

## **AS6.**

### **EVALUATION OF PRODUCTION AND GROWTH PERFORMANCE OF AI HEIFERS UNDER THE KERALA HEIFER CALF REARING PROGRAMME**

L.P. SILVA, C.M.B. DEMATAWEWA, M.N.M. IBRAHIM AND K.K. JAGATH

*Department of Animal Science, Faculty of Agriculture, University of Peradeniya.*

Artificial Insemination (AI) is the most widely used tool in improving dairy stock in Sri Lanka since 1950's. The present study was conducted with the aim of evaluating the production and growth performance of AI crossbred heifers. The animals for this study were selected from the Kerala Heifer Calf Rearing programme which was launched by the department of Animal Production and Health with the objectives of increasing productivity (by inducing early sexual maturity) and reducing mortality of AI female calves through proper feeding and management.

A set of 150 heifers registered under the Kerala scheme in North Western Province were considered in the study. Secondary data on production records and breeding records were analyzed. Primary data were collected from selected recipients of the programme by conducting a field survey.

The results of the present study revealed that the average age at sexual maturity of all the heifers studied was  $15.38 \pm 2.97$  months which is less than half of the age that an AI heifer would reach sexual maturity under normal circumstances. Pattern of growth showed that this age coincides with the peak growth rate of the heifers in most instances. The age at sexual maturity of the heifers was shown to vary with the paternal breed of the animal (where the maternal breed was predominantly nondescript coming from the local population). The average age at first calving was  $26.89 \pm 2.82$  months. Accordingly, the average age at conception of these heifers was  $17.89 \pm 2.82$  months.

Rate of growth varied among heifers according to their age categories (66 - 685 g / day). The growth rates at different age categories, namely 1-6 months, 7-12 months and 13-24 months were compared with the standard rates of growth. Finally, a standard growth curve has been fitted for all the heifers before and after conception to separate the pre- and post-embryonic growth patterns of calves under the Kerala scheme.

According to the results, it can be suggested that the objectives of the Kerala Heifer Calf Rearing Programme have been achieved. However, the actual production performance (during economical life time) of these heifers yet to be evaluated.