RESPON ESTRUS DAN KADAR *MILK UREA NITROGEN* PADA SAPI PERAH PERANAKAN FRIESIAN HOLSTEIN LAKTASI YANG DIBERI SUPLEMEN MINERAL DI KOPERASI SAMESTA

Mohamad Fahrurrozi

16/399142/PT/07260

INTISARI

Tujuan dari penelitian ini untuk mengetahui respon estrus dan kadar *milk urea nitrogen* (MUN) pada sapi perah peranakan Friesian Holstein laktasi yang diberi suplemen mineral di Koperasi Samesta. Penelitian ini menggunakan sapi perah Peranakan Friesian Holstein (PFH) periode laktasi dengan jumlah 8 ekor, dibagi menjadi 2 kelompok yaitu kontrol (P0) dan perlakuan (P1). Delapan ekor sapi sehat dan tidak bunting, periode laktasi III dengan produksi susu 10 liter/hari, berat badan berkisar 400-450 kg digunakan dalam penelitian ini. Sapi-sapi diberikan pakan dasar berupa hijauan dan campuran konsentrat pada pagi dan sore hari. Kadar Zn kelompok kontrol dan perlakuan mempunyai rerata sebesar 1240 mg dan 2291 mg. Air minum diberikan secara ad libitum. Parameter yang diamati meliputi respon estrus, *service per conception* (S/C), vaginal smear, dan MUN. Respon estrus merupakan persentase ternak yang menunjukkan gejala visual estrus meliputi vulva bengkak, lendir servik, dan warna vulva serta tingkah laku meliputi agresif dan suara melenguh. Penentuan siklus estrus dilakukan dengan cara mengamati histologi epitel vagina dengan menggunakan *vaginal smear* setiap dua hari sekali. Sampel susu diambil seminggu sekali sebanyak satu kali pada pagi hari sebelum diberi pakan. Kadar urea susu diukur dengan kit urea (urea FS, DiaSys Diagnostic Sistem, Jerman). Data kinerja reproduksi dan MUN dianalisis statistik menggunakan analisis *independent T-test*. Rerata hasil analisis respon estrus antara kelompok kontrol dan perlakuan menunjukkan perbedaan nyata ($P<0,05$) pada vulva bengkak adalah (2,00±0,00) dan (2,75±0,28), lendir servik (1,35±0,47) dan (2,75±0,28), warna vulva (1,62±0,25) dan (2,50±0,57). Hasil menunjukkan perbedaan tidak nyata ($P>0,05$) pada melenguh (1,25±0,50) dan (1,25±0,28), agresif (1,50±0,57) dan (1,25±0,50). Kadar MUN dan S/C pada kedua kelompok tidak berbeda secara nyata, pada kelompok kontrol dan perlakuan secara berturut turut yaitu (22,78±1,23 mg/dL) dan (2,00±0,81 kali); (20,67±2,60 mg/dL) dan (2,25±0,95 kali). Disimpulkan bahwa kelompok perlakuan efektif meningkatkan kualitas estrus.

Kata kunci**:** Sapi perah Peranakan Friesian Holstein, Mineral, Respon Estrus, Vaginal Smear, *Milk Urea Nitrogen*.

ESTRUS RESPONSE AND MILK UREA NITROGEN LEVELS OF LACTATING FRIESIAN HOLSTEIN COWS GIVEN MINERAL SUPPLEMENTS IN SAMESTA COOPERATIVE

Mohamad Fahrurrozi

16/399142/PT/07260

ABSTRACT

This research was conducted to response to estrus and levels of milk urea nitrogen (MUN) in lactating Friesian Holstein cows given mineral supplements in Samesta Cooperative. Dairy cows Friesian Holstein (PFH) were used in this study, namely in the lactation period 8 cows were divided into 2 groups (control and treatment). A number of eight cows which fulfill the criteria of not pregnant and in third lactation, produced milk of 10 liters/day, and body weight ranging from 400-450 kg were used in this research. The cows were given basic feed in the form of forage and a mixture of concentrates in the morning and evening. Zn levels in the control and treatment groups had an average of 1240 mg and 2291 mg. Drinking water is given ad libitum. The obtained data were estrus response, service per conception (S/C), vaginal smear, and milk urea nitrogen (MUN). The estrus response is the percentage of livestock showing estrus symptoms out by including vulva swelling, cervical mucus, and vulva color as well as aggressive and groaning behavior. Determination of the estrous cycle was done by observing the histology of the vaginal epithelium using vaginal smears every two days. Milk samples were taken once a week for one weeks in the morning before fed. Milk urea levels were measured using the urea FS (DiaSy, DRG Germany). The data reproductive performance and MUN were analyzed by independent T-test. The results of the mean estrous response analysis between the control and treatment groups showed a significant difference ($P < 0.05$) in vulvar swelling (2.00 ± 0.00) and (2.75 ± 0.28), cervical mucus (1.35 ± 0.47) and (2.75 ± 0.28), the color of the vulva (1.62 ± 0.25) and (2.50 ± 0.57). The result didn't show significant different ($P>0,05$) in groaning (1.25 ± 0.50) and (1.25 ± 0.28), aggressive (1.50 ± 0.57) and (1.25 ± 0.50). Levels of MUN and S/C in the two groups were not significantly different, the control and treatment groups were (22,78±1,23 mg/dL) and (2,00±0,81 times); (20,67±2,60 mg/dL) and (2,25±0,95 times). It was concluded that treatment was effective for enhancing the symptoms of estrus.

Keywords: Friesian Holstein dairy cows, Mineral, Estrous Response, Vaginal Smear, Milk Urea Nitrogen.