

**GAMBARAN KETEBALAN ENDOMETRIUM, KADAR ESTRADIOL,
DAN PERFORMA REPRODUKSI PADA SAPI PERAH DAN SAPI
POTONG *CROSSBREED***

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INTISARI

Salah satu faktor penyebab lambatnya peningkatan populasi sapi nasional adalah rendahnya angka keberhasilan kebuntingan yang disebabkan oleh kegagalan proses implantasi. Faktor pendukung keberhasilan implantasi yang akan dibahas dalam tesis ini ialah kadar hormon estradiol dan ketebalan endometrium. Penelitian tentang kegagalan kebuntingan pada sapi di Indonesia masih terfokus pada penyebab dan kegagalan fertilisasi. Penelitian mengenai ketebalan endometrium saat estrus dan kadar estradiolnya terhadap performa reproduksi pada berbagai *breed* sapi di Indonesia masih sedikit ditemukan. Penelitian ini dilakukan untuk menambah informasi ilmiah baru mengenai gambaran ketebalan endometrium sapi di Indonesia. Penelitian ini menggunakan 6 sapi SimPO, sapi 6 PO, 6 sapi PFH yang telah beranak minimal 1 kali, berusia 2-10 tahun. Data terkait performa reproduksi didapatkan melalui anamnesa dan rekording. Masing-masing sapi diperiksa menggunakan Ultrasonografi untuk diukur ketebalan endometriunya saat berada di puncak fase estrus sekaligus dilakukan pengambilan darah untuk diperiksa kadar estradiol serumnya menggunakan metode ELISA. Data yang terkumpul lalu diolah secara deskriptif, dibandingkan menggunakan T-Test dan ANOVA. Hasil penelitian menunjukkan adanya variasi ketebalan endometrium dan kadar estradiol antara sapi perah dengan sapi potong, yaitu $2,3 \pm 0,7$ mm dan $69,3 \pm 27,2$ pg/ml pada sapi SimPO; $1,7 \pm 0,3$ mm dan $44,4 \pm 15,1$ pg/ml pada sapi PO; $2,1 \pm 0,3$ mm dan $61 \pm 19,0$ pg/ml pada sapi PFH. Kemudian sapi-sapi yang memiliki ketebalan endometrium saat estrus di bawah 1,5 mm atau di atas 2,5 mm menunjukkan performa reproduksi yang buruk. Hasil analisis regresi menunjukkan bahwa hormon estradiol memiliki pengaruh terhadap ketebalan endometrium ($P < 0,05$).

Kata kunci: Estradiol, Ketebalan endometrium, Sapi perah, Sapi potong, USG

ENDOMETRIAL THICKNESS, ESTRADIOL CONCENTRATIONS AND REPRODUCTIVE PERFORMANCE OF DAIRY CATTLE AND CROSSBREED BEEF CATTLE

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One of the factors causing the slow increase in the national cattle population is the low pregnancy success rate caused by the failure of the implantation process. Supporting factors for the success of implantation to be discussed in this thesis are hormone levels of estradiol and endometrial thickness. Research on cattle pregnancy failure in Indonesia is still focused on the causes and failure of fertilization. Research on endometrial thickness during estrus and its estradiol levels effect on reproductive performance in various cattle breeds in Indonesia is still scarce. This research was conducted to add new scientific information about the data of cattle endometrial thickness in Indonesia. This study used 6 SimPO cattles, 6 PO cattles, 6 PFH cattles who had given birth at least 1 time, aged 2-10 years. Data related to reproductive performance is obtained through history anamnesis and available reproductive recording. Each cow was examined using Ultrasonography to measure the thickness of the endometrium while at the peak of the estrus phase and then their blood were taken to examine the serum estradiol level using ELISA method. The collected data was then analyzed descriptively, were compared using T-Test and ANOVA. The results showed a variation in endometrial thickness and estradiol levels between dairy cattles and beef cattle, respectively $2,3 \pm 0,7$ mm and $69,3 \pm 27,2$ pg/ml in SimPO cattle; $1,7 \pm 0,3$ mm mm and $44,4 \pm 15,1$ pg/ ml in PO cattle; $2,1 \pm 0,3$ mm and $61 \pm 19,0$ pg/ml in PFH cattle. Then there were cattles that have endometrial thickness below 1.5 mm or above 2.5 mm that are showed poor reproductive performance. The results of the regression analysis showed that the hormone estradiol had an influence on endometrial thickness ($P < 0.05$).

Keywords: Beef cattle, Dairy cattle, Endometrial thickness, Estradiol, USG