

INTISARI

HUBUNGAN RASIO ANTARA KADAR ESTRADIOL DAN KADAR PROGESTERON TERHADAP GEJALA FISIK ESTRUS SAPI PERANAKAN ONGOLE (PO) PADA KELOMPOK TERNAK DI DUSUN KUWANG KECAMATAN CANGKRINGAN KABUPATEN SLEMAN

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Faktor utama keberhasilan inseminasi buatan pada sapi adalah ketepatan deteksi estrus. Variasi tiap individu serta fluktuasi kadar hormon turut mempengaruhi gejala estrus yang nampak. Penelitian ini bertujuan untuk mengetahui hubungan antara rasio kadar hormon estradiol : progesteron sapi PO estrus terhadap gejala fisik estrus sapi PO. Penelitian ini menggunakan lima ekor sapi PO di Dusun Kuwang, Kecamatan Cangkringan, Sleman. Dua ekor sapi estrus secara alami, tiga ekor sapi diberi perlakuan penyuntikan prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$). Skoring dilakukan terhadap gejala fisik yang muncul dengan skala 1 sampai 3. Sampel darah diambil melalui vena jugularis dan disentrifugasi dengan kecepatan 3000 rpm selama 15 menit untuk memperoleh plasma darah. Plasma darah diuji menggunakan *Enzyme Linked Immunosorbent Assay* (ELISA) untuk mengkaji rasio kadar estradiol : kadar progesteron. Hasil penelitian menunjukkan bahwa rata-rata kadar hormon estradiol pada plasma darah sapi estrus adalah $47,44 \pm 46,67$ pg/ml dan rata-rata kadar hormon progesteron adalah $1,03 \pm 0,45$ ng/ml dengan rata-rata rasio $46,83 \pm 31,00$. Besar rasio kadar estradiol : progesteron dalam plasma sapi PO estrus berpengaruh secara signifikan terhadap gejala fisik estrus yang nampak, sehingga semakin besar nilai rasio kadar estradiol : progesteron dalam plasma sapi PO estrus maka semakin besar skor gejala fisik estrus.

Kata kunci: estradiol, progesteron, estrus, gejala fisik estrus, sapi Peranakan Ongole (PO)

ABSTRACT

RELATIONSHIP OF RATIO BETWEEN ESTRADIOL AND PROGESTERONE LEVELS TO ESTROUS PHYSICAL SIGNS OF ONGOLE CROSSBRED CATTLE IN KUWANG SUB DISTRICT OF CANGKRINGAN OF SLEMAN REGENCY

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The main factor of artificial insemination success was accuracy of estrous detection. Variation in each individual and hormone levels fluctuation also influenced the physical signs of estrous. The objectives of this study were to determine the relationship of ratio between estradiol and progesterone levels to estrous physical signs of ongole crossbred cattle. This study used five ongole crossbred cattle in Kuwang of sub district Cangkringan of Sleman regency. Two of them were in their natural estrous period, three others were treated with prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) injection for synchronize estrous period. Assessment of the physical signs that appear was done using scoring tabulation by one to three scale. The blood samples were taken via jugularis vein and centrifuged at 3000 rpm for 15 minutes to obtain blood plasma. Blood plasma was tested using Enzyme Linked Immunosorbent Assay (ELISA) to obtain the ratio between estradiol : progesterone levels. The result of this research shows average estradiol levels in the blood plasma of estrous cattle is $47,44 \pm 46,67$ pg/ml, average progesterone levels in the blood plasma of estrous cattle is $1,03 \pm 0,45$ ng/ml and average of the ratio between estradiol and progesterone levels is $46,83 \pm 31,00$. In conclusion, the value of ratio between estradiol and progesterone blood plasma levels significantly influenced to physical signs of estrous apparent and the higher value of ratio between estradiol and progesterone blood plasma levels followed by increased score of physical signs estrous.

Key words: estradiol, progesterone, estrous, estrous physical signs, Ongole Crossbred cattle