



## EFFECT OF GERMINATION ON CHEMICAL COMPOSITION, ANTI-NUTRITIONAL FACTORS, FUNCTIONAL PROPERTIES AND NUTRITIONAL VALUE OF KIDNEY BEAN (*PHASEOLUS VULGARIS*)

Mandeep Singh Sibian<sup>1,2\*</sup>, Charanjit Singh Riar<sup>2</sup>

<sup>1</sup>University Institute of Applied Health Sciences,  
Chandigarh University, Gharuan, (Mohali), India

<sup>2</sup>Department of Food Engineering and Technology,  
Sant Longowal Institute of Engineering and Technology,  
Longowal (Sangrur), India  
✉ [mdeepsibian@yahoo.com](mailto:mdeepsibian@yahoo.com)

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### ABSTRACT

The aim of this study was to analyze the impact of germination on the proximate composition, trace elements, anti-nutritional factors and amino acid profile of kidney bean. Results revealed positive effect of germination on the composition and nutritional attributes. Anti-nutritional factors (trypsin inhibitor, phytic acid, tannins, polyphenols and oxalates) decreased during germination which ensure the high bioavailability of minerals and other nutritional components. Protein content of sprouted beans was higher and leads to more available amino acids and its nutritional value. Essential amino acid content of beans increased after germination and inter-conversion of amino acids lead to lower non-essential amino acids. Amino acid profile revealed higher essential amino acid index (EAAI), protein efficiency ratio and nutritional index after germination. The nutritional value of amino acid was further analyzed by observing the amino acid score w.r.t. the pattern described by FAO, which showed improved nutritional value of essential and limiting amino acids.

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