

ABSTRACT

**STUDIES ON PREPARATION OF DIETARY
FIBRE FROM FRESH COCONUT KERNEL**

by

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The present investigations were carried out to standardize method to isolate dietary fibre from fresh coconut kernel, to study the composition of such dietary fibre and to utilize it in the preparation of acceptable cookies.

Coconut flour was prepared from the residue left after the extraction of oil from fresh kernel by KOMET DD 85 oil expeller. The flour contained (g/100g) moisture 3.69, fat 13.43, crude fibre 9.27, protein 21.76, total sugars 18.80 and ash 5.12. The fibre components in

flour were (%): neutral detergent fibre 38.26, acid detergent fibre 24.23, hemicellulose 14.02, and cellulose 10.3.

Among the various solvents tested, dilute sodium hydroxide (pH 13) was found to extract maximum proteins while hot ethanol (80 % v/v) removed most of the sugars from the solvent - defatted and deproteinized coconut flour. The process standardized was found to yield about 33 per cent purified coconut fibre. The isolated fibre contained 23.11 per cent crude fibre, 81.36 per cent neutral detergent fibre, 44.5 per cent acid detergent fibre, 36.86 per cent hemicellulose, 16.1 per cent cellulose and 1.23 per cent ash.

The isolated fibre was used in preparation of cookies at 10 and 20 per cent level of substitution to wheat flour. The cookies prepared with 10 per cent level of substitution were acceptable with greater than 7 points for sensory score. The cookies with 20 per cent fibre scored very close to the control when recipe contained 60 per cent sugar and 80 per cent fat . The cookies with coconut fibre (20 %) contained significantly higher NDF (6.05 to 7.61 %) as compared to control cookies (0.87 %).