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Superovulation in Murrah Buffaloes

A.K. SINGH AND K. NARAYANA

Veterinary College, Bangalore - 24.

Superovulation of buffaloes is a critical factor in the embryo transfer industry. Several gonadotrophins have been used to stimulate follicular development in buffaloes, with large variability in ovulatory response.

The present study was done to assess the superovulatory response to pFSH in buffaloes. Nine Murrah buffaloes with a palpable corpus luteum were given intramuscular (i.m.) injection of Luprostiol 15mg (Prosolvin, Intervet, Holland) and monitered for the onset of oestrus using a companion bull. Day zero was taken as Day of oestrus.

From Day 11 to Day 15 of oestrous cycle, control buffaloes (n=4) received 2 ml saline solution b.i.d. and treated buffaloes (n-5) received 1.80 mg of pFSH (Folltropin, Vetrepharm, London) i.m., b.i.d. for five days (total 18 mg.). On Day 14, all buffaloes received two dose of Luprostiol 15 mg i.m. at 12 h interval.

In the control and pFSH-treated buffaloes, laparoscopic examination of superovulated ovaries was done on Day 6 of superovulated oestrous cycle. All the surface of ovaries were examined and the number of follicle / s and corpus luteum / corpora lutea were recorded. The data was analysed by Student's 't' test (Snedecor and Cochran, 1967).

On Day 6, on laparoscopic examination in control animals, there was a single large corpus luteum per animal. Two buffaloes had a small follicle on one ovary. In pFSH-treated animals, there were 5.0±0.28 corpora lutea and 1.40±0.21 unovulated follicles on Day 6 of oestrous cycle. There was significantly ($P < 0.05$) greater number of corpora lutea in superovulated oestrous cycle compared to control buffaloes indicating evidence of superovulation in pFSH-treated buffaloes. This observation is in accordance with the per-rectal palpation reports of Karaivanov [1986]; and Deshpande *et al.,* (1988). In the present experiment buffaloes respond better to a constant dose of pFSH started on Day 11 of oestrous cycle. Unovulated follicles could be due to continued stimulation of ovaries by residual concentration of FSH.

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REFERENCES

Deshpande, L.V., Singal, S.P., Lohan, I.S., Georgie, G.C. and Razdan, M.N., 1988, Superovulation in Murrah buffaloes. In Proceedings of II world Buffalo Congress, New Delhi, 12-16 December 1988. Vol *III:* 111-114.

Karaivanov, C., 1986, Comparative studies on the superovulatory effect of PMSG and FSH in water buffalo *(Bubalus bubalis),* Theriogenology, *26:* 51-59.

Snedecor, G.W. and Cochren, W.G., 1967, *statistical Methods,* Oxford and IBH, Publiching Co., Ltd. New Delhi.