

Analysis of functional properties of peanut protein isolates as affected by oil extraction methods

TAMBA S. SONDA AND SANPHA KALLON

The physico-chemical and functional characteristics of peanut protein isolates extracted from peanut cakes obtained as by-products from two different peanut oil extraction methods (cold pressed and heat pressed) were studied. Isolates from cold pressed method (CPI) exhibited superior physical properties such as particle size (as seen from scanning electron micrographs), and thermal denaturation profiles as obtained from differential scanning calorimeter, compared to isolates obtained from heat pressed method (HPI). Solubility profiles obtained for CPI and HPI were pH dependent with CPI been more soluble at all pH levels. Solubility around the isoelectric pH range of 4.5 – 5.5 was low for both samples. Other functional properties such as emulsification, whipping, fat and water absorption were better exhibited by CPI than HPI. From the SE-HPLC, HPI recorded a higher molecular weight (16.64KDa) than CPI (14.91KDa), while CPI had higher biochemical components (protein, carbohydrates) than HPI.

Key Words : Peanut protein isolate, Physical, Functional, Chemical properties

How to cite this article : Sonda, Tamba S. and Kallon, Sanpha (2016). Analysis of functional properties of peanut protein isolates as affected by oil extraction methods. *Food Sci. Res. J.*, 7(2): 148-155, DOI : 10.15740/HAS/FSRJ/7.2/148-155.

MEMBERS OF RESEARCH FORUM

Author for correspondence :

TAMBA S. SONDA, Institute of Food Technology, Nutrition and Consumers Studies, Schools of Agriculture, Njala University, SIERRA LEONE (WEST AFRICA)

Email : tssonda@njala.edu.sl/sondats@hotmail.com

Associate Authors' :

SANPHA KALLON, Department of Animal Science, School of Agriculture, Njala University, SIERRA LEONE (WEST AFRICA)

Email : Kallonsanpha@yahoo.com
