

Karakteristik semisolid isinglass berbahan baku gelembung renang ikan patin (*Pangasius sp.*) dengan perbedaan perendaman konsentrasi asam asetat dan asam sitrat = Characteristic of semisolid isinglass from catfish (*Pangasius sp.*) swimbladder based on different concentration in acetic and citric acid solution / Wayan Nirmala Asty

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Abstrak

ABSTRAK

Nama : Wayan Nirmala Asty Program Studi : Magister Ilmu Kelautan Judul : Karakteristik Semisolid Isinglass Berbahan Baku Gelembung Renang Ikan Patin *Pangasius sp.* dengan Perbedaan Perendaman Konsentrasi Asam Asetat dan Asam Sitrat. Ikan patin *Pangasius sp.* merupakan salah satu produksi perikanan budidaya yang saat ini sedang dikembangkan oleh Indonesia, yang memiliki potensi ekspor serta harga jual yang cukup tinggi. Perkembangan produksi budidaya, sejalan dengan peningkatan industri pengolahan. Salah satu masalah yang timbul pada industri pengolahan, adalah limbah yang dihasilkan seperti darah, kulit, kepala, sisik, tulang, gelembung renang dan tulang. Limbah industri pengolahan yang masih dapat dimanfaatkan dan menghasilkan nilai ekonomis, adalah gelembung renang. Gelembung renang dapat diolah menjadi semisolid isinglass, yang merupakan produk antara intermediate product berbasis protein yang dapat berfungsi sebagai fining agent dan edible coating. Penelitian ini bertujuan untuk menganalisis karakteristik semisolid isinglass yang meliputi nilai pH, kadar air, protein, lemak, abu, dan asam amino. Gelembung renang ikan patin *Pangasius sp.* diberi perlakuan berupa perendaman dalam larutan asam asetat dan asam sitrat dengan konsentrasi 1, 1,5 dan 2. Berdasarkan hasil analisis, karakteristik semisolid isinglass yang direndam dalam larutan asam asetat dengan konsentrasi 1, 1,5 dan 2 memiliki rata-rata nilai pH antara 2,41-2,69; kadar air antara 98,97 -99,08 ; kadar abu 0 ; kadar lemak antara 0,20 -0,21 ; dan kadar protein antara 0,49 -0,53 . Semisolid isinglass yang direndam dalam larutan asam sitrat dengan konsentrasi 1, 1,5 dan 2 memiliki rata-rata nilai pH antara 1,75-1,94; kadar air antara 97,62 -98,55 ; kadar abu 0 , kadar lemak antara 0,11 -0,20 ; dan kadar protein antara 0,34 -0,49 . Hasil analisis 15 jenis asam amino, baik semisolid isinglass yang direndam dalam asam asetat maupun asam sitrat, hanya glisin dan prolin yang dapat dilakukan analisis karena keterbatasan deteksi limit detection .Berdasarkan hasil analisis ragam, perlakuan perendaman semisolid isinglass dalam larutan asam asetat dan asam sitrat dengan konsentrasi 1, 1,5 dan 2 memiliki pengaruh yang nyata terhadap nilai pH dan kadar air, namun tidak berpengaruh nyata terhadap kadar protein, lemak, prolin dan glisin. Kata Kunci : Asam asetat, asam sitrat, gelembung renang, ikan patin *Pangasius sp.* , isinglass.

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ABSTRACT

ABSTRACT Name Wayan Nirmala Asty Study Program Marine Science Title Characteristic of Semisolid Isinglass from Catfish *Pangasius sp.* Swimbladder Based on Different Concentration in Acetic and Citric Acid Solution. Catfish *Pangasius sp.* culture, currently is being developed in Indonesia. It has potential export value and high selling price. Fishing industry produce waste, such as blood, skin, head, scales, bones, swim bladder and intestine. Swim bladder has potency as raw material for edible coating and fining agent.

Swim bladder has economic value and can be processed into semisolid isinglass, which is a based protein intermediate product. This research was aimed to analyse semisolid isinglass characteristics pH, moisture, protein, fat, ash and amino acid content . Catfish *Pangasius sp.* swim bladder were soaked in acetic and citric acid solution consists of concentration 1 , 1,5 and 2 . Protein, fat and amino acid content were analysed using Kjeltex, Wellbull and UPLC respectively. Result of analysis showed that, the characteristics of semisolid isinglass that soaked in acetic acid solution consists of concentration 1 , 1,5 and 2 has average pH range between 2,41 2,69, moisture range between 98,97 99,08 , 0 for ash content, fat range between 0,20 0,21 and protein range between 0,49 0,53 .The characteristics of semisolid isinglass that soaked in citric acid solution consists of concentration 1 , 1,5 and 2 has average pH range between 1,75 1,94, moisture range between 97,62 98,55 , 0 for ash content, fat range between 0,00 0,47 and protein range between 0,11 0,20 . From 15 amino acids that has been observed, only glycine and proline can be processed using analysis of variance. Semisolid isinglass that soaked in acetic and citric acid solution consists concentration of 1 , 1,5 and 2 has significant effect on the pH value and moisture content, but did not has significant effect on protein, fat, proline and glycine content. Keywords Acetic acid, citric acid, catfish *Pangasius sp.* , isinglass, swim bladder.