

**PROFIL HORMON REPRODUKSI DAN KARAKTERISTIK
ESTRUS INDUK KAMBING SAANEN YANG DIBERI
FLUSHING PAKAN TINGGI PROTEIN DALAM
PROGRAM INDUKSI BERAHI**

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INTISARI

Penelitian ini bertujuan untuk mengetahui hormon reproduksi, kadar metabolit darah dan karakteristik estrus induk kambing Saanen yang diberi *flushing* pakan tinggi protein. Penelitian menggunakan 10 ekor induk kambing Saanen multipara dengan BCS 2,5–3. Ternak dibagi menjadi dua kelompok, yaitu kontrol dan perlakuan *flushing* pakan berupa DDGS 10% dan SBM 5%. Pakan diberikan dalam bentuk konsentrat dan hijauan dua kali sehari, sedangkan air minum tersedia secara *ad libitum*. Induksi berahi dengan pemasangan *controlled internal drug release* (CIDR) selama 10 hari. Parameter yang diamati hormon *follicle stimulating hormone* (FSH) dan estrogen yang diukur menggunakan metode *enzyme-linked immunosorbent assay* (ELISA); kadar metabolit darah meliputi total protein, kolesterol serta glukosa yang dianalisis menggunakan metode *Diasys*. Karakteristik estrus yang diamati meliputi onset, lama estrus, warna dan pH mukosa vagina, pembengkakan vulva, suhu vagina, *vaginal smear*, serta *ferning saliva*. Data dianalisis dengan *Independent Sample T-Test*. Hasil penelitian menunjukkan bahwa parameter biokimia darah menunjukkan perbedaan yang signifikan, yaitu kadar total protein ($P_0 = 7,89 \pm 0,48$, $P_1 = 9,67 \pm 0,53$ g/dL), glukosa ($P_0 = 55,10 \pm 2,41$, $P_1 = 73,96 \pm 2,24$ mg/dL) dan kolesterol ($P_0 = 86,88 \pm 3,94$, $P_1 = 101,39 \pm 5,24$ mg/dL). Parameter hormon menunjukkan hasil yang berbeda nyata untuk hormon estrogen ($P_0 = 98,59 \pm 3,84$, $P_1 = 116,96 \pm 4,66$ mIU/mL). Parameter karakteristik estrus menunjukkan hasil yang signifikan pada warna vulva ($P_0 = 1,6 \pm 0,24$, $P_1 = 3,00 \pm 0,00$), Durasi estrus ($P_0 = 44,8 \pm 1,35$, $P_1 = 60,50 \pm 3,62$ jam), pH ($P_0 = 7,4 \pm 0,33$, $P_1 = 8,60 \pm 0,24$), *ferning saliva* ($P_0 = 3,4 \pm 1,14$, $P_1 = 5,40 \pm 0,40$). Dapat disimpulkan bahwa *flushing* pakan tinggi protein mampu meningkatkan metabolit darah kadar estrogen, serta beberapa parameter karakteristik estrus induk kambing Saanen.

Kata kunci: *Flushing* pakan tinggi protein, hormon reproduksi, induksi berahi, kadar metabolit darah, kambing Saanen, karakteristik estrus.

**REPRODUCTIVE HORMONE PROFILE AND ESTRUS
CHARACTERISTICS OF SAANEN DOES FED
HIGH PROTEIN *FLUSHING* DIET IN A
ESTRUS INDUCTION PROGRAM**

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ABSTRACT

This study aimed to determine the reproductive hormones, oestrus characteristics and blood metabolite levels in Saanen does fed a high protein flushing diet. The study used 10 multiparous Saanen does with a body condition score (BCS) of 2.5–3. The animals were divided into two groups: a control group and a flushing treatment group supplemented with 10% DDGS and 5% SBM. Feed was provided in the form of concentrate and forage twice daily, while water was available *ad libitum*. Estrus was induced by the insertion of a controlled internal drug release (CIDR) device for 10 days. The observed parameters included follicle stimulating hormone (FSH) and oestrogen levels measured using the enzyme-linked immunosorbent assay (ELISA) method. Blood metabolites, including total protein, cholesterol, and glucose, were analyzed using the Diasys method. Estrus characteristics observed included onset and duration of estrus, vulvar color and pH, vulvar swelling, vaginal temperature, vaginal smear, and saliva ferning. Data were analysed using independent sample T-test. The results showed that blood biochemical parameters showed significant differences, total protein levels ($P_0 = 7.89 \pm 0.48$, $P_1 = 9.67 \pm 0.53$ g/dL), glucose ($P_0 = 55.10 \pm 2.40$; $P_1 = 73.96 \pm 2.24$ mg/dL) and cholesterol ($P_0 = 86.88 \pm 3.94$; $P_1 = 101.39 \pm 5.24$ mg/dL). Hormone parameters showed significant results for oestrogen ($P_0 = 98.59 \pm 3.84$; $P_1 = 116.96 \pm 4.66$ mIU/mL). Estrus characteristics showed significant results for vulva colour ($P_0 = 1.60 \pm 0.24$; $P_1 = 3.00 \pm 0.00$), estrus duration ($P_0 = 44.80 \pm 1.35$; $P_1 = 60.5 \pm 3.62$ hours), pH ($P_0 = 7.40 \pm 0.33$; $P_1 = 8.60 \pm 0.24$), and saliva fern ($P_0 = 3.40 \pm 0.51$; $P_1 = 5.40 \pm 0.40$). It can be concluded that flushing high protein increasing the blood metabolic, oestrogen level, several parameters characteristic of estrus in Saanen does.

Keywords: High protein feed flushing, reproductive hormones, oestrus induction, blood metabolite level, Saanen goats, oestrus characteristics.