

**ESTIMASI NILAI HERITABILITAS KADAR LEMAK DAN PROTEIN  
SUSU SAPI *FRIESIAN HOLSTEIN* DI BALAI BESAR PEMBIBITAN  
TERNAK UNGGUL - HIJAUAN PAKAN TERNAK  
BATURRADEN, BANYUMAS,  
JAWA TENGAH**

Dody Houston Billhaq  
12/334277/PT/06305

**INTISARI**

Penelitian ini bertujuan untuk mengestimasi nilai heritabilitas kadar lemak dan protein susu sapi *Friesian Holstein* (FH) di Balai Besar Pembibitan Ternak Unggul - Hijauan Pakan Ternak (BBPTU-HPT) Baturraden, Banyumas, Jawa Tengah. Materi yang digunakan dalam penelitian ini adalah data primer dan sekunder sebagai bahan analisis. Data primer diperoleh dengan melakukan pengamatan dan wawancara secara langsung tentang manajemen pemeliharaan dan pencatatan (*recording*) susu sapi FH. Data sekunder berupa catatan silsilah dan catatan komposisi susu terutama kadar lemak dan protein susu sapi FH tahun 2013 sampai 2015. Catatan kadar lemak susu yang digunakan berasal dari 170 ekor sapi FH dan catatan kadar protein susu yang digunakan berasal dari 89 ekor sapi FH di BBPTU-HPT Baturraden. Pendugaan angka pewarisan sifat (heritabilitas) pada sapi FH di BBPTU-HPT Baturraden, Banyumas, Jawa Tengah menggunakan metode analisis variansi data saudara tiri sebakap (*paternal halfsib correlation*). Hasil penelitian menunjukkan bahwa rata-rata kadar lemak susu serta standar deviasi yang diperoleh dari perhitungan 170 data populasi yaitu  $3,93 \pm 0,91\%$ , sedangkan rata-rata kadar protein susu serta standar deviasi yang diperoleh dari perhitungan 89 data populasi yaitu  $2,81 \pm 0,16\%$ . Hasil perhitungan heritabilitas kadar lemak dan protein susu sapi FH di BBPTU-HPT Baturraden menggunakan data saudara tiri sebakap (*paternal halfsib correlation*) diperoleh nilai heritabilitas kadar lemak dan protein yaitu  $0,47 \pm 0,30$  dan  $0,27 \pm 0,45$ . Estimasi nilai heritabilitas kadar lemak dan protein susu di BBPTUHPT Baturraden menghasilkan nilai heritabilitas kadar lemak yang tergolong ke dalam kategori tinggi, sedangkan nilai heritabilitas kadar protein tergolong ke dalam kategori sedang. Hasil estimasi nilai heritabilitas kadar lemak susu dapat digunakan untuk acuan seleksi dimasa mendatang, sedangkan nilai heritabilitas kadar protein susu belum dapat digunakan untuk acuan seleksi.

(Kata Kunci: Sapi Perah, Heritabilitas, Kadar Lemak, Kadar Protein)

**ESTIMATE HERITABILITY VALUE FAT AND PROTEIN MILK CONTENTS OF COW'S *HOLSTEIN FRIESIAN* IN BALAI BESAR PEMBIBITAN TERNAK UNGGUL - HIJAUAN PAKAN TERNAK BATURRADEN, BANYUMAS, CENTRAL JAVA**

Dody Houston Billhaq  
12/334277/PT/06305

**ABSTRACT**

This study aimed to estimate the heritability of fat and protein content of cow's milk Holstein Friesian (HF) in Balai Besar Pembibitan Ternak Unggul – Hijauan Pakan Ternak (BBPTU-HPT) Baturraden, Banyumas, Central Java. The material used in this study were primary and secondary data for analysis. Primary data were obtained by direct observation and interviews about maintenance management and recording HF cow's milk. Secondary data was pedigree record the composition of milk, especially fat and protein content of HF cow's milk 2013 to 2015. Fat content record of the milk used comes from 170 HF cow's milk and protein content record of milk used comes from 89 HF cows in the BBPTU-HPT Baturraden. Estimation of the numbers of inheritance (heritability) diary cow in BBPTU-HPT Baturraden, Banyumas, Central Java using analysis of variance of data step brother (Paternal Halfsib Correlation). The results showed that the average fat content of milk, and the standar deviation obtained from the calculation of population data 170 was  $3.93 \pm 0.91\%$ , while the average protein content of milk and the standard deviation obtained from 89 population data calculation was  $2,81 \pm 0.16\%$ . The result of the calculation of the heritability of fat and protein in HF cow's milk BBPTU-HPT Baturraden using methods step brother (Paternal Halfsib Correlation) obtained heritability fat and protein concentration was  $0.47 \pm 0.30$  and  $0.27 \pm 0.45$ . Estimated heritability levels of fat and protein in milk yield heritability BBPTU-HPT Baturraden fat levels were classified into categories of high, whereas heritability protein levels fall into category of moderate. The results heritability estimate the fat content of milk may be used for future reference selection, while the value of the heritability of milk protein content can not be used for reference selection.

(Keyword: Dairy Cattle, Heritability, Fat Content, Protein Content)