

Incorporation of Groundnut Meal in Selected Products after Removal of Aflatoxin

Shashi Jain, Dashrath Bhati* and Neha Saxena

Department of Foods and Nutrition, College of Home Science, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India
**E-mail: bhati.dashrath1@gmail.com*

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ABSTRACT Groundnut meal is the high protein by-product remaining after commercial extraction of peanut oil. Groundnut meal applications are limited because of typical high concentrations of aflatoxin. In the present study technology was developed to prepare protein rich powder from an oil extracted groundnut. To make the meal free from aflatoxin four treatments were employed viz. ether treatment, heat treatment, acid-alkali treatment and homestead acid-alkali treatment. After each treatment, the powder was subjected to analysis of protein and aflatoxin and acceptability for sensory characteristics. A reduction ranged from 17.86 to 100 percent of aflatoxin and 29.17 to 70.47 percent of protein. A comparative evaluation of four powders indicated that homestead acid alkali treatment is free from aflatoxin and containing 10.09gm of protein. This powder was incorporated in three products, that is, *batti*, *besan laddu*, and sweet biscuits at 35 and 50 percent level. Acceptability was assessed on 9 point hedonic rating scale. The mean overall acceptability of reference, 35 percent and 50 percent incorporated *batti* were 8.1, 7.2 and 6.3, *besan laddu* 8.0, 7.3 and 6.8 sweet biscuits 7.6, 7.4 and 6.5 respectively, revealing that the developed powder is acceptable at moderate level in various products. No significant difference ($P>0.05$) was found between reference and 35 percent incorporated product and between 35 and 50 percent incorporated products. However, the 50 percent incorporated product scored significantly lower than the reference, specifically for colour and appearance. The study concluded that aflatoxin can be removed from groundnut meal and further, can be used in different recipes as protein source.