PENGARUH PERSILANGAN PEJANTAN SAPI EKSOTIK DENGAN INDUK SAPI BALI TERHADAP PERFORMAN REPRODUKSI MELALUI INSEMINASI BUATAN DI KABUPATEN LOMBOK TIMUR

INTISARI

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Penelitian ini bertujuan untuk mengetahui pengaruh wilayah dan tipe persilangan antara pejantan sapi eksotik (Simmental, Limousin, dan Brahman) dengan induk sapi Bali terhadap performan reproduksi melalui inseminasi buatan (IB) di Kabupaten Lombok Timur. Parameter utama yang diamati dalam penelitian ini meliputi *service per conception* (S/C), *calving interval* (CI), dan *conception rate* (CR). Penelitian dilakukan pada lima kecamatan, yaitu Montong Gading, Terara, Masbagik, Aikmel, dan Wanasaba, dengan melibatkan 79 peternak yang dipilih secara *purposive sampling* berdasarkan ketersediaan data reproduksi dan pengalaman penggunaan IB. Penelitian ini menggunakan metode survei dengan pendekatan kuantitatif. Data dikumpulkan melalui wawancara, observasi lapangan, dan catatan reproduksi. Variabel yang diamati dianalisis menggunakan *Multivariate Analysis of Variance* (MANOVA) untuk menilai pengaruh faktor wilayah dan tipe persilangan terhadap performan reproduksi. Data dianalisis menggunakan perangkat lunak statistik SPSS versi 25. Hasil penelitian menunjukkan bahwa faktor wilayah tidak berpengaruh signifikan terhadap S/C (P=0,298), CI (P=0,864), atau CR (P=0,257). Tipe persilangan juga tidak berpengaruh signifikan terhadap S/C (P=0,171), CI (P=0,091), atau CR (P=0,578). Tidak terdapat interaksi antara wilayah dan tipe persilangan terhadap performan reproduksi (P>0,05). Analisis multivariat memperlihatkan bahwa faktor wilayah tidak berpengaruh signifikan terhadap kombinasi variabel performan reproduksi (Wilks' Lambda=0,808; P=0,522). Faktor tipe persilangan juga tidak berpengaruh nyata terhadap kombinasi variabel performan reproduksi (Wilks' Lambda=0,419; P=0,134). Tidak terdapat interaksi antara wilayah dan tipe persilangan terhadap kombinasi variabel performan reproduksi (P>0,05). Tingkat kesulitan beranak (*dystocia*) bervariasi antar kecamatan, yaitu 0–25%, dengan angka tertinggi di Aikmel dan Terara (25%) serta terendah di Wanasaba (0%). Meskipun demikian, kesehatan pedet relatif baik dengan mayoritas lahir sehat (90–100%), dan hanya Montong Gading serta Terara yang mencatat pedet tidak sehat (10–12,5%). Berdasarkan penelitian dapat disimpulkan bahwa tipe persilangan, perbedaan wilayah, maupun interaksi keduanya tidak berpengaruh terhadap performan reproduksi sapi Bali hasil inseminasi buatan.

Kata Kunci: Persilangan, Sapi Bali, Sapi Eksotik, Performan Reproduksi, Inseminasi Buatan, Multivariat

THE EFFECT OF CROSSING EXOTIC BULLS WITH BALI COW ON REPRODUCTIVE PERFORMANCE THROUGH ARTIFICIAL INSEMINATION IN EAST LOMBOK REGENCY

ABSTRACT

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This study aimed to determine the effects of region and crossbreeding type between exotic sire breeds (Simmental, Limousin, and Brahman) and Bali cows on reproductive performance through artificial insemination (AI) in East Lombok Regency. The main parameters observed in this study included service per conception (S/C), calving interval (CI), and conception rate (CR). The research was conducted in five districts, namely Montong Gading, Terara, Masbagik, Aikmel, and Wanasaba, involving 79 farmers who were purposively selected based on the availability of reproductive records and their experience with AI. A quantitative survey method was employed. Data were collected through interviews, field observations, and reproductive records. The observed variables were analyzed using Multivariate Analysis of Variance (MANOVA) to assess the effects of region and crossbreeding type on reproductive performance. Data were processed using SPSS software version 25. The results showed that the regional factor did not have a significant effect on S/C ($P = 0.298$), CI ($P = 0.864$), or CR ($P = 0.257$). Similarly, the type of crossbreeding did not significantly affect S/C ($P = 0.171$), CI ($P = 0.091$), or CR ($P = 0.578$). No interaction was observed between region and crossbreeding type on reproductive performance ($P>0.05$). Multivariate analysis revealed that the regional factor did not significantly affect the combination of reproductive performance variables (Wilks' Lambda = 0.808; $P = 0.522$). Likewise, the crossbreeding type showed no significant effect on the combined reproductive performance variables (Wilks' Lambda = 0.419; $P = 0.134$). Furthermore, no interaction was found between region and crossbreeding type in relation to reproductive performance ($P > 0.05$). The incidence of dystocia varied across districts, ranging from 0% to 25%, with the highest rates recorded in Aikmel and Terara (25%) and the lowest in Wanasaba (0%). Nevertheless, calf health was generally good, with the majority born healthy (90–100%), while only Montong Gading and Terara reported unhealthy calves (10–12.5%). Based on the findings, it can be concluded that the type of crossbreeding, regional differences, and their interactions did not influence the reproductive performance of Bali cattle resulting from artificial insemination.

Keywords: Crossbreeding, Balinese Cattle, Exotic Cattle, Reproductive Performance, Artificial Insemination, Multivariate.