

Kadar Kortisol dan Progesteron Feses Domba Wonosobo dalam Periode Prepartum

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18/433700/PKH/00678

Intisari

Berdasarkan Keputusan Menteri Pertanian Nomor 2915/Kpts/OT.140/6/2011, domba wonosobo dinyatakan sebagai kekayaan sumber daya genetik ternak asli Indonesia yang perlu dilindungi dan dilestarikan. Penelitian terkait domba wonosobo pernah beberapa kali dilakukan, namun terdapat adanya celah informasi yang belum terisi yaitu data-data terkait fisiologi reproduksi, khususnya hormon dalam periode prepartum. Penelitian ini bertujuan untuk melengkapi informasi dasar terkait kondisi hormonal domba wonosobo bunting, khususnya dalam periode prepartum sehingga dapat mendukung program pelestarian domba wonosobo. Hewan penelitian yang digunakan adalah 10 domba wonosobo bunting usia kebuntingan ± 3 bulan yang setiap paginya dilakukan koleksi feses hingga hewan partus. Seluruh spesimen feses yang terkumpul diproses dengan pengering bekuan, ekstraksi dengan methanol dan hasil ekstraksi akan dianalisis dengan ELISA. Hasil ELISA menunjukkan rerata kadar kortisol feses meningkat dari hari ke-14 sebelum partus (268.38 ± 74.23 ng/g) hingga partus (292.01 ± 56.36 ng/g) dan rerata progesteron feses menurun dari hari ke-14 sebelum partus (254.64 ± 43.20 ng/g) hingga partus (241.30 ± 61.50 ng/g) namun hasil ANOVA menunjukkan peningkatan dan penurunan tersebut tidak signifikan ($P > 0.05$). Perbedaan rerata kadar kortisol dan progesteron selama masa prepartum pada kelompok umur, skor kondisi tubuh, status kelahiran dan jumlah cembe yang dilahirkan menunjukkan adanya perbedaan dan korelasi yang beragam. Rerata kadar kortisol feses (288.04 ng/g) dan progesteron (256.03 ng/g) domba wonosobo muda lebih tinggi dibandingkan yang lebih tua (279.27 ng/g dan 241.98 ng/g). Rerata kadar kortisol feses domba wonosobo dengan skt 3, 4 dan 5 masing-masing adalah (300.70 ng/g), (293.98 ng/g) dan (280.01 ng/g) dan rerata progsteron fesesnya adalah (239.71 ng/g), (237.17 ng/g) dan (259.14 ng/g). Domba wonosobo primipara memiliki rerata kadar kortisol (288.04 ng/g) dan progesteron (256.03 ng/g) yang lebih tinggi dibandingkan dengan multipara (279.27 ng/g dan 241.98 ng/g). Domba yang melahirkan cembe tunggal memiliki rerata kadar kortisol (287.99 ng/g) dan progesteron (239.76 ng/g) yang lebih rendah dibandingkan dengan yang melahirkan cembe kembar (309.84 ng/g dan 249.99 ng/g). Namun, seluruh perbedaan tersebut secara statistik tidak signifikan ($\text{sig} > 0.05$).

Kata kunci: Dombos, ELISA, Feses, Kortisol, Progesteron, Prepartum

Fecal Cortisol and Progesterone levels in Wonosobo Sheep during Prepartum Period

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Abstract

Based on the Decree of the Ministry of Agriculture No. 2915 / Kpts / OT.140 / 6/2011, wonosobo sheep are declared as a wealth genetic resource of native Indonesian livestock that needs to be protected and conserved. Research related to wonosobo sheep has been done several times, but there is a gap of information that has not been filled in, namely data related to reproductive physiology, especially hormones in the prepartum period. This study aims to complete basic information related to the hormonal condition of pregnant wonosobo sheep, especially in the prepartum period in order to support the wonosobo sheep preservation program. The animals used were 10 pregnant wonosobo sheep with gestational age of ± 3 months, which every day was carried out fecal collection until the parturition occurred. All collected fecal specimens were processed by freezing drying, extraction using methanol and the extract will be analyzed using ELISA. ELISA results showed the average fecal cortisol levels increased from the 14th day before parturition (268.38 ± 74.23 ng / g) to parturition (292.01 ± 56.36 ng / g) and the fecal progesterone rate decreased from the 14th day before parturition (254.64 ± 43.20 ng / g) until parturition (241.30 ± 61.50 ng / g) but the ANOVA results showed both of the increase and decrease were not significant ($P > 0.05$). Differences in mean fecal cortisol and progesterone levels during the prepartum in the age group, body condition scores, birth status and number of lamb born showed varied differences and correlations. Mean levels of fecal cortisol (288.04 ng / g) and progesterone (256.03 ng / g) of young wonosobo sheep were higher than those of the older ones (279.27 ng / g and 241.98 ng / g). The mean levels of cortisol fecal wonosobo sheep with BCS 3, 4 and 5 (300.70 ng / g), (293.98 ng / g) and (280.01 ng / g) and the average fecal progesterone are (239.71 ng / g), (237.17 ng / g) and (259.14 ng / g) respectively. Primiparous wonosobo sheep's cortisol (288.04 ng / g) and progesterone levels (256.03 ng / g) were higher than multiparous sheep (279.27 ng / g and 241.98 ng / g). Sheep that gave birth to a single lamb had lower cortisol (287.99 ng / g) and progesterone levels (239.76 ng / g) than those that gave birth to twin lambs (309.84 ng / g and 249.99 ng / g). However, all of these differences were not statistically significant ($\text{sig} > 0.05$).

Keywords: Dombos, ELISA, Fecal, Cortisol, Progesterone, Prepartum