Abstract
VIII. ABSTRACT

The present study was conducted to evaluate the effect of feeding slow release nitrogen product (SRNP) on the growth (average daily gain in calves) and lactation (yield and composition of milk in dairy cows) performance. This objective was achieved by conducting a growth trial and a lactation trial, followed by metabolism trials to assess the performance, digestibility of nutrients and N balance after replacing urea by SRNP in the diets. In both experiments, the diet comprised of finger millet (*Eleusine corocana*) straw as basal roughage and a compounded feed mixture. In the growth trial of 84 days duration, six crossbred heifer calves were used in a switch over design. Calves were fed diets containing either urea (1.5 per cent) or SRNP (urea replaced by SRNP on N equivalent basis). There was no significant difference in the average daily gain or feed intake of the calves fed either urea or SRNP indicating that feeding of SRNP has no advantage over urea in the diet. In the lactation trial of 70 days duration, eight crossbred dairy cows in mid-late lactation were used in a switch over design. Cows were fed diets containing either urea (2.0 per cent) or SRNP (urea replaced by SRNP on N equivalent basis). There was no significant difference in the milk yield, (total or 4 per cent FCM yield), milk composition or feed DMI of the cows fed either urea or SRNP indicating that feeding of SRNP has no advantage over urea in the diet. In both experiments, digestibility of nutrients and N balance was also similar between Urea and SRNP fed groups. Considering the potential hazard of toxicity due to feeding of urea at higher than one per cent level in the diet, feeding of SRNP could be advantageous from the safety point of view. However, it was concluded that replacing urea by SRNP in the diet has no beneficial effect on the performance of growing heifer calves or lactating dairy cows.