

RINGKASAN

ZAID AR RIJAL SHOBARIN SYAKUR. Fortifikasi Tepung Rumput Laut Merah (*Eucheuma cottonii*) Terhadap Kandungan Nilai Gizi dan Karakteristik Fisik Mi Kering. Dibimbing oleh JUMSURIZAL dan CINDYTIA PRASTARI.

Mi kering merupakan salah satu produk pangan yang banyak dikonsumsi masyarakat karena praktis, mudah diolah, dan memiliki daya simpan yang cukup panjang. Namun, mi kering konvensional umumnya didominasi oleh karbohidrat serta memiliki kandungan serat yang relatif rendah, sehingga diperlukan upaya pengembangan produk melalui penambahan bahan pangan fungsional. Salah satu bahan yang berpotensi digunakan adalah rumput laut merah *Eucheuma cottonii* karena memiliki kandungan serat dan mineral yang cukup tinggi. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung rumput laut merah *E. cottonii* terhadap karakteristik fisika-kimia mi kering. Penelitian dilaksanakan pada bulan Oktober hingga Desember 2025 di Laboratorium Science Marine Product dan pengujian sampel dilakukan di Laboratorium Institut Pertanian Bogor. Bahan utama yang digunakan meliputi tepung terigu, tepung *E. cottonii*, telur, garam, soda kue, air, dan CMC. Penelitian menggunakan tiga formulasi perlakuan, yaitu penambahan tepung *E. cottonii* sebanyak 3,38% (F1), 6,76% (F2), dan 10,14% (F3). Proses pembuatan mi meliputi pencampuran bahan, pengulenan, pembentukan lembaran mi, pengukusan setelah air mendidih selama 10 menit, serta pengeringan pada suhu 100°C selama 30 menit. Parameter yang dianalisis meliputi uji hedonik, analisis proksimat, uji tekstur menggunakan *texture analyzer*, analisis serat kasar, dan perhitungan kontribusi Angka Kecukupan Gizi (AKG). Data dianalisis menggunakan ANOVA dan dilanjutkan dengan uji Duncan pada taraf signifikansi 5%. Hasil penelitian menunjukkan bahwa penambahan tepung *E. cottonii* berpengaruh nyata terhadap karakteristik hedonik dan sebagian parameter proksimat mi kering, terutama kadar air, abu, lemak, dan karbohidrat. Namun, pengujian tekstur menggunakan *texture analyzer* menunjukkan tidak adanya perbedaan nyata antar perlakuan. Penambahan tepung rumput laut juga meningkatkan kandungan serat pada produk mi kering. Secara umum, formulasi dengan penambahan tepung *E. cottonii* mampu memberikan karakteristik fisika-kimia yang berbeda pada produk mi kering.

Kata kunci: Mi Kering, *Eucheuma cottonii*, Kandungan Kimia, Karakteristik Fisik, Tepung Rumput Laut, Pangan Fungsional

SUMMARY

ZAID AR RIJAL SHOBARIN SYAKUR. Fortification of Red Seaweed Flour (*Eucheuma cottonii*) on the Nutritional Content and Physical Characteristics of Dried Noodles. Supervised by JUMSURIZAL and CINDYTIA PRASTARI.

Dry noodles are one of the most widely consumed food products due to their practicality, long shelf life, and ease of preparation. However, conventional dry noodles are generally dominated by carbohydrates and contain relatively low dietary fiber, making nutritional improvement necessary through the addition of functional ingredients. One potential ingredient is red seaweed *Eucheuma cottonii*, which is known to contain high levels of fiber and minerals. This study aimed to determine the effect of adding *E. cottonii* seaweed flour on the physicochemical characteristics of dry noodles. The research was conducted from October to December 2025 at the Science Marine Product Laboratory, while sample analysis was carried out at the Laboratory of Institut Pertanian Bogor. The materials used included wheat flour, *E. cottonii* flour, eggs, salt, baking soda, water, and carboxyl methyl cellulose (CMC). The study consisted of three formulations with different concentrations of seaweed flour, namely 3,38% (F1), 6,76% (F2), and 10,14% (F3). The noodle production process included mixing, kneading, sheet formation, Steaming for 10 minutes after the water reached a boiling point, and drying at 100°C for 30 minutes. The parameters analyzed were hedonic test, proximate analysis, texture analysis using a *texture analyzer*, crude fiber analysis, and Recommended Dietary Allowance (RDA) contribution calculation. Data were analyzed using Analysis of Variance (ANOVA) followed by Duncan's multiple range test at 5% confidence level. The results showed that the addition of *E. cottonii* flour significantly affected hedonic characteristics and several proximate parameters of dry noodles, particularly moisture, ash, fat, and carbohydrate contents. However, texture analysis showed no significant differences among treatments. The addition of seaweed flour also increased the crude fiber content of the noodles. Overall, the incorporation of *E. cottonii* flour influenced the physicochemical characteristics of dry noodles and demonstrated its potential as a functional ingredient in noodle products.

Keywords: Dry Noodles, *Eucheuma cottonii*, Chemical Content, Physical Characteristics, Seaweed Flour, Functional Food