

## Induction of Oestrus using Cloprostenol by Intra vulvo-sub mucosal route in Sub-Oestrus Buffalo

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### Abstract

The present experiment was undertaken to study the clinical efficacy of PGF<sub>2</sub>-a (Clostenol, M/s. Zydus Animal Health Ltd., India.) by intravulvo-submucosal route for induction of estrus in buffalo. Total 20 postpartum buffalo were selected from Buffalo Research and Instructional Farm, COVAS, Parbhani. The animals from group-I (IVSM) reported 80 per cent induction of estrus with mean time interval between treatment and onset of estrus as 83.70 ± 2.50h., average duration of estrus was 21.80 ± 1.41h while conception rate was found to be 80 per cent. The animals from group-II (control group) also reported 80 per cent induced estrus; average duration of estrus was 22.6±0.92 hr, while the conception rate was 40 per cent.

**Keywords:** PGF<sub>2</sub>a, Conception rate, Intravulvo-submucosal route.

### Introduction

The Asian buffalo hold the greatest promise and potential for production, it is well known that the buffaloes are remarkable for their feed conversion ability, The production of buffalo milk in the Asian - pacific region exceeds 45 million tones annually of which over 30 million tones are produced in India alone (17<sup>th</sup> Livestock census 2003). Total milk production of India in 2005–06 was 97.1 million tones and in 2006-07 Total milk production was 100 million tones.

There are many reproductive disorders causing considerable losses to dairy animals High incidence of silent oestrus and short duration estrous particularly are more serious problems in buffaloes during hot and humid months. Due to these reasons often heat is missed and female grazing without potent male in herd remain unbred. This is one of the important factor beside many others for prolong intercalving period. Various method of oestrus cycle regulation was developed for timely insemination; chemical regression of corpora lutea is most exacting of them.

### Materials and Methods

Thirty buffalo were selected from the buffalo farm of Dept of Livestock Production and Management, College of Veterinary and Animal Sciences, Parbhani. The controlled experimental trial was conducted in post partum sub oestrus buffalo (Day 75 onwards) with palpable corpus luteum on either of ovary. All these animals were selected on the basis of sound Nutritional

status and good body condition score. Animals were let loose for six hours in morning from 7.30- 14 hours for grazing in the near by area within a distance of two to three kilometer. Animals were maintained in well-constructed sheds. These animals were fed with 5 kg chaffed Kadbi daily. Greens were fed whenever available plenty of drinking water was provided to animals. Vaccination against, FMD, BQ. And H.S. was done regularly. Heat detection was done by teaser bull (in morning hours, before let loosing for grazing) weaning was also practiced regularly.

Group I T<sub>1</sub> (n=10) IVSM route all the buffaloes in this group were administered PGF<sub>2</sub> alpha analogue [inj. clostenol, M/s/ Zydus Amimal Heath Ltd., India.] 0.25mg (263 µg) by intravulvo-submucosal route and 2<sup>nd</sup> dose was given for the animals, which have not exhibited oestrus after first treatment, on day 11<sup>th</sup> of the previous treatment.

Group II T<sub>2</sub> (n=10) Control group no treatment was given to these animals throughout study. The animals from all the groups were observed at 12 hrs intervals for manifestation of heat signs. Teaser bull was also used to detect the heat. Proven sire bred the animals, which have exhibited the heat signs, naturally.

### Results and Discussion

Six (60%) buffaloes showed oestrus after the first injection of Cloprostenol, two buffaloes required second dose of injection of treatment on 11<sup>th</sup> days. These buffaloes showed induced oestrus, which showed

induction of oestrus complete regression of corpus luteum was noticed.

Mean time interval between treatment and on set of oestrus in cloprstenol treated buffaloes by IVSM route was  $83.70 \pm 2.50$ h. An observation of the present group was closely related with El Menoufy *et al.* (1986), Dhailwal and Sharma *et al.* (1986). The average duration of oestrus in IVSM treated buffaloes with cloprostenol was  $21.80 \pm 1.41$ h. Rudnick *et al.* (1990), Pawshe *et al.* (1991), Chochan *et al.* (1992b), Krishanakumar and Subramanium, *et al.* (1999). out of ten buffaloes, six buffaloes (80%) were found to be pregnant.

From the above observation, it may be concluded that the cloprostenol was found to be quite effective in inducing oestrus in post partum sub oestrus buffaloes .The induction of oestrus occurred within a reasonably short period of time. Hence the efficacy of cloprostenol for induction of oestrus in post partum sub oestrus buffaloes seems to be satisfactory.

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Table-1. Mean time interval, duration of oestrus and pregnancy status in clostenol treated animals

Sr. No	Buffalo No	Time required for onset of oestrus (h)	Duration of oestrus	CL	Pregnancy status
1.	10	87	24	LO with CL	Pregnant
2.	12	72	24	LO with CL	Non Pregnant
3.	10B	90	18	RO with CL	Pregnant
4.	20	82	21	RO with CL	Pregnant
5.	18	93	30	LO with CL	Non Pregnant
6.	14	88	15	RO with CL	Non Pregnant
7.	13	92	18	LO with CL	Non Pregnant
8.	9	70	26	RO with CL	Pregnant
9.	11	83	23	RO with CL	Pregnant
10.	32	80	19	RO with CL	Pregnant
<b>Mean ± SE</b>		<b>83.70 ±2.50</b>	<b>21.80 ±1.41</b>		

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