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"Filling gaps and removing traps
for sustainable resource management"

Morphometric Characterisation of Purebred Baoulé and their Crosses in the Southwestern Region of Burkina Faso

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Abstract

The cattle population of Burkina Faso is currently around 8.5 million providing draft power, meat and milk to the country as well as foreign exchange from exports. The various natural resources of the country from semi-arid Sahelian North to sub-humid Sudanese South yielded a diverse local cattle populations, with comparatively large and strong indicine (zebu) cattle in the North and physically very small taurine cattle in the disease ridden south. The overall objective of the LoCa-Breed project is to contribute to livelihood improvement and a better understanding of Burkina Faso local cattle breeds.

It is this context that a morphometric characterisation study has been conducted to explore the prospects for improvement and conservation of the Baoule cattle breed in southwestern region of Burkina Faso. A total of 421 cattle including 266 Baoulé × zebu crossbreds and 155 purebred Baoulé cattle were characterised for 24 quantitative and 20 qualitative traits.

The analyses of quantitative traits confirmed the notable differences in size between Baoulé and their crosses with zebu cattle. This difference was significant in all of the 24 measured quantitative traits. In fact, crossbreeding with zebu increases body size, which is considered as an improvement because larger animals are preferred by the breeders. The qualitative traits, such as coat colour, and horn shape showed large variety within Baoulé and crossbreds, likely due to local preferences of livestock keepers rather than breed identity. The combined genotype-location effect showed that facial length, distance point to point horn, ear length, chest depth, colour of muzzle, head tache and horn shape differ between purebred Baoulé and crossbred populations. The differences of qualitative traits are a result of the selection by the breeders, rather than due to environment. These results will serve as basis for further characterisation, conservation and improvement strategies for Burkina Faso Baoulé breed.

Keywords: Cattle breeds, characterisation, crossbreds, linear model, morphological traits

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