



## **EKSTRAKSI DAN KARAKTERISASI GELATIN DARI CEKER AYAM BROILER MENGGUNAKAN ENZIM BROMELIN**

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### **INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan enzim bromelin pada produksi gelatin dari ceker ayam *broiler*. Perlakuan dalam penelitian merupakan level dari konsentrasi enzim yang terdiri dari P0: 0 u/g, P1: 2 u/g, P2: 4 u/g, dan P3: 6 u/g. Parameter uji yang dilakukan meliputi uji rendemen, pH, kekuatan gel, kadar air, kadar abu, dan kadar protein. Analisis statistik dilakukan dengan analisis variansi rancangan acak lengkap pola searah dan apabila menunjukkan perbedaan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa penambahan level konsentrasi enzim bromelin pada ekstraksi gelatin ceker ayam berpengaruh nyata ( $P < 0,05$ ) meningkatkan rendemen dan kadar protein, sedangkan nilai pH dan kekuatan gel terjadi penurunan. Perlakuan tidak berpengaruh nyata ( $P > 0,05$ ) terhadap kadar air dan kadar abu. Perlakuan yang menghasilkan parameter uji tertinggi, yaitu perlakuan P3: 6 u/g pada nilai rendemen 17,31%, kadar air 9,77%, kadar abu 14,41%, kadar protein 85,52% serta perlakuan P0: 0 u/g pada nilai pH 5,7 dan kekuatan gel 95,77 *bloom*. Kesimpulan penelitian adalah peningkatan konsentrasi enzim bromelin mampu meningkatkan rendemen, kadar protein namun menurunkan nilai pH dan kekuatan gel gelatin ceker ayam *broiler*. Penambahan enzim bromelin 6 u/g merupakan level optimal untuk mendapatkan gelatin berdasarkan peningkatan rendemen dan sifat kimia yang memenuhi standar SNI.

Kata kunci : ceker ayam, bromelin, gelatin, karakterisasi



## **EXTRACTION AND CHARACTERIZATION OF GELATIN FROM BROILER CHICKEN USE BROMELIN ENZYME**

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### **ABSTRACT**

This study aims to find out the effect of the use of bromelain enzyme on the production of gelatin from broiler chicken claw. This research was conducted by making gelatin from broiler chicken claw with 3 treatments. Treatment P0 with a concentration of 0 u/g, treatment P1 with an enzyme concentration of 2 u/g, treatment P2 with an enzyme concentration of 4 u/g, and treatment P3 with an enzyme concentration of 6 u/g. The test parameters included the yield test, pH, gel strength, water content, ash content, and protein content. Statistical analysis was carried out by analyzing variance in a completely randomized design with a unidirectional pattern and if it showed a difference, it was continued with the Duncan Multiple Range Test (DMRT). The results showed that the addition of bromelain enzyme in the extraction of chicken claw gelatin had a significant effect ( $P < 0.05$ ) in increasing the yield and protein content but the pH value and gel strength are decrease. The treatments had no significant effect ( $P > 0.05$ ) on the water content and ash content. Treatment P3: 6 u/g produce the highest parameter test in yield 17,31%, water content 9,77%, ash content 14,41%, protein contain 85,52%, and treatment P0: 0 u/g produce the highest parameter test in pH value 5,7 and gel strength 95,77 bloom. The conclusion of the study was that bromelain concentrations up to 6 u/g were able to increase the yield and protein content but decrease the pH value and gel strength of broiler chicken claw gelatin. The addition of bromelain enzyme concentration of 6 u/g is the optimal level for obtaining gelatin based on the increase in yield and chemical properties that meet the Indonesian National Standard.

**Keywords:** Chicken claw, bromelain enzyme, gelatin, gelatin characterization.