

Gene-driving management practices in the dromedary husbandry systems under arid climatic conditions in Algeria.

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April 05, 2024

Abstract

ABSTRACT Changes in socio-economics, demography, politics and climate in arid and semi-arid regions in recent decades have led to profound transformations in livestock practices particularly in the management of local animal resources. The dromedary *Camelus dromedarius* has always played an important role in human life history in Algeria; it provides a substantial contribution in protein production such as milk and meat, and it is used as means of transportation to local populations. It is well adapted to arid environments and has a satisfactory potential for food production that enables economic security to locals especially in the context of climate change. Data concerning this valuable resource is scarce. This article adds supplementary yet valuable information to the current knowledge on camel genetic diversity related to different management practices. Genetic and phenotypic variations and the underlying raising systems' practices are studied to understand differences between breeds for a better resource management. The survey of 277 camel breeders across the Algerian desert revealed a genetic diversity in terms of breeds driven by four pastoral practices. According to coat color and morphological aspect, the camel population "Tergui" corresponds to three breeds, namely Mahri with 53.13% of the population, Marouki (43.22%), and the single-ecotype Azerghaf (3.65%). Mahri is a mixture of Amelal and Abahou ecotypes that are being outnumbered by Marouki's ecotypes (Atelagh and Alemlagh). This biodiversity is under real threat because of the behavior of pastoral societies that pushes breeders to turn to breeds with a high market value. Several useful conservation methods, including the use of modern farming systems, could be positively used and/or improved, in order to protect the genetic variety and help breeders realize a good living out of it. **Keywords:** Algerian desert; arid area; C. dromedaries; genetic diversity; management practices, typology.

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