

# FORMULASI PAKAN TERNAK SAPI PERAH BERBAHAN DASAR BLOTONG, TONGKOL JAGUNG, DAN TEPUNG IKAN KUALITAS RENDAH DENGAN PENAMBAHAN PROBIOTIK

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## ABSTRAK

Pakan ternak merupakan produk yang dibuat dari berbagai campuran organik yang berguna sebagai makanan pokok dari hewan ternak. Limbah blotong merupakan ampas tebu padat dari limbah industri pabrik gula. Limbah tongkol jagung merupakan limbah pertanian yang belum banyak dimanfaatkan. Tepung ikan kualitas rendah merupakan limbah ikan yang dikeringkan dan digiling. Formulasi pakan ternak yang dibuat dari ketiga bahan tersebut memiliki kelengkapan dalam memenuhi kebutuhan gizi pakan ternak khususnya sapi perah. Pada penelitian ini ketiga bahan tersebut diolah menjadi pakan ternak dan dioptimasi untuk mencari formulasi terbaik agar memenuhi Standar Nasional Indonesia (SNI). Formulasi pakan ternak terbaik yaitu formulasi dengan komposisi blotong 30%, tongkol jagung 30%, dan tepung ikan kualitas rendah 40%. Formulasi tersebut memiliki kandungan gula reduksi 0,21%, gula total 1,6%, air 4,23%, abu 8,48%, serat kasar 21,69%, protein 21,3%, lemak 1,84%, dan pH 6,39. Formulasi pakan ternak terbaik difermentasi dengan *Lactobacillus acidophilus* hingga tujuh hari untuk diamati perubahan semua kandungan nutrisi di dalam formulasi pakan ternak. Kandungan gula reduksi, gula total, serat kasar, dan pH mengalami penurunan. Probiotik dalam formulasi ditentukan dengan metode *Total Plate Count* (TPC) dengan jumlah sel  $6,12 \times 10^{10}$  pada hari ketujuh fermentasi.

Kata kunci: formulasi pakan ternak, blotong, tongkol jagung, tepung ikan, fermentasi, probiotik

# DAIRY CATTLE FEED FORMULATION BASED FROM FILTER CAKE, CORN COB, AND LOW QUALITY FISH FLOUR WITH ADDITION OF PROBIOTICS

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## ABSTRACT

Cattle feed is a product made from a variety of organic compounds that are useful as a staple food of cattle. Filter cake usually called blotong is solid mud from the sugar mill industrial waste. Corn cob is an agriculture waste that is not been widely used. Low quality fish flour is fish waste which is dried and milled. Cattle feed formulation made from the three raw materials has a completeness in meeting the nutritional needs of animal feed, especially dairy cows. In this study, the three ingredients processed into animal feed formulations with optimized to find the best and qualify the Indonesian National Standard (SNI). Best cattle feed formulation was a formulation with the composition of the filter cake 30%, 30% corn cobs, and low quality fish flour 40%. The formulation has a reduced sugar content of 0,21%, 1,6% total sugar, 4,23% water, 8,48% ash, 21,69% crude fiber, 21.3% protein, 1.84% fat, and pH of 6.39. Best cattle feed formulation was fermented by *Lactobacillus acidophilus* until seven days for all the observed changes in the content of nutrients in cattle feed formulation. After observation, reduced sugar content, total sugar, crude fiber, and pH were decreased. Probiotics in the formulation was determined using Total Plate Count (TPC) with the number of cells  $6,12 \times 10^{10}$  on the seventh day of fermentation.

*Keywords: cattle feed formulation, blotong, corn cob, fish meal, fermentation, probiotic*