

**PENGARUH PENAMBAHAN ENZIM BROMELIN BUAH NANAS
(*Ananas comosus*) TERHADAP PENINGKATAN NILAI
CERNA PROTEIN SUSU PENGGANTI ANAK DOMBA**

**Lena Putriana
13/346319/PT/06502**

INTISARI

Penelitian ini bertujuan untuk mengetahui penambahan bromelin untuk meningkatkan nilai pencernaan protein susu pengganti anak domba. Larutan bromelin buah nanas (*Ananas comosus*) diendapkan dengan menggunakan amonium sulfat dengan tingkat kejenuhan 30%, 40%, 50%, 60%, dan 70%, kemudian bahan didialisis untuk mendapatkan aktivitas enzim spesifik terbaik. Formulasi susu pengganti menggunakan komposisi susu skim dan bungkil kedelai. Penelitian ini menggunakan 3 perlakuan setiap ulangan. Perlakuan yang diberikan adalah sebagai berikut: P0= Susu pengganti kontrol (tanpa penambahan enzim) P1= Susu pengganti dengan penambahan 5% bromelin P2= Susu pengganti dengan penambahan 10% bromelin. Aktivitas enzim dari setiap hasil pemurnian, dianalisis pencernaan secara *in vitro* berupa bahan kering (BK), bahan organik (BO), pencernaan protein kasar (PK) dan serat kasar (SK). Data dianalisis dengan analisis variansi pola searah dan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT) bila terjadi perbedaan karena perlakuan. Hasil dari penelitian ini diperoleh bahwa aktivitas enzim spesifik terbaik ditunjukkan dengan penambahan amonium sulfat pada tingkat kejenuhan 50%. Kecernaan BK, BO, PK pada perlakuan penambahan 5% bromelin meningkat ($P < 0,05$), sedangkan nilai pencernaan SK pada perlakuan menunjukkan hasil yang tidak berbeda nyata untuk ketiga perlakuan ($P > 0,05$). Kesimpulan dari hasil penelitian adalah bahwa penambahan enzim bromelin dapat meningkatkan nilai pencernaan protein pada susu pengganti.

Kata kunci: Bromelin, Penjenuhan, Susu pengganti, Kecernaan

**THE EFFECT OF ADDITION OF BROMELAIN ENZYME FROM
PINNEAPPLE (*Ananas comosus*) ON INCREASING OF
PROTEIN DIGESTIBILITY OF MILK REPLACER
FOR LAMB**

**Lena Putriana
13/346319/PT/06502**

ABSTRACT

The aim of the research was to determine the addition of bromelain on increasing of protein digestibility of milk replacer for lamb. Bromelain extraction from pineapple (*Ananas comosus*) was precipitated by ammonium sulphate with different concentration which were 30%, 40%, 50%, 60%, and 70%, then those sample were dialyzed to obtain the best of specific enzyme activities. Milk replacer was formulated by mixing skim powder and soybean meal. The research was consisted of 3 replications each treatment. The treatments were: P0= Milk replacer without enzyme (control), P1= Milk replacer + 5% bromelain, P2= Milk replacer + 10% bromelain. Specific enzyme activity from each precipitation, dry matter digestibility (DMD), organic matter digestibility (OMD), crude protein digestibility (CPD) and crude fiber digestibility (CFD) were analyzed. Data were analysed by ANOVA according to one way completely randomized design and continued by Duncan multiple range test for significant differences. The result showed that bromelain from 50% saturation level of ammonium sulphate had the best of specific enzyme activity compared to other treatments. The addition by 5% of bromelain enzyme could increased DMD, OMD, and CPD ($P < 0.05$). In contrast, the addition of bromelain had no significant effect on CFD compared to the control ($P > 0.05$). To conclude, the addition of purified bromelain in term of the milk replacer could increased the nutrient digestibility of milk replacer.

Keywords: Bromelain, Precipitated, Milk replacer, Digestibility