Blood Serum Progesterone and Oestrogen in relation to superovulatory response in semi wild Toda Buffaloes of Nilgiris

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Concentration of progesterone and oestrogen and its correlation with superovulatory response, embryo recovery and quality of embryos were studied in semi wild Toda buffaloes of Nilgiris District of Tamilnadu. Ten Toda buffalo cows purchased from Toda hamlets were subjected to superovulation and embryo collection in four batches. Blood samples were collected on the day of start of superovulation (I), at the time of breeding (II) and on the day of flushing (III). The concentration of progesterone and oestrogen were analyzed by RIA at NIANP, Bangalore. The response for superovulation was 96.55 per cent. A total of 39 embryos were recovered, of this 26 viable embryos were cryopreserved. Average concentration of progesterone and oestrogen were 1.31±0.20 ng/ml and 47.01±2.12 pg/ml. Significantly, higher concentration of oestrogen during stage II (54.06±3.73) was observed. Concentration of progesterone was significantly higher during stage III (2.36±0.45). The concentration of progesterone was highest during 2nd and 4th batch (1.54±5.45 and 1.56±0.49) against 1st and 3rd batch (0.96±0.35 and 1.08±0.24) coupled with collective yield of more embryos during this period (26 vs 13). Concentration of progesterone was significantly (P<0.01) correlated with the number of superovulatory corpus luteum, total and viable embryo recovery. The concentration of oestrogen at stage I and III were negatively correlated with the number of superovulatory corpus luteum, total embryo and viable embryo recovery. Buffaloes in standing oestrum had higher concentration of progesterone (2.56±0.45 vs 0.87±0.71), yielded significantly higher number of total embryos (2.00±0.41 vs 0.60±0.30) and viable embryos (1.33±0.36 vs 0.40±0.40) than the donors with non standing oestrum.

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