

## Improving the reproductive performance of buffaloes in Sabah, Malaysia

### ABSTRACT

A buffalo breeding farm was selected to study the reproductive performance. The farm consisted of 398.5 acres of pasture with a total of 335 heads of buffaloes, practicing extensive grazing system without supplementation. At the start of the study, at the end of 2011, farm records between 2004 and 2011 were analysed for selected reproductive parameters. Following the analysis, attempts were made to improve the performance by improving feed and feeding, herd health and breeding program. The interventions, in January 2012, included reducing the numbers of breeder buffaloes from 250 to 158 heads while the pasture area was increased from 398.5 to 441.5 acres. Proximate analysis of the grass was carried out and yearly vaccination against haemorrhagic septicaemia was recommended. The fecal samples were analysed for internal parasites particularly the liver flukes. The 158 selected breeder buffaloes were flushed by providing supplemented palm kernel cake based feed at the rate of 1.5kg/animal/day for 2 weeks before breeder males were introduced at the rate of 1 male to 20 females. Between 2004 and 2011, a total of 442 calves were born (average of 55 calves/year or 22%); One hundred and thirty (52%) females calved only once, 73 (29%) calved twice, 35 (14%) calved 3 times and 12 (5%) calved 4 times. Most (52%) calving were recorded during the rainy months of September to December. The average annual calving rate was  $49.7 \pm 14.7\%$ , the calving interval was  $24 \pm 11.2$  months and calf mortality was  $26.8 \pm 7.0\%$ , significantly ( $p < 0.05$ ) more during rainy season. Following intervention in early 2012, proximate analysis of the grass revealed improvement on the average crude protein content from 7.6% to 12%. With supplementation, the percentage of breeder female with body score of  $>3$  increased from 79% to 95%. The improved body score enhanced the pregnancy rate from 49% to 71% and subsequently the calving rate from 42% to 82%. Similarly, the mortality rate was significantly reduced from 11.3% to 5.2%.

**Keyword:** Reproductive performance; Buffalo; Malaysia