

Sifat Fungsional Dan Profil Asam Amino Tepung Kecambah Koro Pedang
(*Canavalia Ensiformis L.*)

Intisasri

Koro pedang sebagai sumber protein nabati belum populer. Perkecambahan kacang-kacangan diketahui dapat memperbaiki sifat fungsionalnya. Penelitian ini bertujuan untuk mengetahui pengaruh perkecambahan terhadap sifat fungsional, sifat kimia, asam amino, tepung koro pedang. Rancangan percobaan dengan metode RAL (rancangan acak lengkap) berturut-turut selama 0, 24, 48 dan 72 jam. Tepung keambah koro pedang yang diperoleh dianalisis kapasitas penyerapan minyak, kapasitas penyerapan air, kapasitas pembuihan, kapasitas pengemulsian, kadar air, protein total, protein terlarut, dan asam amino. Hasil penelitian ini menunjukkan bahwa makin lama perkecambahan maka kapasitas minyak meningkat, kapasitas penyerapan air meningkat, kapasitas pembuihan meningkat, dan kapasitas pengemulsian menurun. Sedangkan kadar protein total biji (kontrol), 0, 24, 48, dan 72 jam berturut-turut 23,4; 22,6; 21,2; 22,5; 23,9 % bk. Kecambah kacang koro pedang 72 jam mengandung kadar protein paling tinggi sehingga dipilih untuk dianalisis profil asam aminonya dibandingkan biji (kontrol). Kandungan asam amino tepung keambah 72 jam dibandingkan dengan biji koro pedang berturut-turut adalah kadar 0,70, Histidin + Serin 2,12 dan 1,59, Glutamin 0,17 dan 1,00, Treonin 2,35 dan 2,80, Glisin 1,43 dan 1,00, Arginin 1,05 dan 1,40, Alanin 1,48 dan 1,01, Tirosin 0,30 dan 0,93, Triptofan + Metionin 1,15 dan 0,94, Valin 1,15 dan 1,00, Fenilalanin 1,46 dan 1,97, Isoleusin 1,07 dan 1,00, Leusin 1,94 dan 1,09, Lisin 3,50 dan 3,00. % bk

Kata kunci: Asam amino; Karakteristik fungsional; Koro pedang; Protein; Kecambah.

Functional Properties and Amino Acids Profile of Jack Bean (*Canavalia ensiformis* L.) Sprout Flour

Abstract

Jack bean as a source of vegetable protein had not been popular. Seed germination had been known to improve its functional properties. The purpose of this study was to know the effect of germination on functional properties, chemical properties, and amino acids of jack bean seed and sprout flour. The experiment design of this research was randomized complete design with the single factor, that was germination time for 0, 24, 48 and 72 hours, respectively. The sprouts flour was analyzed water absorption capacity, oil absorption capacity, foaming capacity, emulsifying capacity, the total protein content, dissolved protein, water content, and amino acids. The results of this study indicated that the longer of germination time increased the oil capacity, water absorption capacity, the capacity of foaming and decreased the emulsion capacity. While the total protein of seeds (control), 0, 24, 48, and 72 hours were 23.4; 22.6; 21.2; 22.5; 23.9% db respectively. Jack bean sprouts that was germinated for 72 h contained the highest protein content and this treatment was chosen as the best sprout flour that was analyzed their amino acid profile compared to seeds (control). The amino acids content in the jack bean sprout flour compared with original seeds were L. Aspartic acid yaitu 2,54 and 2,51, L. Glutamic acid 2,90 and 2,80, L. Asparagine, 0,75 and 0,70, L. Histidine+L-serine 2,12 and 1,59, L. Glutamin 0,17 and 1,00, L. Threonine 2,35 and 2,80, L. Glycine 1,43 and 1,00, L-Arginin 1,05 and 1,40, L. Alanine 1,48 and 1,01, L. Tyrosine 0,30 and 0,93, L. Thryptophan+L-Methionine 1,15 and 0,94, L. Valine 1,15 and 1,00, L. Phenylalaline 1,46 and 1,97, L. Isoleucine 1,07 and 1,00, L. Leucine 1,94 and 1,09, L. Lycine 3,50 and 3,00.% db respectively.

Keywords: Amino acids; Functional characteristics; Jack bean; Protein; Sprouts.