

#### **A-14: Indigenous buffaloes in Sri Lanka: reproductive pattern and characteristics**

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Studies aimed at characterising reproductive pattern of indigenous buffaloes (*Bubalis bubalus*) were conducted at an experimental station in the intermediate zone, low-country region. Rainfall was  $2056 \pm 405$  mm/annum with precipitation during North East and South West monsoon periods with heavy precipitation in the former. Calvings ( $n=279$ ) were seasonal ( $P<0.05$ ) with 72% of calvings during October-February coinciding with the North East monsoon rains. Calving interval was  $506.8 \pm 57.0$  days and more than 47.8% calving intervals were less than 425 days. Peak conception occurred 2-3 months after calving with calving to conception interval of  $206.8 \pm 158.0$  days. Approximately 29.3% of calving to conception intervals were less than 100 days and out of this more than 85% were from the animals which calved during the months of November to January. Age at calving ( $n=31$ ) was  $1320.0 \pm 85.0$  days. Annual calving rates range from 55% to 63%. Incidence of other reproductive failures such as abortion, uterine infections etc. were low. Body weight at birth was  $17.2 \pm 2.3$  kg ( $n=75$ ) with no difference between male and female calves. Prepubertal growth rate was  $155.4 \pm 37.6$  g per day ( $n=12$ ) and was greater during first 6 months than the other periods. Age at puberty ( $n=8$ ) was  $1059 \pm 106$  days and weight at puberty was  $186 \pm$  kg which was approximately about 70% of the mature body weight of  $265 \pm 29$  kg ( $n=49$ ). Age at first calving in this group was  $1378 \pm 105$  days. Length of estrous cycle was  $21 \pm 1$  days and the estrous signs were not overtly expressed. Progesterone and

prostaglandins metabolite (15-keto-13, 14-dihydro-PGF<sub>2α</sub>, PGFM) profiles during the cycle were characterised by increasing PGFM concentrations coinciding with the declining progesterone concentration. Process of parturition was very rapid while signs of impending parturition became evident within 4 to 5 days prepartum. Plasma progesterone concentration commenced to decline by day 5 prepartum coinciding with an increase PGFM concentrations.

The findings suggest, that the reproductive efficiency of indigenous buffalo is low, primarily due to entrainment of postpartum ovarian function by seasonal nutrient availability which is linked with marked seasonal rain pattern. The clinical and endocrinological findings suggest that reproductive physiology of indigenous buffalo closely resembles those in river type and in cattle.