



## agriculture & rural development

Department:  
agriculture  
& rural development  
**PROVINCE OF KWAZULU-NATAL**

# DAIRYING IN KWAZULU-NATAL

## The National Dairy Cattle Performance and Progeny Testing Scheme

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### OBJECTIVES

The objectives of this Scheme are to promote the economical and the biological efficiency of milk production in the dairy industry. First, objective information, with regard to milk production, butterfat and protein levels of individual cows, is essential for developing more efficient feeding and management programmes. Second, performance recording provides estimates of the breeding value of individual cows and bulls, and the use of this information in breeding programmes constitutes an effective means of improving the genetic potential of the national dairy herd. In this respect, the role of the A.I. industry is vital for the progeny testing of young dairy bulls, and for the distribution of semen from plus-proven bulls which have been identified through the national young dairy-bull progeny testing scheme.

### ADVANTAGES OF PERFORMANCE TESTING IN DAIRY HERDS

Participation in the milk recording scheme has several advantages in respect of management or selection practices.

#### Management advantages

- Milk weights are established objectively, and milk samples from individual cows are tested for butterfat, protein and lactose contents. This information can be used for critical adjustments to feeding levels and quality of, particularly, concentrate feeds.
- Calving dates, insemination dates, and drying-off dates allow the producer to adjust lactation length, and to provide adequate rest periods, while striving for ideal inter-calving periods (ICP). Once-yearly calving remains the ideal ICP, because individual ICPs below 365 days have a negative effect on milk production.

#### Selection advantages

- Lactation summaries for each cow provide an assessment of breeding values for butterfat and for protein. A cow's lactation is compared, by index, to those of her contemporaries, according to calving number. Culling cows for

- low milk, low butterfat, or low protein production, is a relatively simple task. In addition, emphasis can be placed where required. For example, recent price structuring mechanisms which favour protein content, encourage emphasis in selection to be placed on actual protein production.
- Replacement heifers can be selected on the basis of proof of sire's, and of the dam's relative performance.
  - Dams of future potential herd sires can be identified on the strength of their relative life-time production ability as reflected in kilograms fat-corrected milk (FCM) produced per day of life.
  - A bull is proved for production traits by virtue of the production ability of his daughters, as compared with the daughters of his contemporaries', over the full spectrum of milk yield and milk components.

## MEMBERSHIP

Servicing of the membership of The National Dairy Cattle Performance and Progeny Testing Scheme is carried out by three partners, viz.

- The Taurus Stock Improvement Co-op. Ltd, which accepts applications from aspiring members, and provides the following services:
  - training prospective members in the recording and sampling techniques required
  - providing transport for milk samples from central pick-up points to its regional laboratory at Baynesfield for KwaZulu-Natal producers
  - testing milk samples, from each individual cow, for butterfat, protein, and lactose, on behalf of its members.
- Veedata (S.A. Stud Book and Livestock Improvement Association) which took over the function of processing performance data from the Department of Agricultural Development in April 1990, and produces information on the lactations of individual cow. This procedure provides the link whereby performance data is intergrated with the pedigree information supplied by registration. Its programs also produce information on herd average production, average age at calving, and ICP, and compare herd production with the previous years' average, and with the national breed average.
- The Department of Agricultural Development which has the following duties:
  - the development of the Scheme with regard to the technical acceptance at international scientific level, and the application of latest technology, i.e. the BLUP (best linear unbiased predictor) statistical program,
  - promoting the expansion of participation in the Scheme,
  - ensuring the accuracy of data collected from the field by means of control (check) testing to meet international standards,
  - responsibility for the accuracy of infra red testing equipment at regional laboratories,
  - co-ordinating and implementing decisions of the Minister's Advisory Committee for the Dairy Cattle Performance and Progeny Testing Scheme.

## DUTIES OF MEMBERS

Members of the Scheme are required to supply complete and accurate information with regard to the identification, breeding, and identity of all bulls, cows and heifers in the herd.

- Identification of registered animals is according to breed society requirements. Grade animals must be identified according to the national identification scheme for grade heifers. This consists of a herd code letter (HCL), and year-sequence number.
- All calving and insemination dates must be recorded.
- Milk weights produced on the monthly recording day shall be recorded accurately to within 0,2 kg by an approved measuring system.
- Composite milk samples shall be taken accurately after appropriate agitation, or mixing, of the milk.

Officers of the Scheme must be allowed access to members' premises,  
in terms of the regulations.