

ABSTRAK

Zahratul Wilda: Analisis Daya Terima dan Fisikokimia Rice Crackers dengan Penambahan Hati Ayam dan Tepung Kedelai sebagai Selingan Sumber Protein. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2026

Rendahnya kandungan protein pada produk *rice crackers* yang beredar di pasaran sehingga kontribusinya sebagai selingan sumber protein masih terbatas. Pemenuhan protein hewani masyarakat masih belum sesuai dengan proporsi yang dianjurkan. Hati ayam sebagai sumber protein hewani yang memiliki potensi untuk meningkatkan nilai gizi produk pangan, namun pemanfaatannya terbatas. Penambahan tepung kedelai sebagai sumber protein nabati dipertimbangkan untuk memperbaiki karakteristik produk. Penelitian ini bertujuan untuk mengetahui daya terima, analisis kandungan fisikokimia, serta perhitungan kontribusi protein terhadap kebutuhan harian berdasarkan takaran saji.

Penelitian dilakukan di Laboratorium Gizi Fakultas Teknik Universitas Negeri Medan dan di Laboratorium Fakultas Teknologi Pertanian Universitas Andalas. Waktu penelitian dilakukan pada bulan November 2025 sampai Desember 2025. Alat dan bahan penelitian yang digunakan meliputi alat dan bahan yang digunakan untuk membuat produk *rice crackers* dan analisis. Desain penelitian ini merupakan penelitian eksperimen dengan Rancangan Acak Lengkap (RAL) yaitu satu perlakuan kontrol (F0) dan tiga perlakuan penambahan hati ayam dan tepung kedelai, yaitu F1 (15%:10%), F2 (35%:15%), dan F3 (52,5%:22,5%), dengan dua kali pengulangan. Pengujian meliputi uji daya terima menggunakan uji hedonik dan mutu hedonik oleh panelis semi terlatih yaitu 30 mahasiswa gizi. Data organoleptik dianalisis menggunakan uji *Kruskal-Wallis* dan dilanjutkan dengan uji *Mann-Whitney* apabila terdapat perbedaan yang signifikan.

Hasil penelitian menunjukkan bahwa *rice crackers* dengan penambahan hati ayam dan tepung kedelai berhasil dikembangkan, terdapat perbedaan nyata dan memenuhi klaim gizi sebagai sumber protein. Uji hedonik *rice crackers* menunjukkan adanya perbedaan tingkat kesukaan pada warna, tekstur, rasa dan penilaian kesuruhan. Uji mutu hedonik menunjukkan perbedaan warna, aroma, tekstur dan rasa. Formula terpilih ditentukan berdasarkan yang paling diminati oleh panelis adalah formula F2. *Rice crackers* F2 memiliki kekuatan tekan tekstur 18,08 N/cm² dan mengandung nilai gizi per 100 g energi sebesar 430 kkal, lemak 8,44 g, protein 24,6 g, karbohidrat 63,97 g, natrium 233,46 mg, kadar air 1,49% dan kadar abu 1,50%.

Kata kunci: Pemenuhan protein, hati ayam, tepung kedelai, daya terima, *rice crackers*.

ABSTRACT

Zahratul Wilda: Acceptability and Physicochemical Analysis of Rice Crackers with the Addition of Chicken Liver and Soybean Flour as an Intermediate Protein Source. Thesis. Faculty of Engineering, State University of Medan. 2026

The low protein content of rice crackers on the market limits their contribution as an alternative protein source. The public's animal protein intake still falls short of the recommended proportions. Chicken liver, a source of animal protein, has the potential to increase the nutritional value of food products, but its utilization is limited. The addition of soy flour as a vegetable protein source is considered to improve product characteristics. This study aimed to determine acceptability, analyze the physicochemical content, and calculate the protein contribution to daily requirements based on serving sizes.

The study was conducted in the Nutrition Laboratory of the Faculty of Engineering, State University of Medan and in the Laboratory of the Faculty of Agricultural Technology, Andalas University. The study period was from November 2025 to December 2025. The tools and materials used included those used to make rice crackers and analysis. This study design was an experimental study with a Completely Randomized Design (CRD): one control treatment (F0) and three treatments of chicken liver and soy flour addition: F1 (15%:10%), F2 (35%:15%), and F3 (52.5%:22.5%), with two replications. The testing included acceptability using hedonic tests and hedonic quality tests by semi-trained panelists, consisting of 30 nutrition students. Organoleptic data were analyzed using the Kruskal-Wallis test, followed by the Mann-Whitney test if significant differences were found.

The results showed that rice crackers with the addition of chicken liver and soybean flour were successfully developed, with significant differences and meeting the nutritional claims as a source of protein. The hedonic test of the rice crackers revealed differences in preference for color, texture, taste, and overall satisfying. The hedonic quality test revealed differences in color, aroma, texture, and taste. The selected formula, based on the panelists' preference, was Formula F2. Rice crackers F2 have a compressive strength of 18.08 N/cm² and contain nutritional values per 100 g of energy of 430 kcal, fat 8.44 g, protein 24.6 g, carbohydrate 63.97 g, sodium 233.46 mg, moisture content 1.49%, and ash content 1.50%.

Keywords: Protein requirements, chicken liver, soybean flour, receptivity, rice crackers.