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Reproductive performance of cattle breeds in kunene north: insights from himba pastoralists

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Abstract

Reproductive performance is critical for sustaining cattle-based livelihoods, particularly in pastoral regions with harsh environmental conditions. Reproductive success relies on complex interplay between humans, animals, and the environment. Pastoralists draw on their deep knowledge of breed-specific adaptations to manage herds in ways that optimise reproductive outcomes in challenging environments. The differences in reproductive success are not only shaped by herding practices, but also by animals' genotype, which affects their resilience, fertility, and capacity to thrive under harsh conditions.

Indigenous breeds are often criticised for their perceived low productivity, yet there is limited empirical research on the reproductive performance of different cattle breeds under harsh environmental conditions.

This study aims to examine how Himba herders' knowledge influences breed selection and reproductive management, focusing on the differences in reproductive performance between indigenous and crossbred cattle in Kunene North.

Data were collected through 30 semi-structured interviews and 130 progeny history records for both pure and cross-breed cattle among Himba pastoralists over 12 months.

Progeny history data revealed differences in lifetime performance of breeds, with Nguni (an indigenous breed) showing the highest values. According to Kunene herders, Nguni cows reach puberty earlier than cross-breeds – such as Herero and Brahman crosses. Additionally, herders observed that crossbreeds exhibit less consistent calving intervals, with gaps of three or more years without producing a calf in their reproductive lifespan. In contrast, Nguni cows typically maintain regular calving intervals of no more than two years throughout their reproductive lifespan. The frequency of calving is determined by several factors, including the availability of bulls, the availability of forage - particularly during drought - and the animal's capacity to access remote pastures, navigate rocky terrains, and achieve a sufficient body condition, to warrant conception also during the dry season. The Himba herders apply their knowledge to select animals that can endure, and reproduce under the specific environmental conditions of their territories. This underscores the importance of local knowledge and herders' abilities in identifying animals that are well-suited to particular territories, thereby ensuring sustainable production and livelihoods.

Keywords: Himba pastoralists, indigenous cattle breeds, livestock management, progeny history, reproductive performance

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