

## Quality of Chicken Feather Processed in Different Conditions

<b>Title</b>	Quality of Chicken Feather Processed in Different Conditions
<b>Author Order</b>	of
<b>Accreditation</b>	
<b>Abstract</b>	<p>Abstract. The objective of this research was to evaluate the hydrolyzed chicken feather based on pepsin digestibility and nutrient content, after physico-chemical and biological process. It was carried out by experimental methods at feed and nutrition laboratory. The treatments were hydrolyzed feather meals immersed in 0.5% NaOH and Na<sub>2</sub>S solution for 0, 2, 4, 6 and 8 hours, each treatment was repeated three times. The results showed that chemical treatment (NaOH-Na<sub>2</sub>S) in various time of incubation at 60oC followed by fermentation using Bacillus sp. MTS at 37oC for four days decreased the protein of hydrolyzed feather (78.88 to 73.06%), but increased the keratin fiber (1.9 to 3.26%). Pepsin digestibility informed that the increasing incubation time from 0, 2, 4, 6 to 8 hours resulted in higher solubility than that of control (30.2% at 8 hours vs 15.4% at 0 hours). Processing chicken feather by 0.5% NaOH and Na<sub>2</sub>S solution at 60oC for 6 hours followed by fermentation increased the value of pepsin digestibility.</p> <p>Key words: hydrolyzed, Bacillus sp. MTS, feather, solubility</p> <p>Abstrak. Penelitian ini bertujuan mengevaluasi kualitas nutrisi tepung bulu ayam hasil proses hidrolisis secara fisiko-kimia dan biologis menggunakan Bacillus sp. MTS. Metode eksperimental digunakan dalam penelitian yang menggunakan dua tahap proses hidrolisis yaitu tahap 1: setelah perebusan bulu dalam larutan NaOH maka bulu direndam dalam larutan 0.5% NaOH dan Na<sub>2</sub>S pada 600C dan tahap 2: fermentasi bulu selama empat hari pada suhu 370C. Perlakuan berupa waktu inkubasi yaitu 0, 2, 4, 6 dan 8 jam diterapkan pada tahap kedua dengan ulangan sebanyak tiga kali. Perlakuan fisiko-kimia yang dilanjutkan fermentasi menggunakan bakteri spesifik penghasil enzim-enzim pendegradasi keratin bulu menurunkan kadar protein tepung bulu (78,88% menjadi 73,06%) dan meningkatkan kadar serat tepung bulu (1,9 menjadi 3,26%). Uji kelarutan protein tepung bulu dalam pepsin menginformasikan bahwa proses tahap 1 menghasilkan nilai kelarutan protein tepung bulu yang meningkat dua kali dibanding kontrol (30,2% pada 8 jam vs 15,4% pada 0 jam inkubasi) atau enam kali dibanding tepung bulu tanpa hidrolisis (5%). Pengolahan bulu ayam menggunakan cara pemanasan, perendaman dalam larutan NaOH dan Na<sub>2</sub>S selama 6 jam pada 600C serta fermentasi menghasilkan tepung bulu dengan daya larut dalam pepsin lebih baik dibanding tanpa pengolahan.</p> <p>Kata kunci: hidrolisis, tepung-bulu, Bacillus sp. MTS, kelarutan</p>
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