PENGARUH LEVEL KONSENTRASI NaOH PADA PROSES *CURING* TERHADAP KUALITAS FISIK DAN KIMIA GELATIN KULIT KERBAU

Ershalat Tahta Nabhanudin

11/317506/PT/06054

INTISARI

Kebutuhan gelatin di Indonesia semakin hari semakin meningkat, oleh karena itu untuk memenuhi kebutuhan tersebut dilakukan impor gelatin. Kulit Kerbau kaya akan senyawa protein *fibrous.* Protein terbesar pada kulit kerbau yaitu protein kolagen yang memiliki potensi untuk diproses menjadi gelatin, sehingga dapat digunakan menjadi alternatif gelatin yang impor. Penelitian ini bertujuan untuk mengetahui karakteristik gelatin yang diproduksi dari kulit Kerbau. Produksi gelatin menggunakan 3 level konsentrasi bahan *curing* yaitu NaOH 0,25 M; 0,5 M; dan 0,75 M. Materi penelitian menggunakan 1800 gram kulit kerbau dengan 3 replikasi. Proses pembuatan gelatin dengan memotong kulit kerbau menjadi potongan 1x1 cm, ditimbang 200 gram, dan *curing* selama 2 jam pada 5-10^{o}C. Kemudian dicuci dengan air mengalir hingga ph netral, dan kemudian potongan-potongan itu diekstraksi pada 55^{o}C selama 36 jam. Tes gelatin meliputi tes fisik dan kimia. Tes kualitas fisik meliputi tes rendemen, kekuatan gel (kekuatan gel) dan viskositas, sedangkan tes kualitas kimia meliputi uji kadar udara, kadar abu, dan nilai pH. Data dari uji kualitas gelatin dianalisis dengan desain Anova satu arah. Jika ada perbedaan, kemudian diuji dengan *Duncan's New Multiple Range Test*. Hasil penelitian menunjukkan bahwa pengaruh tingkat *curing* NaOH tidak berbeda nyata (P> 0,05) terhadap rendemen, kekuatan gel, viskositas, kadar air, kadar abu, kadar lemak dan kadar protein. Rata-rata hasil pengujian yang diperoleh dari penelitian ini adalah 10,08% sampai 14,53%, kekuatan gel 5,14 *bloom* sampai 7,52 *bloom*, viskositas 3,94 *poise* sampai 4,13 *poise*, kadar air 8,16% sampai 9,6%, kadar abu 3,01% sampai 3,29%, kandungan protein 82,68% sampai 84,01%, kadar lemak 0,43% sampai 0,75% dan tingkat pH 9,10 sampai 10,17. Berdasarkan hasil kualitas fisik maupun kimia gelatin dapat disimpulkan bahwa metode proses pembuatan gelatin kulit kerbau belum efektif dan efisien. Kedepannya, dibutuhkan pengembangan metode proses pembuatan gelatin kulit kerbau sehingga menghasilkan kualitas mutu gelatin yang tinggi.

Kata kunci : Kulit kerbau, Gelatin, *curing,* Basa

EFFECT CONCENTRATION LEVELS OF NaOH ON CURING PROCESS FROM GELATIN PHYSICAL AND CHEMICAL QUALITY BUFFALO HIDE

Ershalat Tahta Nabhanudin

11/317506/PT/06054

ABSTRACT

Utilisation of gelatin for varians aplication in Indonesia, encreasing annually and to fullfill the demand of gelatin were supported by import. In other side Indonesia has local resources of buffalo hide which, also content huge protein fibrous. The buffalo collagen protein as well as other protein could be converted to potential gelatin and could subtituted gelatin from abroad. This research was aimed to produce and caracterise from buffalo hide. The production of gelatin used 3 levels of concentration, at were 0,25 M; 0,5 M; 0,75 M of NaOH. Research material used was 1800 gr of buffalo hide and was difided in to 3 treatment wtih 3 aplications. Gelatin processing was conducted by cutting of hide into small size (1x1 meters),weighed 200 gram and than cured 2 hours at 5-10°C. The material than wased and running water into neutral pH and the extractions was done at 55°C for 36 hours. The variable of gelatin quality physical and chemical properties. The physical quality were rendemen, *gel strength*, and viscosity. While chemical quality were water content, ash content, fat content and protein content and ph value. The colected data were analyzed using varians analysis of the one way design. The mind deferiented were calculated by Duncan's New Multiple Range Test. The results of the research showed that the NaOH *curing* levels datenote effect (P>0,05) on yield, *gel strength*, viscosity, moisture content, ash content, fat content and protein content. The average date of every variable were10.08% to 14.53% for rendemen; 5,14 bloom to 7,52 bloom for *gel strength*; 3,94 poise to 4,13 poise for viscosity; 8,16 % to 9.6% for moisture conten; 3.01% to 3.29% for ash content; 82.68% to 84.01% for protein content; 0.43% to 0.75% for fat content and of 9.10 to 10,17 for pH levels. Based on the results of physical and chemical quality of gelatin it can be concluded that the method of making buffalo hide gelatin is not effective and efficient. Future, it necessary to develop methods for the process of making buffalo hide gelatin to produce high quality gelatin quality.

Key words : buffalo hide, Gelatine, level concentration, NaOH