

ABSTRAK

KORELASI LINGKAR TUBUH SAPI DENGAN KADAR HORMON TIROKSIN (T4) MELALUI PEMBERIAN CANGKANG KERANG DARAH (*Anadara granosa*) SEBAGAI SUPLEMEN PAKAN

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Konsumsi daging sapi masyarakat Indonesia masih belum terpenuhi, tingginya angka permintaan daging tidak diikuti dengan pengadaan daging dalam negeri sehingga perlu perhatian khusus untuk meningkatkan produktivitas sapi. Pertumbuhan dan perkembangan sapi dipengaruhi oleh hormon dan nutrisi. Bubuk cangkang kerang *Anadara granosa* memiliki kandungan berbagai mineral yang dapat dimanfaatkan sebagai suplemen pakan sapi. Mineral zinc sangat bermanfaat untuk meningkatkan kinerja hormon tiroid dan meningkatkan berat badan. Penelitian ini bertujuan untuk melihat korelasi antara lingkaran tubuh sapi dan kadar hormon tiroksin (T4) dengan penambahan suplemen bubuk cangkang kerang darah pada tujuh sapi potong jantan selama 6 minggu. Penelitian ini menggunakan sampel lingkaran tubuh dan *Body Condition Score* (BCS) yang diambil pada minggu keenam serta sampel darah pada yang diambil pada minggu pertama dan keenam. Pengukuran lingkaran tubuh dilakukan dengan mengukur lingkaran dada menggunakan tali dan meteran gulung. Kadar hormon tiroksin diperoleh dari serum yang berasal dari darah sapi dan disentrifus untuk mendapatkan serum. Sampel serum selanjutnya dianalisis menggunakan metode ELISA. Hasil menunjukkan bahwa rerata kadar hormon T4 pada minggu pertama $9,68 \pm 5,44$ ng/ml dan minggu terakhir $9,02 \pm 5,57$ ng/ml, sedangkan lingkaran tubuh sapi diantara rentang 163 – 192 cm. Data berdistribusi normal berdasarkan uji Shapiro-Wilk. Hasil *Paired Sample T-Test* menunjukkan bahwa pemberian suplemen tidak berpengaruh signifikan terhadap kadar T4 ($p > 0,05$). Analisis korelasi menunjukkan hubungan negatif ($r = -0,220$) antara lingkaran tubuh dan kadar hormon tiroksin ($p > 0,05$). Berdasarkan hasil penelitian dapat disimpulkan bahwa pemberian suplemen bubuk cangkang kerang darah memberikan korelasi negatif antara kadar hormon T4 dan lingkaran tubuh sapi.

Kata kunci: Tepung cangkang kerang darah, sapi potong, lingkaran tubuh, tiroksin (T4), suplementasi mineral

ABSTRACT

CORRELATION BETWEEN BODY CIRCUMFERENCE AND THYROXINE (T4) HORMONE LEVELS IN CATTLE THROUGH THE ADMINISTRATION OF BLOOD COCKLE (*Anadara granosa*) SHELL AS A FEED SUPPLEMENT

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The consumption of beef in Indonesia has not yet met demand, as the high demand for beef is not matched by domestic production, thus requiring special attention to increase cattle productivity. Growth and development of cattle are influenced by hormones and nutrition. Powdered shells of *Anadara granosa* contain various minerals that can be utilized as cattle feed supplements. Zinc mineral is particularly beneficial for enhancing thyroid hormone function and increasing body weight. This study aimed to examine the correlation between body circumference and thyroxine (T4) hormone levels with the addition of powdered blood cockle shell supplement in seven male beef cattle over six weeks. Body circumference and Body Condition Score (BCS) samples were collected at the sixth week, while blood samples were taken at the first and sixth weeks. Body circumference was measured by chest girth using tape and measuring tape. Thyroxine hormone levels were obtained from serum derived from centrifuged cattle blood. The serum samples were analyzed using the ELISA method. The results showed that the average T4 hormone level in the first week was 9.68 ± 5.44 ng/ml and 9.02 ± 5.57 ng/ml in the final week, while the cattle body circumference ranged from 163 to 192 cm. Data were normally distributed based on the Shapiro-Wilk test. The Paired Sample T-Test showed that the supplement had no significant effect on T4 levels ($p > 0.05$). Correlation analysis indicated a negative relationship ($r = -0.220$) between body circumference and thyroxine hormone levels ($p > 0.05$). Based on the findings, it can be concluded that the administration of blood cockle shell powder supplement shows a negative correlation between T4 hormone levels and cattle body circumference.

Keywords: blood cockle shell powder, beef cattle, body circumference, thyroxine (T4), mineral supplementation