

PENGARUH PEMBERIAN ENZIM PAPAIN TERHADAP KUALITAS FISIK DAN ORGANOLEPTIK DAGING SAPI

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian enzim papain dari pepaya (*Carica papaya* L.) dan enzim papain komersial terhadap kualitas fisik dan organoleptik daging sapi. Materi yang digunakan, yaitu daging sapi bagian *shank*, daun pepaya, dan enzim papain komersial. Metode yang digunakan, yaitu dengan melakukan marinasi daging menggunakan daun pepaya dengan perbandingan 50% : 100% dan enzim papain komersial dengan perbandingan 0,5% : 1% terhadap berat daging (w/w) selama 60 menit. Variabel yang dilihat, yakni kualitas fisik meliputi pH, daya ikat air, susut masak, dan *hardness*, serta kualitas organoleptik meliputi aroma, warna, rasa, tekstur, dan daya terima. Data yang diperoleh kemudian dilakukan analisis data *One-Way* (ANOVA) dan dilanjutkan uji *Duncan's Multiple Range Test* (DMRT) untuk kualitas fisik. Kualitas organoleptik menggunakan analisis data *Kruskal-Wallis* dan uji lanjutan *Mann-Whitney*. Hasil penelitian menunjukkan pemberian enzim papain pada daun pepaya dan enzim komersial memberikan pengaruh nyata ($P < 0,05$) untuk meningkatkan keempukan daging pada uji kualitas fisik dan organoleptik. *Hardness* daging meningkat menjadi lebih empuk dari perlakuan kontrol sebesar $26,28 \pm 4,17$ N menjadi $15,04 \pm 2,92$ N pada perlakuan enzim komersial 1%. Kesimpulan dari penelitian ini adalah pemberian enzim komersial menghasilkan kualitas fisik dan organoleptik yang lebih optimal dan lebih dapat diterima oleh panelis dalam uji sensoris sebagai bahan pengempuk daging.

Kata kunci: Daging sapi, Enzim, Kualitas fisik, Organoleptik, Papain

THE EFFECT OF PAPAIN ENZYME TREATMENT ON THE PHYSICAL AND ORGANOLEPTIC QUALITY OF BEEF

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ABSTRACT

This study aimed to determine the effect of papain enzyme from papaya (*Carica papaya* L.) leaves and commercial papain enzyme on the physical and organoleptic quality of beef. The materials used were beef shank, papaya leaves, and commercial papain enzyme. The method involved marinating the beef with papaya leaves at a ratio of 50 : 100% (w/w) and with commercial papain enzyme at a ratio of 0.5 : 1% (w/w) for 60 minutes. The observed variables for physical quality included pH, water holding capacity, cooking loss, and hardness. The organoleptic quality variables included aroma, color, taste, texture, and acceptability. The data for physical quality were analyzed using One-Way (ANOVA), followed by Duncan's Multiple Range Test (DMRT). The organoleptic quality data were analyzed using the Kruskal-Wallis test, followed by the Mann-Whitney test. The results showed that the application of both papaya leaves and commercial papain enzymes had a significant effect ($P < 0.05$) on increasing meat tenderness in both physical and organoleptic tests. The hardness of the meat decreased, indicating an increase in tenderness, from a control value of 26.28 ± 4.17 N to 15.04 ± 2.92 N in the 1% commercial enzyme treatment. This study concludes that the application of commercial papain enzyme resulted in more optimal physical and organoleptic qualities and was more acceptable to the panelists in the sensory evaluation as a meat tenderizer.

Keywords: Beef, Enzyme, Organoleptic quality, Physical quality, Papain