan 2,5 menit. Biji petai dengan waktu optimum dari setiap proses pengolahan dikeringkan dan dibubukkan hingga lolos ayakan 40 mesh. Bubuk biji petai selanjutnya dianalisis lebih lanjut senyawa gizi, anti gizi, dan nilai cerna protein in vitro.

Hasil penelitian menunjukkan bahwa karakteristik biji petai terbaik rebus 8 menit, kukus 10 menit, dan goreng 2 menit berdasarkan tekstur. Pengukusan dan perebusan signifikan menurunkan kadar karbohidrat biji petai. Penggorengan signifikan meningkatkan kadar lemak biji petai dan menurunkan gizi lainnya. Secara umum, ketiga proses pengolahan signifikan menurunkan profil asam amino, asam fitat, tanin dan tripsin inhibitor. Pengukusan dan perebusan juga signifikan meningkatkan nilai cerna protein in vitro biji petai, sedangkan penggorengan menunjukkan hasil sebaliknya.

Kata kunci: Biji petai, komponen gizi, nilai cerna protein in vitro, proses pengolahan, senyawa anti gizi

ABSTRACT

Petai Seed (Parkia Speciosa Hassk) is an Indonesian indigenous legume with high value of protein and rich of some antinutrient compounds which cause of decreasing protein digestibility. Some of processing can decrease their antinutrient compounds and increase digestibility of protein, but they influence other nutrient compounds. The aim of this research is to determine the effect of processing methods (water blanching, steam blanching, and frying) on nutrient compounds (moisture, ash, protein, fat, carbohydrate), antinutrient compounds (fitic acid, tannin, trypsin inhibitor) and in vitro protein digestibility of Petai Seed.

The study was conducted in 2 stages. The first stage aims to obtain the optimum time of any processing, which produces petai seeds with the best physical characteristics. Boiling for 6, 8 and 10 minutes, steaming for 6, 8, and 10 minutes, and frying done for 1,5, 2, and 2,5 minutes. Petai Seeds with the optimum time of each processing are dried and powdered to pass 40 mesh sieve. The powder of petai seed then further analyzed the nutritional and antinutritional compounds, and in vitro protein digestibility.

The results showed that the best characteristics of petai seeds were boiled for 8 minutes, steamed for 10 minutes, and fried for 2 minutes based on texture. Steaming and boiling significant decrease carbohydrate levels. Frying significantly increases the fat content of petai seed and lowers other nutritional. In general, all the processing significant decrease amino acid profile, phytic acid, tannin and trypsin inhibitors. Steaming and boiling also significantly increased the in vitro protein digestibility, while frying showed reverse results.

Keywords: Antinutritional compounds, in vitro protein digestibility, nutritional components, petai seeds, processing