

Title Characterization of hyacinth bean (*Lablab purpureus* (L.) Sweet) seeds from Indonesia and their protein isolate

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Abstract

Hyacinth bean (*Lablab purpureus* (L.) sweet) seeds from Indonesia were characterized for the purposes of usage as a protein source. Protein isolate was prepared from the seeds using an isoelectric method, which was also used to characterize the physicochemical and functional properties. Hyacinth bean seeds have a moderate concentration of protein ($17.1 \pm 1.5\%$), and low concentration of HCN (1.1 ± 0.1 mg/100 g). However, before using the seeds as food, some treatments are needed to reduce their anti-nutritional factors, since the contents of trypsin inhibitor and phytate are 0.15 ± 0.02 TIU/mg and 18.9 ± 0.2 mg/g, respectively. Using the isoelectric preparation, the yield of protein isolate was low (7.38 ± 0.2 g per 100 g of the seeds), but the protein isolate had good colour, neutral odour, high protein content ($89.8 \pm 0.82\%$), and low ash ($2.97 \pm 0.36\%$). The protein isolate also had good functional properties, such as solubility, foaming capacity, and emulsifying activity. However, the foaming and emulsifying stabilities were low.