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## Progesterone based estrus synchronization for repeat breeder cows under field condition

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**Abstract**

The dairy industry has faces numerous infertility problems which causes low milk production and conception. Fourteen, parous, cyclic crossbred cows has repeat breeder problem, free from palpable abnormalities in the genital tract were selected for this study. They were divided into two groups Control group was inseminated twice at 24 h interval during natural estrus with good quality frozen thawed semen. Whereas treatment group cows were treated with CIDR with PGF<sub>2α</sub>. Treatment group were achieved significant higher pregnancy rate when compare to control group.

**Keywords:** Infertility, repeat breeder, CIDR

**Introduction**

Cow or buffalo having no palpable abnormalities in reproductive tract fails to conceive even after three or four artificial inseminations are known as repeat breeder. It results in financial crisis due to decrease in lactation yield, increased medical expenses, calving time, insemination cost and killing rate in cattle and buffalo [1]. The causes of repeat breeding syndrome are multi-factor. Etiology of RB is categorized in several ways but failure of fertilization and early fetal death had been precedent classification of causes of repeat breeding. Both male and female, environment and management factors are responsible for repeat breeding [2]. The dairy industry has faces numerous infertility problems which causes low milk production and conception. Efforts were made to enhance the fertility in cows with PGF<sub>2α</sub> and GnRH/hCG in order to achieve the milk production demand in dairy industry [8]. The common use of PGF<sub>2α</sub> and GnRH/hCG in oestrus synchronization programme has improved oestrus detection rate, but had not given sufficient precision to predict higher level of success in bovine. However, the present study was conducted to success of CIDR based treatment protocol for repeat breeder cows.

**Materials and Methods**

The crossbred cows which has repeat breeder problem maintained at Veeranapatti village of karur Dt, Tamil Nadu were selected for this study. Fourteen healthy, parous, cyclic crossbred cows has repeat breeder problem, free from palpable abnormalities in the genital tract were selected for this study. The selected cows were maintained in semi intensive system and fed daily with adequate concentrate, green fodder and *ad libidum* water. They were divided into two groups Control group was inseminated twice at 24 h interval during natural estrus with good quality frozen thawed semen. Whereas treatment group received CIDR insert (1.38 g of progesterone) day of insertion was considered as day 0, 500 µg of PGF<sub>2α</sub> was administered intramuscularly on day 8 after CIDR insert and day 9 CIDR was removed. Inseminated twice at 48 and 72 h after CIDR removal with good quality frozen thawed semen. Conception was confirmed by rectal palpation on day 75 post insemination in all the groups.

**Results and Discussion**

The oestrus induction response with different CIDR treatment protocols is 7 out of 7 (100 percent). Behavioral expression of estrus could differ between induced and spontaneous estrus, and synchronization protocols might induce greater ovulation rate in absence of estrus behavior; however, the association between fertility and expression of estrus has been observed for spontaneous and induced estrus (Madureira *et al.*, 2015 [4]; Pereira *et al.*, 2015) [6].

The percentage of conception rate is 14.28 (7/1) in natural and 42.85 (7/3) CIDR treatment protocols in crossbred cows. The conception rate in the present study was in contrast to the observations of Colazo *et al.* (1999) [3], Rivera *et al.* (2005) [7] and McKinniss *et al.* (2011) [5] who reported the conception rates between 32 to 54.1 percent in cows treated with CIDR and PGF<sub>2α</sub>/ CIDR.



**Fig 1:** CIDR Application to repeat breeder cow

### Conclusion

This study Shows CIDR based synchronization protocol in repeat breeder cross bred cows. The protocol has good response in conception (42.85%) when compare with control group (14.28%) under field condition.

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