

## Synchronisation of oestrus with prostaglandin F2 alpha analogue in non-descript cow

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### Abstract

Oestrus synchronization were undertaken in multiparous and cyclic ten Non descript cows (Group-I) and twelve crossbred cows (Group- II). All the animals were treated with two injections of Lutalyse (Dinoprost tromethamine) 25 mg each intramuscularly at 11 days apart. Out of 10, eight (80.00 percent) cows from Group-I and 12 (100.00 percent) cows from Group-II were responded to the treatment. The interval for onset of oestrus was slightly different in non descript cows than crossbred cows ( $54.50 \pm 2.60$  Vs.  $55-58 \pm 3.28$  hours). There was non significant difference observed for synchronized oestrus in Group-I and Group-II ( $21.25 \pm 0.881$  Vs  $20.83 \pm 0.814$  hours). In Group I the intensity of oestrus was intense in 2(25.00 per cent) cows, intermediate in 4(50.00 per cent) cows and weak in 2(25.00 per cent) cows. In Group-II it was intense in 5(41.67 per cent) and intermediate in 7(58.33 per cent) cows.

**Keywords:** Synchronization, Oestrus, Non-descript, Cow, Prostaglandin,

### Introduction

One of the most important constraints in improving productivity of is inheritent problem of improper detection of oestrus and improper time of insemination (Nanda,1995). Synchronization of oestrus is technique by which most of the female population or herd can be brought into oestrus at predetermined time.

Synchronization of oestrus in group of females allows one to predict the time of oestrus with reasonable accuracy and reduces time required for detection of oestrus and allows planned breeding of large number or group of female at a time. Animals can be grouped into desired parturition pattern. There are two basic types of treatments:

1. Shortening of the luteal phase of the cycle by the exogenous administration of luteolytic agent i.e. PGF2 alpha.
2. Prolongation of the luteal phase of the cycle by the administration of progestagen. (Voss and Heltz, 1985). PGF2 alpha has been accepted as a luteolytic agent that ends the life span of the bovine cyclic corpus luteum at the end of diestrus (Morrow, 1986). In India silent oestrus is a major problem in breeding cows, the incidence ranging from 18 to 44 percent resulting in repeat breeding (Kaikini,1975). Synchronization of oestrus can overcome the condition of silent oestrus and help in reducing the incidence of repeat breeding.

### Material and Methods

A total ten non descript cows group I and twelve crossbred cows group II showing regular cyclic activities and those having active corpus luteum were selected. In the groups synchronization of oestrus was done by administering Lutalyse (Dinoprost tromethamine) 25 mg intramuscularly on day zero and repeated on day eleven. Experimental cows were closely observed after the treatment for oestrus by parading a vasectomised bull in the open paddock in the morning from 0600 hrs to 0700 hrs, 1100 hrs to 1200 hrs in the noon and from 1700 hrs to 1800 hrs in the evening.

The time required for the onset of oestrus was recorded from the time of Lutalyse injection to firstly detection of the oestrus signs either by teaser bull or visually. Duration of oestrus was calculated as the time interval between first and last amount by the teaser bull.

### Result and Discussion

The average time required for the onset of synchronization of oestrus in Group-I was  $64.28 \pm 3.05$  and  $54.50 \pm 2.60$  hours after first and second treatment, respectively. The range of time required for synchronization oestrus was 55.00 to 73.00 hours and 46.00 to 65.00 hours for first and second treatment, respectively. The average time required for onset of synchronized oestrus in Group-II  $60.90 \pm 2.05$  hours and  $55.55 \pm 3.28$  hours after first and

second treatment, respectively. The range of time required for onset of synchronized oestrus was 55.00 to 68.00 hours and 46.00 to 76.00 hours in first and second treatment, respectively. Similar findings were reported by Tegenge et al (1989); Ajit Kumar et al (1996). The time required for onset of synchronized oestrus in the Group I cows was slightly higher than that in Group II cows (Non significant).

In the present studies duration of synchronized oestrus in Group I ranged from 18.00 to 24.00 hours with an average of  $21.25 \pm .881$  hours and in Group II it ranged from 18.00 to 24.00 with an average of  $20.84 \pm 0.814$  hours (Non significant). Similar results were recorded by Ajit Kumar et al., 1996 and Castellanon et al., 1997.

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