



ANALISIS POTENSI DAN KINERJA SAPI JABRES DI KECAMATAN BANTARKAWUNG, BREBES

INTISARI

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Penelitian ini dilakukan untuk mengetahui kekerabatan berdasarkan filogenetik dan performa sapi Jabres, profil peternak sapi Jabres, potensi hijauan pakan dan kapasitas tampung padang penggembalaan alam serta mengetahui nilai kontribusi sapi Jabres terhadap ekonomi peternak. Sebanyak 16 sampel darah sapi yang terdiri dari sapi Jabres, Madura, Peranakan Ongole (PO), dan PO Kebumen serta 21 data nukleotid dari Genbank digunakan untuk analisis filogenetik pada penelitian I. Pada penelitian II, sebanyak 521 sapi Jabres digunakan sebagai sampel untuk mengetahui performa sapi Jabres. Penelitian III, eksplorasi profil peternak yang melibatkan 60 orang peternak. Penelitian IV, eksplorasi potensi hijauan pakan di wilayah Kecamatan Bantarkawung dan penelitian V, analisis sosial ekonomi sapi Jabres yang melibatkan 60 orang peternak dari dua wilayah yang berbeda di Kecamatan Bantarkawung. Metode indentifikasi genotip menggunakan sekuensing dan analisis filogenetik menggunakan metode Kimura 2-parameter model pada penelitian I untuk performa sapi Jabres dilakukan penimbangan berat badan, pengukuran ukuran tubuh panjang badan, lingkaran dada, tinggi gumba, tinggi pinggul, panjang kepala dan lebar kepala serta korelasinya terhadap berat badan pada penelitian II. Pada penelitian III dan V menggunakan metode *Participatory Rural Appraisal* (PRA), variabel yang diamati meliputi umur, pengalaman beternak, jumlah tanggungan, jumlah kepemilikan sapi, tingkat pendidikan, alasan beternak, harga jual ternak, harga jual kotoran, nilai bunga tabungan dan asuransi. Analisis proksimat pakan, *supervised classification* dilakukan pada penelitian IV. Hasil penelitian I menunjukkan adanya 35 SNP pada sapi Jabres dan jarak genetik antara sapi Jabres dengan sapi Madura adalah 0,0001 yang menunjukkan kedekatan secara genetik. Jarak genetik ini berdampak pada performa sapi Jabres yang hampir mirip dengan sapi Madura sebagaimana hasil penelitian II. Selain itu, ukuran tubuh sapi Jabres memiliki korelasi yang signifikan dengan berat badan yang ditunjukkan pada hasil penelitian II. Pada hasil penelitian III, profil peternak sapi Jabres di Kecamatan Bantarkawung mirip dengan peternak di Indonesia secara umumnya. Pada zona dataran rendah, alasan pemeliharaan ternak adalah sebagai tabungan, sedangkan pada zona dataran sedang sebagai sumber pendapatan. Hasil penelitian IV menunjukkan bahwa kapasitas tampung pada dua zona adalah sama, yaitu pada kondisi *overgrazing*. Hasil penelitian V menunjukkan bahwa sapi Jabres memiliki nilai total manfaat yang berbeda pada nyata pada kedua zona, pada zona dataran sedang sebesar Rp. 65.228.000, sedangkan pada zona dataran rendah sebesar Rp. 44.992.000. Berdasar hal ini, peternak pada zona sedang memiliki kemungkinan berkelanjutan yang lebih besar, dibandingkan dengan peternak pada zona dataran rendah.

Kata kunci: Filogenetik, Kapasitas tampung, Nilai manfaat, Performa, Profil peternak, dan Sapi Jabres.



**POTENTIAL ANALYSIS AND PERFORMANCE OF JABRES CATTLE
IN BANTARKAWUNG DISTRICT, BREBES**

ABSTRACT

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This study was conducted to determine the origin or phylogenetic and performance of Jabres cattle, Jabres cattle farmers profiles, potential forage and natural pasture capacity and the value of the contribution of Jabres cattle to the farmer's economy. A number of 16 samples consisting of Jabres, Madura, Peranakan Ongole (PO), and Kebumen PO cattle blood were used for phylogenetic analysis in study I together with 21 nucleotide data from Genbank. In Study II, 521 Jabres cattle were used as samples to determine the Jabres cattle performance. Study III was focused in exploring the farmer profiles which involve 60 Jabres cattle farmers. Study IV was focused in the exploration of forage potential in the Bantarkawung District area and study V was emphasized on the Jabres cattle socioeconomic analysis which involve 60 Jabres cattle farmers from two different areas in Bantarkawung District. In study I, genotype identification was performed by sequencing and phylogenetic analysis using Kimura method with 2-parameter model. In study II, the performance of Jabres cattle was measured by weighing and measuring the body length, heart girth, withers height, rump height, head length and head width of Jabres cattle and also analyzing the correlation of body measurement to the body weight. In study III and V, the Participatory Rural Appraisal (PRA) method was used with the observed variables include age, breeding experience, number of dependents, number of cattle ownership, education level, reasons for raising livestock, selling price of cattle, selling price of dirt, interest rates for savings and insurance. Proximate analysis of feed and supervised classification was conducted in study IV. The results of study I showed that there were 35 SNPs in Jabres cattle and the genetic distance between Jabres cattle and Madura cattle was 0.0001 which indicated genetic closeness. This genetic distance affects the performance of Jabres cattle which were similar to Madura cattle as the result obtained in study II. Furthermore, the body size of Jabres cattle had a significant correlation with their body weight. In the results of study III, the profile of Jabres cattle farmers in Bantarkawung District was similar to the general Indonesian farmers. In the lowland zone, the reason for raising livestock was as a savings, while in the middle zone was as a source of income. The results of research IV showed that the storage capacity in the two zones is the same, in overgrazing conditions. The results of study V indicated that Jabres cattle have a total value of benefits that are significantly different in the two different zones, in the middle zone as much as 65,228,000 IDR while in the lowland zone as much as 44,992,000 IDR. Based on these results, farmers in the middle zone had a greater sustainable possibility than farmers in the lowland zone.

Keywords: Benefits value, Carrying Capacity, Farmers Profile, Jabres cattle, Performance, Phylogenetic.