ABSTRAK

Produksi peptida kolagen yang sebagian besar berasal dari bahan baku mamalia seperti sapi dan babi kerap menjadi permasalahan karena adanya resiko penyebaran penyakit hewan menular. Peptida kolagen sebagai protein yang paling banyak ditemui pada sisik ikan, kulit dan tulang hingga saat ini pemanfaatannya dalam bidang farmasi dan kosmetik masih terus dikembangkan. Tujuan dari penelitian ini yaitu untuk mengetahui pengaruh konsentrasi asam asetat dan pepsin pada proses ekstraksi peptida kolagen sisik ikan bandeng terhadap perbedaan kualitas emulsifer yang dilihat berdasarkan uji batas-batas lapisan, viskositas dan persen transmitan. Hasil analisis proksimat meliputi analisis kadar air, kadar abu, kadar protein, dan kadar lemak telah memenuhi persyaratan Badan Standarisasi Nasional. Berdasarkan hasil uji sediaan emulsi diketahui bahwa sediaan emulsi peptida kolagen mengalami peningkatan persentase batas-batas lapisan yang signifikan ($p \leq 0,05$) yang artinya sediaan mengalami penurunan kestabilan selama penyimpanan. Hasil uji viskositas menunjukkan viskositas sediaan berada di kisaran 152,75 – 241,75 cP dengan persen transmitan semua variabel sediaan yaitu 0,0%. Kesimpulan dari penelitian ini yaitu ekstraksi peptida kolagen dengan konsetrasi asam asetat 1M dan pepsin 1% memberikan hasil peptida kolagen yang paling stabil dan memenuhi syarat pada pengujian batas-batas lapisan, viskositas serta uji persen transmitan.

Kata Kunci : Peptida kolagen, sisik ikan *Chanos chanos*, pengemulsi, batas lapisan.

ABSTRACT

The production of collagen peptides, which are mostly derived from mammalian raw materials such as cattle and pigs, is often a problem due to the risk of spreading infectious animal diseases. Collagen peptides as the most common protein found in fish scales, skin and bones, until now its use in the pharmaceutical and cosmetic fields is still being developed. The purpose of this study was to determine the effect of concentrations of acetic acid and pepsin on the collagen peptide extraction process of milkfish scales on differences in emulsifier quality as seen based on the test of layer boundaries, viscosity and percent transmittance. Proximate analysis results including analysis of water content, ash content, protein content, and fat content have met the requirements of the National Standardization Agency. Based on the results of the emulsion test it was found that the collagen peptide emulsion had a significant increase in the percentage of film boundaries ($p \leq 0,05$), which means that the preparation experienced a decrease in stability during storage. The results of the viscosity test showed that the viscosity of the preparation was in the range of 152,75 – 241,75 cP with the percent transmittance of all preparation variables, namely 0,0%. The conclusion of this study was that collagen peptide extraction with 1M acetic acid concentration and 1% pepsin gave the most stable results of collagen peptides and fulfilled the requirements in the coating boundary test, viscosity and transmittance percentage test.

Keywords: *Collagen peptides, Chanos chanos fish scales, emulsifiers, layer boundaries.*