



# ANNUAL SCIENTIFIC SESSIONS OF THE NUTRITION SOCIETY OF SRI LANKA 2024

## PROCEEDINGS



**THE NUTRITION SOCIETY OF SRI LANKA**

"Towards Health and Wellness with Personalized Nutrition in a  
Challenging Era"

**Physico-chemical and Nutritional Properties of Dehydrated Defatted Coconut Flour-incorporated Sandwich Bread**

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Defatted desiccated coconut flour (DDCF) is prepared from the pressed cake virgin coconut oil production process and it is rich in edible fiber. This research aims to develop a low-gluten, high-fiber sandwich bread partially substituting wheat flour from DDCF. The DDCF was separated using the three sieve sizes ( $>500\ \mu\text{m}$ ,  $500\text{-}150\ \mu\text{m}$ , and  $<150$ ), and flour properties (oil absorption, water absorption) of each category were analyzed with wheat flour as the control. Different sieve sizes of DDCF were used for sandwich bread preparation and sensory properties were tested. Six composite flour samples were prepared to make sandwich bread with varying proportions of DDCF (without sieving) and wheat flour (T1- 0% DDCF, T2-5% DDCF, T3-10% DDCF, T4-15% DDCF, T5-20% DDCF, and T6-25% DDCF flour). The proximate composition and texture of each bread were analyzed. The treatments were arranged in a completely randomized design, and data were analyzed using Minitab 19 software. Significantly high oil absorption ( $9.40\pm0.00\ \text{g/ml}$ ) and water absorption ( $9.00\pm0.00\ \text{g/ml}$ ) were observed in wheat flour while significantly higher solubility has resulted in the  $500\text{-}150\ \mu\text{m}$  sieved size having DDCF. The sieve size of DDCF is not affected by the sensory properties of bread and dough properties. Significantly high textural properties and hardness have resulted in T5 treatment ( $5217\pm505\ \text{g}$ ). DDCF 5-15% has a similar texture to 100% of wheat flour bread. However, the crude fiber content increased with the DDCF, and gluten protein and starch were reduced with the substitution of wheat flour. Based on the results of the study, a 5-15% substitution of DDCF for making sandwich bread is recommended.

**Keywords:** Defatted desiccated coconut flour, Sandwich bread textural properties, Proximate composition

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