

**NILAI HEAT TOLERANCE COEFFICIENT, TEMPERATURE HUMIDITY INDEX, KONSUMSI PAKAN, DAN PRODUKSI SUSU SAPI PERAH PERANAKAN FRIESIAN HOLSTEIN LAKTASI DI KELOMPOK TERNAK NGUDI MAKMUR II, CANGKRINGAN, SLEMAN**

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui nilai *temperature humidity index* (THI), *heat tolerance coefficient* (HTC), konsumsi pakan, dan produksi susu sapi perah Peranakan Friesian Holstein (PFH) pada pemeliharaan di Kelompok Ternak Ngudi Makmur II, Cangkringan, Sleman. Penelitian ini dilaksanakan pada bulan September 2022 sampai Maret 2023. Penelitian ini menggunakan 20 ekor sapi perah laktasi ke-1 dan ke-2 dengan rata-rata bobot badan  $461,1 \pm 66,2$  kg dan *body condition score* (BCS) 2,5 sampai 3,0. Pakan yang diberikan adalah hijauan dan konsentrat sesuai dengan kebiasaan peternak. Air minum diberikan secara *ad libitum*. Variabel yang diamati meliputi status faali (temperatur rektal, frekuensi respirasi, frekuensi pulsus) dan HTC, fisiologi lingkungan (suhu, kelembaban) dan THI, konsumsi pakan, serta produksi susu. Data penelitian yang diperoleh dianalisis secara deskriptif menggunakan *Microsoft excel* 2019. Hasil dari penelitian pada pengukuran status faali menunjukkan nilai rata-rata temperatur rektal sebesar  $36,75 \pm 0,18^\circ\text{C}$ , frekuensi respirasi  $56,76 \pm 8,18$  kali/menit, frekuensi pulsus  $67,17 \pm 5,32$  kali/menit, dan HTC  $3,30 \pm 0,34$ . Hasil rata-rata pengukuran fisiologi lingkungan menunjukkan suhu lingkungan  $26,60 \pm 1,08^\circ\text{C}$ , kelembaban lingkungan  $89,12 \pm 5,85\%$ , dan THI  $78,30 \pm 2,64$ . Nilai THI tersebut menggambarkan lingkungan yang ideal bagi sapi perah laktasi. Rata-rata konsumsi BK sebesar  $14,53 \pm 1,20$  kg/ekor/hari, BO  $12,98 \pm 1,05$  kg BK/ekor/hari, PK  $1,92 \pm 0,23$  kg BK/ekor/hari, SK  $4,39 \pm 0,38$  kg BK/ekor/hari, LK  $0,40 \pm 0,07$  kg BK/ekor/hari, dan TDN  $8,13 \pm 0,72$  kg BK/ekor/hari. Rata-rata persentase BK terkonsumsi dari berat badan adalah 2,77%. Rata-rata produksi susu sebesar  $13,98 \pm 3,21$  L/ekor/hari. Kesimpulan. Sapi perah laktasi di Kelompok Ternak Ngudi Makmur II, Cangkringan, Sleman memiliki nilai HTC dan THI pada kondisi *heat stress* ringan, meskipun begitu konsumsi pakan dan produksi susu sapi perah masih baik.

Kata Kunci: *Heat tolerance coeficient*, Konsumsi pakan, Peranakan Friesian Holstein, Produksi susu, Sapi perah laktasi

**VALUES OF HEAT TOLERANCE COEFFICIENT, TEMPERATURE HUMIDITY INDEX, FEED CONSUMPTION, AND MILK PRODUCTION OF LACTATING FRIESIAN HOLSTEIN CROSSBRED COWS IN THE NGUDI MAKMUR II DAIRY FARMER GROUP, CANGKRINGAN, SLEMAN**

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**ABSTRACT**

This study aims to determine the values of temperature humidity index (THI), heat tolerance coefficient (HTC), feed intake, and milk production of Friesian Holstein Crossbred cows raised at Ngudi Makmur II Dairy Farmer Group, Cangkringan, Sleman. The study was conducted from September 2022 to March 2023. The study used 20 first and second lactation dairy cows with an average body weight of  $461.1 \pm 66.2$  kg and body condition score (BCS) of 2.5 to 3.0. The feed given was forage and concentrate according to the farmers' habits. Drinking water was given ad libitum. The variables observed included the faali status (rectal temperature, respiratory rate, pulse rate) and HTC, environmental physiology (temperature, humidity) and THI, feed intake, and milk production. The research data obtained were analyzed descriptively using Microsoft Excel 2019. The results showed that the average rectal temperature was  $36.75 \pm 0.18^\circ\text{C}$ , respiratory rate was  $56.76 \pm 8.18$  times/min, pulse rate was  $67.17 \pm 5.32$  times/min, and HTC was  $3.30 \pm 0.34$ . The average environmental physiology measurements showed that the temperature was  $26.60 \pm 1.08^\circ\text{C}$ , humidity was  $89.12 \pm 5.85\%$ , and THI was  $78.30 \pm 2.64$ . THI indicated an ideal environment for lactating cows. The average dry matter intake was  $14.53 \pm 1.20$  kg DM/head/day, organic matter intake was  $12.98 \pm 1.05$  kg DM/head/day, crude protein intake was  $1.92 \pm 0.23$  kg DM/head/day, crude fiber intake was  $4.39 \pm 0.38$  kg DM/head/day, crude fat intake was  $0.40 \pm 0.07$  kg DM/head/day, and total digestible nutrient intake was  $8.13 \pm 0.72$  kg DM/head/day. The average milk production was  $13.98 \pm 3.21$  L/head/day. The lactating dairy cows in Ngudi Makmur II dairy farmer group, Cangkringan, Sleman have HTC and THI values on mild heat stress condotion. However, the feed intake and milk production of lactating dairy cows are still good.

**Keywords:** Heat tolerance coefficient, Feed intake, Friesian Holstein Crossbred, Milk production, Lactating cows