

**PENGARUH *BODY CONDITION SCORE* TERHADAP KADAR
BIOKIMIA DARAH, PROFIL HORMON ESTROGEN, DAN
RESPON ESTRUS KAMBING SAANEN DALAM
PROGRAM INDUKSI BERAHI**

**AHMAD DZAKY MUSTAGHFIRIN
21/473307/PT/08812**

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh *body condition score* (BCS) terhadap kadar biokimia darah, profil hormon estrogen dan respon estrus induk kambing Saanen yang diinduksi berahi. Penelitian ini menggunakan dua belas ekor induk kambing Saanen dengan *body condition score* 2, 2,5 dan 3 dengan kisaran umur ± 4 tahun. Sampel induk diberi pakan hijauan dan konsentrat dengan perbandingan 70:30 sebanyak dua kali sehari serta air minum diberikan secara *ad libitum*. Kambing dipelihara di dalam kandang individu di Pusat Pengembangan Ternak (PPT), Fakultas Peternakan, Universitas Gadjah Mada. Induk kambing Saanen di induksi berahi dengan metode kombinasi, yaitu *implant controlled internal drug release* (CIDR) dan injeksi *prostaglandin F2 alpha* (PGF2 α). Pemasangan *implant* CIDR intravaginal dilakukan selama 10 hari (jangka pendek), kemudian pada hari ke delapan (48 jam sebelum pelepasan *implant*) dilakukan injeksi PGF2 α secara *intramuscular*. Kemudian dilakukan pengambilan sampel darah melalui *vena jugularis* menggunakan *needle vacutainer* untuk mengetahui kadar biokimia darah dan profil hormon estrogen. Kemudian dilakukan pengamatan respon estrus pada puncak estrus dengan parameter warna vulva, bengkak vulva, sekresi mukus, pH vagina, dan temperatur vagina. Kadar biokimia darah dianalisis menggunakan prosedur kimia klinik *DiaSys* dengan variabel yang diamati meliputi total protein, glukosa, dan kolesterol. Kadar hormon estrogen dianalisis menggunakan metode *enzyme-linked immunosorbent assay* (ELISA). Data yang diperoleh dianalisis dengan model statistik *One-Way analysis of variance* (ANOVA). Hasil penelitian menunjukkan terdapat perbedaan signifikan pada glukosa, kolesterol, estrogen, warna vulva dan bengkak vulva. konsentrasi rata-rata glukosa (48,54 $\pm$ 4,40 mg/dL), total protein (8,07 $\pm$ 0,76 g/dL), kolesterol (76,35 $\pm$ 16,65 mg/dL), dan estrogen (69,65 $\pm$ 24,78 pg/mL). Selain itu, ditemukan pengaruh faktor BCS terhadap respon estrus, profil biokimia dan hormon estrogen yang menunjukkan ternak dengan BCS 3 memiliki hasil yang optimal sehingga dapat dijadikan acuan pemilihan dan pemeliharaan ternak bibit

Kata kunci: *Body condition score*, Biokimia darah, Induksi berahi, Kambing Saanen, Respon estrus,

EFFECT OF BODY CONDITION SCORE ON BLOOD BIOCHEMICAL LEVELS, ESTROGEN PROFILE, AND ESTRUS RESPONSE OF SAANEN DOES IN ESTRUS INDUCTION PROGRAM

AHMAD DZAKY MUSTAGHFIRIN

21/473307/PT/08812

ABSTRACK

The purpose of this study was to evaluate the effect of body condition score (BCS) on blood biochemical profile, estrogen levels, and estrus response during estrus induction program. This study used twelve Saanen goats with body condition scores of 2, 2.5, and 3, aged approximately $\pm$ four years. Samples were fed forage and concentrate in a 70:30 ratio twice a day, and drinking water was provided *ad libitum*. Goats were kept in individual cages at the Livestock Development Centre (PPT), Faculty of Animal Science, Universitas Gadjah Mada. Estrus induction in Saanen goats was performed by a combination of Controlled Internal Drug Release (CIDR) intravaginal insertion method for 10 days (short term) and intramuscular injection of prostaglandin F2 alpha (PGF2 α) on day eight (48 hours before implant removal). Estrus response was observed at the peak of estrus with parameters of vulval color, vulval swelling, mucous secretion, vaginal pH, and vaginal temperature. Subsequently, blood samples were taken from the jugular vein using a vacutainer needle to analyze the blood biochemical profile and estrogen hormone levels. Blood biochemical profile was analyzed using DiaSys clinical chemistry procedure with parameters of total protein, glucose, and cholesterol. Estrogen hormone levels were analyzed using the enzyme-linked immunosorbent assay (ELISA) method. The results showed that the blood biochemical profile and estrogen hormone levels of Saanen goats were in ideal condition and still within the normal range, with average concentrations of glucose (48.54 $\pm$ 4.40 mg/dL), total protein (8.07 $\pm$ 0.76 mg/dL), cholesterol (76.35 $\pm$ 16.65 mg/dL), and estrogen (69,65 $\pm$ 24,78 mg/mL). In addition, there was also an effect of BCS factor on estrus response, biochemical profile, and estrogen levels, where goats with BCS 3 showed optimal results so that it can be used as a reference for breeding livestock selection and maintenance.

Keywords: Body condition score, Blood biochemistry, Estrus response, Induction of estrus, Saanen goats.