



NILAI HEAT TOLERANCE COEFFICIENT SAPI PERAH LAKTASI DI WUKIRSARI PADA MUSIM HUJAN

Firdha Aulia
14/356253/PT/06860

INTISARI

Penelitian ini bertujuan untuk diketahuinya nilai *heat tolerance coefficient* sapi perah peranakan *Friesian holstein* (PFH) laktasi pada manajemen pemeliharaan yang dilakukan di Kelompok Ternak Ngudi Makmur dan Sido Mukti di Wukirsari, Sleman, Yogyakarta pada musim hujan. Penelitian ini dilaksanakan pada musim penghujan mulai bulan Januari sampai Juni 2018, digunakan 20 ekor sapi perah laktasi 1 hingga 3 dengan umur 2,5 tahun sampai umur 6 tahun. Pakan yang diberikan adalah hijauan rumput raja dan konsentrat komersial dengan proporsi sesuai dengan yang biasa diberikan oleh peternak. Air minum diberikan secara *ad libitum*. Data yang diambil meliputi suhu dan kelembaban lingkungan, temperatur rektal, frekuensi respirasi, frekuensi pulsus, konsumsi pakan dan produksi susu. Metode yang digunakan dalam penelitian ini adalah pengambilan data secara langsung, kemudian data temperatur rektal dan frekuensi respirasi dihitung nilai *heat tolerance coefficient*. Analisis sampel pakan dilakukan di Laboratorium Ilmu Ternak Perah dan Industri Persusuan Fakultas Peternakan Universitas Gadjah Mada. Data dianalisis secara deskriptif dengan *Microsoft Excel 2016* dan *one sample t-test* dengan standar HTC sebesar dua. Data suhu dan kelembaban lingkungan dihitung nilai *temperature humidity index*. Hasil dari penelitian berupa nilai rata-rata frekuensi respirasi sebesar $45,50 \pm 6,07$ kali/menit tidak dalam batas normal sedangkan temperatur rektal dan frekuensi pulsus yang berada dalam kisaran normal secara berurutan $38,37 \pm 0,38^\circ\text{C}$ dan $53,42 \pm 2,03$ kali/menit. Nilai *heat tolerance coefficient* menunjukkan hasil kemampuan adaptasi sebesar 2,61 hingga 3,41. Nilai *temperature humidity index* sebesar $78,53 \pm 3,61$. Rata-rata konsumsi pakan harian sapi PFH sebesar $17,42 \pm 4,14$ kg BK/ekor/hari. Hasil rata-rata produksi susu $20,41 \pm 7,52$ liter per ekor per hari. Kesimpulan dari penelitian ini adalah sapi PFH pada musim hujan di Wukirsari memiliki nilai HTC dan THI yang menyebabkan *heat stress* ringan pada sapi perah, meskipun begitu produksi susu yang dihasilkan oleh ternak sesuai dengan literatur dan masih tergolong baik.

(Kata kunci: Sapi perah laktasi, Wukirsari, Temperatur rektal, Frekuensi respirasi, Frekuensi pulsus, *Heat Tolerance Coefficient*)



THE HEAT TOLERANCE COEFFICIENT VALUE OF LACTATING DAIRY CATTLE IN WUKIRSARI DURING RAINY SEASON

Firdha Aulia
14/356253/PT/06860

ABSTRACT

The aim of this research was to know the heat tolerance coefficient value in Friesian Holstein dairy cattle on the maintenance management that is conducted toward Ngudi Makmur and Sido Mukti livestock groups in Wukirsari, Sleman, Yogyakarta, during rainy season. This research was conducted in the 2018 rainy season (January - June). This study involved 20 dairy cattles of the first until third lactation, whose age range from 2,5 years old up to 6 years old. They were fed with king grass as well as commercial concentrate. The portion of their feeding was the same with the portion of feeding given by farmer. Meanwhile, their drinking water were given ad libitum. The datas collected included environmental temperature, environmental humidity, rectal temperature, respiration frequency, pulsus frequency, feed consumption and milk production. The research collected all the data directly. After that, the data of rectal temperature and respiration frequency was used as its heat tolerance coefficient value. Feed sample analysis was done in the Laboratory of Dairy Science and Dairy Industri in Faculty of Animal Husbandry Universitas Gadjah Mada. The data was analyzed descriptively using Microsoft Excel 2016 and one sample t-test with standard for HTC was two. The data of temperature and environmental humidity was calculated as its temperature humidity index value. The result of this study shows the average value of respiration frequency was $45,50 \pm 6,07$ times per minute not in the normal range but rectal temperature and pulsus frequency in normal range in order $38,37 \pm 0,38^{\circ}\text{C}$ and $53,42 \pm 2,03$ times per minute. The heat tolerance coefficient value ranged from 2,61 to 3,41. Its temperature humidity index value was $78,53 \pm 3,61$ while the average value of Friesian Holstein cattle's feed consumption is $17,42 \pm 4,14$ DM per head per day. The average value of Friesian Holstein cattle's milk production was $20,41 \pm 7,52$ litre per head per day. From this research, we can conclude that the HTC value of Holstein Friesian cattle and THI in Wukirsari caused mild heat stress in dairy cattle but milk production and feed consumption was good.

(Key words: Lactating dairy cattle, Wukirsari, Rectal temperature, Respiration frequency, Pulsus frequency, Heat Tolerance Coefficient)