

ABSTRAK

Ignacia Darlene Benedicta Karoline Sitanggang: *Analisis Daya Terima dan Fisikokimia Rice Crackers Dengan Penambahan Hati Ayam Sebagai Camilan Sumber Zat Besi*. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2026

Anemia defisiensi zat besi, masih menjadi masalah kesehatan di Indonesia dengan prevalensi cukup tinggi pada berbagai kelompok usia. Kondisi ini berkaitan dengan rendahnya asupan zat besi akibat pola konsumsi masyarakat yang cenderung mengonsumsi makanan yang umumnya tinggi energi tetapi rendah kandungan gizi makro dan mikro (zat besi). Hati ayam merupakan salah satu bahan pangan hewani yang memiliki kandungan zat besi tinggi dan bioavailabilitas yang baik, sehingga berpotensi digunakan sebagai bahan tambahan pada produk pangan, termasuk camilan seperti *rice crackers*. Penelitian ini bertujuan untuk menganalisis kandungan gizi dan daya terima *rice crackers* dengan penambahan hati ayam sebagai camilan sumber zat besi.

Tempat penelitian akan dilakukan di Laboratorium Gizi Jurusan Pendidikan Kesejahteraan Keluarga, Program Studi Gizi, Fakultas Teknik, Universitas Negeri Medan, Laboratorium PT. Saraswanti Indo Genetech Bogor untuk analisis zat besi dan Laboratorium Fakultas Teknologi Pertanian Universitas Andalas untuk analisis tekstur. Waktu penelitian dilakukan pada bulan Desember 2025. Uji daya terima dilakukan dengan uji organoleptik menggunakan metode hedonik dan mutu hedonik terhadap 30 panelis mahasiswa gizi dengan parameter warna, aroma, rasa, tekstur dan keseluruhan. Teknik analisis data yang digunakan adalah uji Kruskal Wallis dan uji lanjut Mann-Whitney. Formula *rice crackers* terpilih selanjutnya dilakukan analisis kandungan gizi yang meliputi energi, karbohidrat, protein, lemak, kadar air, kadar abu, natrium, zat besi, dan tekstur.

Hasil penelitian menunjukkan bahwa *rice crackers* dengan penambahan hati ayam berhasil dikembangkan. Uji hedonik menunjukkan perbedaan nyata pada warna, aroma, tekstur dan keseluruhan, dan mutu hedonik pada warna, aroma dan rasa. Formula terbaik ditentukan melalui Metode Perbandingan Eksponensial (MPE) dan diperoleh F2 sebagai formula terpilih. Analisis zat gizi menunjukkan bahwa 100 g *rice crackers* mengandung energi sebesar 404 kkal, karbohidrat 70,32 g, protein 22,21 g, lemak 3,78 g, natrium 7,99 mg, zat besi 4,88 mg, kadar air 1,98%, kadar abu 1,70% dan Analisis tektur dengan kekuatan tekan tekstur 9,62 N/cm² menunjukkan bahwa *rice crackers* memiliki tekstur yang renyah. Hasil analisis zat besi menunjukan bahwa *rice crackers* dengan penambahan hati ayam memenuhi klaim gizi sebagai camilan sumber zat besi.

Kata kunci: anemia, hati ayam, *rice crackers*, zat besi.

ABSTRACT

Ignacia Darlene Benedicta Karoline Sitanggang: *Analysis of the Acceptability and Physicochemical Properties of Rice crackers with Added Chicken Liver as an Iron-Rich Snack*. Thesis. Faculty of Engineering, State University of Medan. 2026

Iron deficiency anemia remains a health problem in Indonesia with a high prevalence in various age groups. This condition is related to low iron intake due to dietary patterns that tend to consume foods that are generally high in energy but low in macro and micro nutrients (iron). Chicken liver is one animal-based food ingredient that is high in iron and has good bioavailability, making it a potential ingredient for fortifying food products, including snacks such as rice crackers. This study aims to analyze the nutritional content and acceptability of rice crackers with added chicken liver as an iron-rich snack.

The research will be conducted at the Nutrition Laboratory of the Department of Family Welfare Education, Nutrition Study Program, Faculty of Engineering, Medan State University, the PT. Saraswanti Indo Genetech Laboratory in Bogor for iron analysis, and the Faculty of Agricultural Technology Laboratory at Andalas University for texture analysis. The research will be conducted in December 2025. Acceptance testing will be conducted using organoleptic testing with hedonic and hedonic quality methods on 30 nutrition student panelists with parameters of color, aroma, taste, texture, and overall quality. The data analysis techniques used were the Kruskal Wallis test and the Mann-Whitney follow-up test. The selected rice cracker formula was then analyzed for nutritional content, including energy, carbohydrates, protein, fat, moisture content, ash content, sodium, iron, and texture.

The results showed that rice crackers with added chicken liver were successfully developed. Hedonic testing revealed significant differences in color, aroma, texture, and overall quality, as well as hedonic quality in color, aroma, and taste. The best formula was determined using the Exponential Comparison Method (ECM), and F2 was selected as the preferred formula. Nutritional analysis showed that 100 g of rice crackers contained 404 kcal of energy, 70.32 g of carbohydrates, 22.21 g of protein, 3.78 g of fat, 7.99 mg of sodium, 4.88 mg of iron, moisture content of 1.98%, ash content of 1.70%, and texture analysis with a texture compressive strength of 9.62 N/cm² showed that rice crackers have a crispy texture. The results of iron analysis showed that rice crackers with the addition of chicken liver meet the nutritional claim as a snack source of iron.

Keywords: *anemia, chicken liver, rice crackers, iron.*