



ELSEVIER

P52

Food
Chemistry

Food Chemistry 66 (1999) 115–119

Analytical, Nutritional and Clinical Methods Section

Proximate composition, mineral and amino acid content of mature *Canavalia gladiata* seeds

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Received 24 September 1998; received in revised form and accepted 29 December 1998

Abstract

The chemical composition and the nutritional quality of protein and carbohydrates of mature seeds of *Canavalia gladiata* (L.) were investigated. The whole and cotyledon flour of mature seeds contained; crude protein 26.8 and 29.2%; fat 2.8 and 3.1%; fibre 33.2 and 10.2%; ash 3.9 and 4.3%; carbohydrate 33.3 and 53.2% on dry matter basis respectively. The carbohydrate fractions have starch contents of 30.7 and 39.6% and 27.7 and 34.6 mg g⁻¹ low molecular weight carbohydrates on dry matter basis. The energy content of whole seed and cotyledon flour was 11,082 and 14,923 kJ kg⁻¹. Sucrose represents the highest fraction of low molecular weight carbohydrates with fructose being the lowest. The mineral analysis showed K, Mg, Ca, P and S to be present in high quantities. The essential amino acid profile compared well with FAO/WHO recommended pattern except for sulphur containing amino acids, cysteine and methionine. Therefore the chemical composition of the raw mature seeds of *Canavalia gladiata* (kernel) indicates the bean to be a good supplement to cereal-based diets. © 1999 Elsevier Science Ltd. All rights reserved.