

**POTENTIAL OF KENAF (*Hibiscus Cannabinus. L*)
SEED PROTEIN CONCENTRATE AS
ALTERNATIVE IN FOOD FORMULATION**

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ABSTRACT

POTENTIAL OF KENAF (*Hibiscus Cannabinus. L*) SEED PROTEIN CONCENTRATE AS ALTERNATIVE IN FOOD FORMULATION

This study was conducted to evaluate the protein concentrate of kenaf (*Hibiscus cannabinus L.*) seeds as an alternative ingredient in food formulations. Protein ingredients enhance nutritional value and functionality in food products, with demand driven by changing dietary habits and a growing interest in plant-based sources. Kenaf seed (KS) is rich in amino acids, lipids, and dietary fibers, positioning it as a promising plant-based protein alternative that addresses food allergenicity and halal dietary requirements. Malaysians' average protein intake is below the WHO recommendation, highlighting a need for new protein sources. Kenaf seed protein offers a non-allergenic, plant-based alternative that can improve dietary protein intake and support sustainable food production. Alkaline extraction was used to extract protein from defatted kenaf seed followed by cold precipitation. The resulting concentrate yielded 46.51% protein content. Amino acid profiling through HPLC analysis showed the balance between the essential and non-essential amino acids. In functional properties test, the water and oil absorption capacities were observed as 1.06 g/g and 1.10 g/g, while the values for emulsion capacity and stability were 68.00% and 53.96% respectively. These characteristics suggest that kenaf seed protein concentrate could be suitable for various food applications, particularly in products requiring emulsification and water retention. Comparative analysis with other plant-based proteins indicates kenaf as a promising alternative, potentially competing with established sources like soy. Further research into optimizing extraction methods and exploring specific food applications is recommended to fully realize the potential of kenaf seed protein in food formulations.