ABSTRAK

PERBANDINGAN PEMBERIAN LEVEL PROTEIN BERBEDA TERHADAP RESPONS FISIOLOGIS SAPI BRAHMAN CROSS

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Penelitian ini bertujuan untuk mengetahui pengaruh pemberian protein dengan level protein berbeda terhadap respons fisiologis sapi Brahman Cross (BX). Penelitian ini dilaksanakan pada bulan April--Mei 2022 di KPT Maju Sejahtera, Desa Wawasan, Kecamatan Tanjung Sari, Lampung Selatan. Sampel yang digunakan yaitu sapi jantan BX berumur 3--4 tahun dan bobot 310--450 kg sebanyak 40 ekor yang ditentukan dengan purposive sampling yaitu 20 ekor diberikan perlakuan protein 12% dan 20 ekor diberikan perlakuan 13--14%. Peubah yang diamati dalam penelitian ini ialah respons fisiologis ternak meliputi suhu rektal sapi (℃), frekuensi pernafasan (kali/menit), frekuensi denyut jantung (kali/menit), dan indeks daya tahan panas (HTC), serta iklim mikro kandang yang meliputi suhu udara, kelembaban relatif (RH), dan Temperature Humidity Index (THI). Data yang didapatkan dianalisis menggunakan Uji-tidak berpasangan. Hasil penelitian menunjukkan rataan Temperature Humidity Index di lokasi penelitian sebesar 83,38. Rataan frekuensi respirasi siang hari pada sapi BX dengan perlakuan kadar protein 12% dan 13--14% berturut turut yaitu 30,90 ± 4,41 kali/menit dan 31,80 ± 5,10 kali/menit. Rataan frekuensi denyut jantung siang hari pada ternak sapi BX dengan perlakuan kadar protein 12% dan 13--14% berturut turut yaitu 60,80 ± 8,52 kali/menit dan 77,75 ± 10,33 kali/menit. Rataan suhu rektal siang hari pada sapi BX dengan perlakuan kadar protein 12% dan 13--14% berturut turut yaitu 38,48 ± 0,39°C dan 38,93 ± 0,40°C. Daya tahan panas memiliki rataan pada sapi jantan BX dengan perlakuan kadar protein 12% dan 13--14% berturut turut yaitu 2,18 ± 0,07 dan 2,26 ± 0,09. Pada penelitian ini dapat disimpulkan bahwa kondisi respons fisiologis dan daya tahan panas pada sapi BX pemberian protein 12% lebih baik dibandingkan dengan pemberian protein 13--14%.

Kata kunci: Daya tahan panas, Denyut jantung, Respirasi, Respons fisiologis, Suhu rektal

ABSTRACT

Comparison of Giving Different Protein Levels to Physiological Response of Brahman Cross Cow

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This study aims to determine the effect of giving protein with different protein levels on the physiological response of Brahman Cross (BX) cattle. This research was conducted on the month April--May 2022 in KPT Maju Sejahtera, Village Wawasan, Subdistrict Tanjung Sari, Lampung South. The samples were used BX bulls aged 3--4 years and weighing 310--450 kg A total of 40 individuals were determined by purposive sampling, namely 20 individuals were given treatment 12% protein and 20 tails were given 13--14% treatment. The variables observed in this study are livestock physiological responses include cow rectal temperature (°C), respiratory rate (times/minute), heart rate (times/minute), and Heat tolerance coefficient (HTC), as well as the microclimate of the cage which includes temperature air, relative humidity (RH), and Temperature Humidity Index (THI). The data obtained were analyzed using unpaired T-test. Research result showed that the average Temperature Humidity Index at the study site was 83,38. The average daytime respiration frequency days in BX cattle with a protein content of 12 % and 13--14 %, respectively 30.90 ± 4.41 times/minute and 31.80 ± 5.10 times/minute. Average daytime heart rate frequency in cattle BX cattle treated with protein content of 12 % and 13-14 %, respectively 60.80 ± 8.52 times/minute and 77.75 ± 10.33 times/minute. Mean daytime rectal temperature in BX cattle with assay treatment 12% and 13-14% protein respectively, namely 38.48 ± 0.39°C and 38.93 ± 0.40°C. Heat tolerance coefficient (HTC) in BX bulls with a protein content of 12% and 13-14%, respectively namely 2.18 ± 0.07 and 2.26 ± 0.09. It can be concluded that the condition of the physiological response and heat tolerance in BX cattle given protein 12% better than provision of 13--14% protein.

Keywords: Heat tolerance, Heart rate, Respiration, Physiological response, Rectal temperature