

Comparative analysis of quantitative phenotypic parameters of Djallonke and hybrid (Djallonke × Sahelian) goats in Benin.

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1 SUMMARY

The characterization of small ruminants in developing countries would play an important role in the conservation of animal genetic resources. This study aimed to identify and characterize indigenous goats in the districts of Kouandé, Kérou, and Péhunco (2KP) in Benin. A sample of 826 goats aged up to 3 years old was studied considering 18 quantitative traits: live weight, heart girth, height at withers, rump height, body length, pin-bone length, pin-bone width, neck girth, chest depth, shoulder length, tail length, ear length, head length and width, horn length and shinbone circumference. Multivariate analyses (Principal Component Analysis and Multivariate Analysis of Variance) revealed that goat population had two morphological subtypes. The breeds identified were dwarf goats with middle size (44.17 ± 7.51 cm for height at withers and 45.73 ± 7.54 cm for rump height) with ears (9.71 ± 1.37 cm for the left ear and 9.57 ± 1.26 cm for the right ear) and short horns (5.3 ± 2.29 cm for the left horn and 5.34 ± 2.28 cm for the right horn). Djallonké × Sahelian had a large size (53.49 ± 8.12 cm for height at withers and 54.59 ± 8.13 cm for rump height). Their ears showed 11.69 ± 1.27 cm for the left and 11.6 ± 1.27 cm for the right longhorns (9.73 ± 3.02 cm for the left horn and 9.62 ± 3.06 cm for the right horn). A multivariate analysis of the variance also showed that there is a highly significant difference ($p < 0.001$) between the two breeds as regards biometric parameters. The present study could greatly help in designing management and conservation policies for the sustainable production of goat breeds in Benin.