Genetic improvement of dairy cattle and buffaloes in the tropics

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Breeding for beef production and dairy cattle ranching in Latin America

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The first part of the report deals with the most important characteristics of the ranching-system in Latin America which are determining production intensity. As special factors of influence climate, soil quality, quality of the sward, existing cattle populations and above all management are pointed out. As limiting factors the lack of division of labour, inadequate infrastructure, a limited market for beef, seasonality of production, limited use of supplementary feeding, low labour density and water supply are dealt with. Among the measures to improve animal production those which lead to an intensification of management are to be considered with priority. The terms beef- and dairy-ranching are defined and the existing potential of cattle breeds is described.

Measures for genetic improvement concentrate on the complexes of fertility, weaning weights and milk yield. Results from experimental stations specially on the effects of cross-breeding are communicated.

Finally purebreeding and crossbreeding and their importance for beef- and dairy-ranching are discussed and the importance of the animal breeding organization for realization of genetic improvement is emphasized.

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Many tropical countries have an increasing demand for dairy products. One of the first proposals to meet these requirements is to increase the production capacity of the dairy animals by selection, cross-breeding or even importation of female stock. However, improvement of the genetic capacity will only result in higher production if nutrition, management and other inputs are improved adequately as well. Possibilities of genetic improvement by selection in the indigenous population are limited due to lack of registration and milk-recording under field circumstances. Introduction of these facilities is expensive and complicated and should only be done in combination with extension activities. Selection of young bulls on pedigree information in bull-mother farms is a realistic alternative. As genetic progress from selection is often considered too low, cross-breeding with bulls from exotic breeds is preferred. Carefull selection of suitable exotic breeds and optimal levels of exotic inheritance should be done. After the optimal level is obtained invariably a selection programme should be started within the new breed. Up-grading to an exotic breed should only be done in exceptional cases where inputs and circumstances can be improved very rapidly. Cross-breeding programmes to exploit heterosis continuously seem only applicable in large well registered herds.