PENGARUH LEVEL KONSENTRASI BAHAN *CURING* TERHADAP KUALITAS FISIK DAN KIMIA GELATIN KULIT SAPI YANG DIPRODUKSI MELALUI PROSES BASA

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INTISARI

Kulit sapi kaya akan senyawa protein khususnya kolagen yang memiliki potensi untuk diproses menjadi gelatin sebagai substitusi gelatin impor. Penelitian bertujuan untuk mengetahui kualitas gelatin yang dihasilkan dengan level konsentrasi bahan *curing* yang berbeda. Produksi gelatin menggunakan bahan *curing* basa yaitu NaOH dengan konsentrasi 0,25 M, 0,5 M, dan 0,75 M. Materi penelitian digunakan kulit sapi Peranakan Ongole 200 g dengan 3 kali replikasi. Kulit dipotong-potong 1x1 cm, ditimbang, dan *curing* selama 2 jam pada suhu 5 sampai 10^{o}C. Kemudian dicuci dengan air mengalir hingga pH 7 sampai 8. Kulit diekstraksi pada suhu 55 ^{o}C selama 36 jam. Pengujian gelatin meliputi uji kadar air, uji kadar abu, uji kadar protein, rendemen, viskositas, kekuatan gel, dan distribusi berat molekul. Data hasil uji kualitas gelatin dianalisis dengan variansi pola searah apabila terdapat perbedaan yang nyata dilanjutkan dengan uji *Duncan's New Multiple Range Test*. Hasil penelitian menunjukan bahwa pengaruh level konsentrasi *curing* NaOH tidak berbeda nyata (P>0,01) terhadap rendemen, kekuatan gel, dan kadar air, tetapi berbeda nyata (P<0,01) terhadap viskositas, kadar abu, dan kadar protein. Rata-ata hasil uji gelatin kulit sapi yang diperoleh dari penelitian ini yaitu rendemen 11,60% sampai 27,60%, kekuatan gel 2,70 *bloom* sampai 138,79 *bloom*, viskositas 3,30 *poise* sampai 3,58 *poise*, kadar air 5,35% sampai 9,18%, kadar abu 2,95% sampai 3,75%, kadar protein 81,00% sampai 85,43%. Gelatin yang diproduksi menggunakan bahan curing NaOH 0,75 M memperlihatkan karakteristik yang terbaik secara fisik dan kimia yaitu dengan rendemen 12,22%, viskositas 3,55 *poise*, kekuatan gel 138,80 *bloom*, kadar air 6,77%, kadar abu 3,71%, dan kadar protein 85,01%.

Kata kunci : Kulit sapi, Gelatin, Proses basa, Kualitas gelatin

EFFECT OF CONCENTRATION LEVEL ON QUALITY PHYSICAL AND CHEMICAL PROPERTIES OF CATTLE HIDE GELATIN PRODUCED BY ALKALI PROCESS

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ABSTRACT

Cattle hide is rich in protein, especially collagen. This collagen can be processed into gelatin. The aim of this study was to determine quality of gelatin which processed many different level of alkaline curing. Gelatin production was cured in NaOH at a concentration of 0.25 M, 0.5 M and 0.75 M. Material used in this study was 200 gram cattle hide with tree replications. The hide was cut into pieces of 1x1 cm, and curing for two hours at 5 to 10ºC. Then washed with water to pH 7-8. Extraction was conducting at temperature of 55 ºC for 36 hours. The gelatin product was analyzed for water, ash, protein conten, yield, viscosity, gel strength, and molecular weight distribution. The data were analyzed using One Way Anova design. The significant differences, were analyzed using *Duncan's New Multiple Range Test.* Result of study showed that yield, gel strength, and water content was not significant difference (P>0,05), while curing process affected on viscosity, ash content, and protein content (P<0,05). Gelatin quality parameters yield 11.60% to 27.60%, gel strength 2.70 *bloom* to 138,79 *bloom*, viscosity 3.30 *poise* to 3.75 *poise*, water content 5.35% to 9.18%, ash content 2.95% to 3.75%, protein content 81.00% to 85.43%. Gelatin was prepared any 0.75 M NaOH exihibited the finest characteristics of physical and chemical quality with yield 12.22%, viscosity 3.55 *poise*, gel strength 138.80 *bloom*, water content 6.77%, ash content 3.71%, and protein content 85.01%.

Key words : Gelatin, Kolagen, Curing, Gelatin Quality