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What Matters in the Realisation of a Communal Dairy Breeding Programme in the Tropics?

BIRGIT ZUMBACH, KURT-JOHANNES PETERS

Humboldt-Universität zu Berlin, Department for Animal Breeding in the Tropics and Subtropics, Germany

Abstract

Adapted communal breeding programmes could be a powerful mean to increase dairy cattle productivity in a sustainable way and at the same time to maintain local genetic resources. The essential steps of a breeding programme consist in breeding goal definition, choice of selection criteria, organisation of a performance recording service, use of the information for selection, and dissemination of genetic response. Procedures and descriptions how to carry out these steps are well established and successfully applied for certain species in certain countries under certain conditions. However, the realisation of these steps under tropical smallholder conditions still poses a great challenge for any community striving for a genetic improvement programme.

The objective of this work is to specify the practical implications of performance recording for dairy smallholders in the tropics with regard to technical issues.

Animal recording for breeding purposes presupposes the assignment of an observed or measured performance, as well as important information on systematic effects and kinship to the candidate. These information have to be adequately registered and analysed. However, organisational and institutional structures in most developing countries are not fully established and functioning. Appropriate alternatives for superior animals for the selection of breeding animals for dissemination are discussed. These involve the aspects of animal identification including ancestors, the determination of performance traits and important systematic effects, the registering of data, database and data analysis. Hereby an adequate level of sophistication as well as an appropriate assignment of tasks has to be ascertained. On the other hand an adequate mating service based on the identified breeding animals is needed. In this connexion issues like the creation of genetic links, avoidance of inbreeding, mating relations, etc. have to be considered.

Keywords: Animal recording, breeding programme, dairy, smallholder