

# KONSUMSI DAN KECERNAAN NUTRIEN SERTA PRODUKSI DAN KUALITAS SUSU SAPI PERANAKAN FRIESIAN HOLSTEIN YANG DIBERI JAMU HERBAL DI PETERNAK RAKYAT GETASAN, SEMARANG JAWA TENGAH

## INTISARI

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Peternakan rakyat di Getasan menghadapi permasalahan yaitu produksi susu dan kandungan lemak susu yang rendah serta tingginya kasus mastitis. Peternak menemukan solusi dengan pemberian jamu herbal untuk mengatasi permasalahan tersebut, namun perlu dikaji secara ilmiah. Penelitian ini bertujuan untuk mengkaji pengaruh pemberian jamu herbal terhadap konsumsi, pencernaan nutrien, produksi susu, kualitas susu, dan daya tahan ambing. Bahan-bahan penyusun pembuatan jamu herbal yaitu daun kaliandra (*Calliandra calothyrsus*), daun pepaya (*Carica papaya*), kunyit (*Curcuma longa* Linn), tempe, EM4 (*Effective Microorganisms*), molases, dan air. Metode pembuatan jamu herbal dengan proses fermentasi selama 7 hari. Pemberian jamu herbal dilakukan secara oral dengan dosis 10 mL yang diberikan sebanyak 2 kali sehari sebelum pemerahan. Penelitian ini dilaksanakan di Kecamatan Getasan, Jawa Tengah menggunakan 16 ekor sapi perah dengan rata-rata bobot badan  $455,12 \pm 40,32$  kg dan produksi susu  $10,65 \pm 1,95$  liter/hari. Perlakuan yang dilakukan yaitu K (tidak diberi perlakuan atau kontrol) dan T (dengan perlakuan). Desain penelitian menggunakan desain *cross-over* 2x2. Metode penelitian pencernaan in-vitro menggunakan Tilley and Terry, analisis nutrien pakan menggunakan analisis proksimat, pengujian kualitas susu seperti uji lemak menggunakan metode *Babcock*, uji protein menggunakan metode *Kjeldahl*, uji laktosa menggunakan *Lactoscan*, uji aktivitas antioksidan jamu menggunakan metode DPPH, dan uji total flavonoid serta tanin menggunakan metode Spektrofotometri. Hasil penelitian menunjukkan pemberian jamu herbal tidak berpengaruh nyata ( $P > 0,05$ ) terhadap konsumsi nutrien, produksi dan kualitas susu. Penelitian menunjukkan hasil signifikan ( $P < 0,05$ ) menurunkan jumlah sel somatik dari 865.625 sel/mL menjadi 510.625 sel/mL namun skor tersebut menunjukkan sapi terindikasi mastitis subklinis. Kesimpulan dari penelitian ini pemberian jamu herbal sebanyak 10 ml belum dapat meningkatkan pencernaan, konsumsi nutrien dan produksi susu namun dapat meningkatkan daya tahan ambing sapi perah.

Kata kunci: fermentasi, flavonoid, jamu herbal, jumlah sel somatik, produksi susu

NUTRIENT INTAKE, DIGESTIBILITY, AND MILK PRODUCTION AND QUALITY  
OF FRIESIAN HOLSTEIN CROSSBRED COWS SUPPLEMENTED WITH  
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SEMARANG, CENTRAL JAVA

**ABSTRACT**

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Farmers in Getasan are facing challenges in dairy farming, including low milk production, reduced milk fat content, and a high incidence of mastitis. To address these issues, they have adopted the use of herbal medicine as a potential solution. However, its effectiveness requires scientific evaluation. This study was conducted to evaluate the effects of jamu herbal on nutrient intake, digestibility, milk production, milk composition and udder health. The main ingredients of jamu herbal were *Calliandra calothyrsus* leaves, *Carica papaya* leaves, *Curcuma longa* Linn, fermented soybean and molasses. Jamu was fermented for seven days. Jamu herbal was given orally to the lactating dairy cow at a dose of 10 ml twice daily before milking. The study was conducted in Getasan, Central Java using 16 lactating Friesian Holstein crossbred cows with an average body weight of  $455.12 \pm 40.32$  kg and milk production of  $10.65 \pm 1.95$  l/day. This experiment used a 2 x 2 crossover design. The cows were grouped into control (fed basal ration) and treatment (fed basal ration and jamu herbal oral). The research methodology includes several analytical approaches: in-vitro digestibility evaluation following the Tilley and Terry method, feed nutrient analysis using the proximate analysis method. Milk fat content is determined using the Babcock method, protein content through the Kjeldahl method, and lactose content using a Lactoscan device. Additionally, the antioxidant activity of the herbal supplement is assessed using the DPPH method, while total flavonoid and tannin contents are measured spectrophotometrically. The study demonstrated significant effects ( $P < 0.05$ ) in improving the in-vitro digestibility of dry matter and crude protein in feed after the administration of herbal supplements. The results showed that jamu herbal administration had no significant effect on in-vitro digestibility, nutrient intake, milk production and composition but significantly ( $P < 0.05$ ) reduced the somatic cell count from  $8.6$  to  $5.1 \times 10^5$  cells/mL, unfortunately the score was interpreted as subclinical mastitis. The conclusion of the study is that jamu herbal did not increase nutrient intake and milk production but could improve the udder health of dairy cows.

*Keywords: fermentation; flavonoid; jamu herbal; milk production; somatic cell count.*