



PENGARUH LAMA CURING TERHADAP KUALITAS FISIK DAN KIMIA GELATIN KULIT SAPI

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INTISARI

Penelitian ini dilakukan dengan tujuan untuk mempelajari pengaruh lama curing terhadap kualitas kimia dan fisik gelatin kulit sapi. Materi penelitian adalah kulit sapi awetan garam basah umur 1-3 tahun. Kulit sapi dipotong menjadi 3 kelompok perlakuan dengan berat masing-masing bagian 1 kg. Kulit direndam dalam larutan yang berisi 10 l air, 2g/l Na_2S dan 40 g/l $\text{Ca}(\text{OH})_2$ (pH 12,5-13) selama 4, 8 atau 12 hari pada suhu 15°C di dalam *refrigerator*. Kulit di netralkan dengan larutan asam 0,1 M H_2SO_4 selama 1 hari diikuti dengan pencucian dengan air mengalir selama 1 jam. Kulit dipotong-potong kecil dan diekstraksi secara bertingkat di dalam *waterbath* pada suhu 70°C selama 12 jam dilanjutkan pada suhu 80°C selama 6 jam. Gelatin yang sudah terekstraksi disaring menggunakan kain saring. Larutan kemudian ditampung pada gelas beker dan dipekatkan dalam *waterbath* dengan suhu 60°C selama 6 jam. Hasil pemekatan dikeringkan dalam oven 105°C selama 24 jam. Gelatin kering kemudian di blender agar menjadi bubuk. Kualitas kimia gelatin meliputi kadar air, kadar abu, dan kadar protein, sedangkan kualitas fisiknya meliputi uji viskositas, uji kekuatan gel, dan *ekstraxability*. Data yang didapat diuji statistik dengan pola searah, dan perbedaan rerata perlakuan diuji DMRT. Hasil penelitian menunjukkan bahwa nilai viskositas gelatin yang di curing selama 4, 8, atau 12 hari adalah 6,50 cP, 6,39 cP, dan 6,29 cP, kekuatan gelnya 131,21 *Bloom*, 145,36 *Bloom*, dan 203,33 *Bloom*. Hasil uji *ekstraxability* gelatin yang di curing selama 4, 8, atau 12 hari menunjukkan hasil sebesar 19,81%, 21,09%, dan 19,33%. Kualitas kimia gelatin yang di curing 4, 8, dan 12 hari menunjukkan bahwa, kadar air gelatin sebesar 5,89%, 5,49%, dan 5,40%, kadar proteinnya adalah 90,03%, 90,08%, dan 87,88%, dan kadar abunya adalah 1,64%, 1,40%, dan 2,25%. Berdasarkan data dan uji statistik menunjukkan bahwa perlakuan lama *curing* 4, 8, dan 12 hari tidak berpengaruh terhadap kualitas gelatin baik fisik ataupun kimianya. Untuk menghasilkan gelatin dengan kualitas yang sesuai dengan standar, SNI perlu dilakukan curing selama 4 hari dalam suhu 15°C .

Kata Kunci : Kulit Sapi, Lama *Curing*, Ekstraksi, Kualitas Kimia, Kualitas Fisik, Pola Searah.



THE EFFECT OF THE DURATION OF CURING ON THE CHEMICAL AND PHYSICAL QUALITY OF GELATIN OF CATTLE HIDE

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ABSTRACT

This research was intended to study the effect of the duration of curing on the chemical and physical quality of gelatin of cattle hide. The research material used were the skin of cattle (age 1-3 years old) which was preserved with wet salt. Cattle hide used were divided into 3 groups of treatment and each had a weight of 1 kg. Those skins were put into the mixture of 10 l of water, 2g/l of Na_2S dan 40 g/l of $\text{Ca}(\text{OH})_2$ (pH 12.5-13) for 4 days, 8 days or 12 days in 15°C of. The skin was neutralized with 0,1 M H_2SO_4 of acid for 1 day and afterwards the skins were washed with flowing water for 1 hour. The skins were cut into small pieces and multilevel extracted in a waterbath with 70°C . Furthermore, they were extracted once again with 80°C for 6 hours. The gelatin that was extracted from the skins was filtered. The filtered gelatin liquid was poured into a beker glass and put into a waterbath with 60°C for 6 hours. The gelatin liquid was dried in an oven with 105°C for 24 hours. The dry gelatin was placed in a blender until it becomes gelatin powder. The chemical quality of the gelatin were moisture content, ash content, and protein content. Meanwhile the physical qualities tests include the test of viscosity, the test of gel strength, and extraxability. The data was statistically tested with one-way test while the mean difference was tested with DMRT. The results of this research were as follows. The viscosities of gelatine which was cured on 4 days, 8 days, or 12 days were 6.50 cP, 6.39 cP, and 6.29 cP, the gel strengths were 131.21 Bloom, 145.36 Bloom, and 203.33 Bloom, and the and extraxability test result were 19.81%, 21.09%, and 19.33%. The chemical qualities of gelatine which was cured on 4 days, 8 days, or 12 days were as follows. The moisture content were 5.89%, 5.49%, and 5.40%, the protein content were 90.03%, 90.08%, and 87.88%, the ash content were 1.64%, 1.40%, and 2.25%. According to the data which was tested with one way test, the result was there were no significant results among the durations of curing of 4 days, 8 days or 12 days on the gelatin quality both physical and chemical. According to the result, to produce gelatine which reach SNI standard, there should be 4 days curing process with a temperature of 15°C .

Key Words : Cattle Hide, Duration Of Curing, Extraction, Chemical Quality, Physical Quality, One Way