EVALUATION OF PERFOR-MANCE AND CONSTRAINTS IN BREEDING

Our activites

Intro

The measurement of animal performance in relation to external factors is an essential prerequisite for a better understanding of the adaptive capacity of animal production systems. Indeed, these data make it possible to :

Quantify the degree of adaptation of animals to the main climatic, food and sanitary constraints, and compare the physiological, biological and technical impacts (performance level) of these constraints between different phenotypes/genotypes.

Assess the margins of progress to improve the economic and environmental efficiency of farms.

Conduct comparative analyses between the different breeds of cattle, sheep and goats present in the Indian Ocean.

To make up for the lack of reliable information on farming systems in developing countries or in regions with

little or no technical support, the CIRAD has developed an information system adapted to ruminant farms (LASER, Logiciel d'Aide au Suivi d'Élevage des Ruminants) in a traditional environment, based on monitoring zootechnical performance and the individual morpho-biometric characteristics of animals.

OBJECTIVES

1. **Maintain or develop technical repositories** using shared methods and tools (performance monitoring system, zootechnical performance analysis framework, manual and scoring grid, genetic characterization of local populations available from some of the project partners, LASER software, etc.) by ensuring their adaptation and transfer to users through training.

2. **To make available the references** obtained in the different contexts from the different partners

According to figures from the Ministry of Livestock in Madagascar, 48% of farmers practice zebu breeding (2012). Malagasy zebus enjoy a high socio-cultural consideration (saving, sacrifice, meat production) and are characterized by a great hardiness, but low productivity. In order to obtain animals that are more productive in meat production, while remaining hardy, other breeds have been developed through crossbreeding. This is the case of the Renitelo breed, which is a hybrid breed, resulting from crossbreeding between zebu Africander, Malagasy and Limousin. Other crosses have been made between the Malagasy zebu breed and imported dairy breeds such as the black magpie friesian to improve milk production. In Madagascar, as in most of the partner countries, we find a great diversity of breeds and genetic types resulting from crossbreeding between different breeds. What

Characterization of factors influencing zootechnical performance of local cattle at Madagascar by the L.A.S.E.R. method.

are the capacities for adaptation to environmental changes and the production potential of these different breeds? Do cross-breeding between breeds make it possible to maintain or improve these adaptive capacities and production potentials? It is to answer these questions that the characterisation of the zootechnical performance of herds and breeds is necessary.

Monitoring the productive performance of cattle breeds

A monitoring of the productive performance of the cattle breeds present in the Kianjasoa region of Madagascar was initiated by FOFIFA in April 2017 as part of the ECLIPSE phase 1 project. The activity aims to continue monitoring over the duration of the ECLIPSE phase 2 project and to acquire precise data to compare the adaptation capacities and production levels of these 3 breeds and to identify the management methods influencing the zootechnical performance of the cattle. Data on climatology, feeding and parasite monitoring will complement the production data in order to have the most complete assessment possible of the potential of the local breeds. At the end of the project, the results will make it possible to initiate an analysis of the genetic diversity of local cattle breeds (genotyping) and to integrate these breeds into an overall analysis of the adaptation of zebus breeds in the Indian Ocean zone to climatic constraints.