

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh variasi perbandingan gelatin ikan gabus (*Channa striata*) dan karagenan rumput laut merah (*Eucheuma spinosum*) terhadap karakteristik cangkang kapsul sebagai alternatif bahan kapsul halal. Cangkang kapsul dibuat dengan perbandingan gelatin dan karagenan 1:2, 1:3, 2:2, 3:1, dan 3:2, kemudian dievaluasi melalui uji spesifikasi, organoleptik, kadar air, kelarutan dalam air dan asam, FTIR, serta keseragaman bobot. Hasil menunjukkan seluruh formulasi menghasilkan cangkang berwarna putih, tidak berbau tengik, dan mampu larut dalam air maupun asam. Analisis FTIR mengonfirmasi keberadaan gugus fungsi khas gelatin dan karagenan. Formulasi 3:2 menunjukkan karakteristik terbaik sehingga berpotensi dikembangkan sebagai cangkang kapsul halal.

Kata kunci: *Channa striata*, *Eucheuma spinosum*, gelatin, karagenan, cangkang kapsul halal.

Abstract

This study aimed to evaluate the effect of different ratios of snakehead fish (*Channa striata*) gelatin and red seaweed (*Eucheuma spinosum*) carrageenan on the characteristics of capsule shells as a halal alternative material. Capsule shells were formulated at gelatin-to-carrageenan ratios of 1:2, 1:3, 2:2, 3:1, and 3:2, and evaluated for physical specifications, organoleptic properties, moisture content, water and acid solubility, FTIR analysis, and weight uniformity. The results showed that all formulations produced white capsule shells with no rancid odor and good solubility in both water and acidic media. FTIR analysis confirmed the presence of characteristic functional groups of gelatin and carrageenan. Among the tested formulations, the 3:2 ratio demonstrated the most favorable characteristics and showed potential for further development as a halal capsule shell material.

Keywords: *Channa striata*, *Eucheuma spinosum*, gelatin, carrageenan, halal capsule shell.