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Efficacy of ovsynch and cosynch protocol on fertility rate in Tellicherry goats

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Abstract

A total of 40 does after first kidding were utilized. The does were divided in to two groups consisting of 20 does in each group. Observed estrus following treatment were recorded. All the does were bred by artificial insemination. The rates of estrus exhibited in the does were 100 percent in group I and 95 percent in II. Observation of estrus were 36.55 ± 0.60 hrs in group I and 37.75 ± 0.54 hrs in group II, respectively. There was no significant difference found between two groups. The fertility rate was higher in group I (75 percent) than group II (70 percent). From this study it was concluded that the Ovsynch protocol found to be the best protocol for synchronization of ovulation in Tellicherry goats.

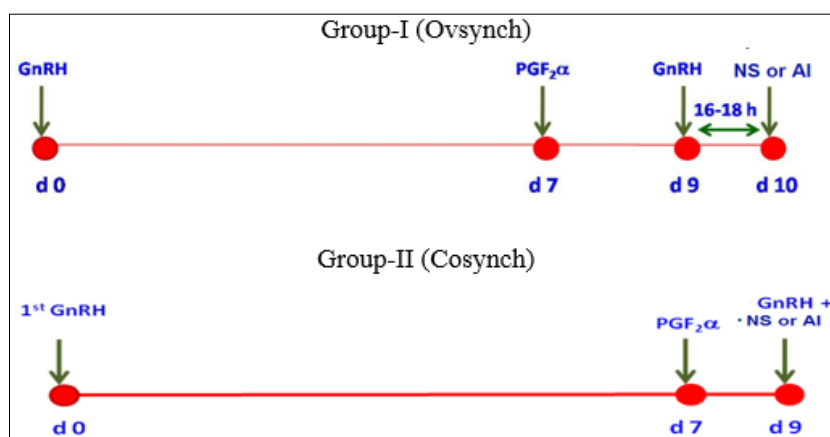
Keywords: Intravaginal sponge, ovsynch, fixed time breeding, Tellicherry goats

Introduction

Synchronization of estrus and ovulation are facilitating the management of reproduction in goats. The successful fertilization depends upon the estrus induction and on the time of breeding (Artificial insemination). In goats estrus synchronization and ovulation are controlled by the alteration of luteal and follicular phases during estrus cycle. The most common estrus synchronization programme by applying progesterone intra vaginal sponges or progesterone devices (CIDR) with equine chorionic gonadotropin injection (eCG) at the time of sponge removal results in good fertility rate [1, 3, 8]. Whereas synchronization of ovulation protocol involves injection of first GnRH (day 0), PGF₂α (day 7) - second GnRH (day 9) called ovsynch protocol with fixed time breeding either by natural service (NS) or artificial insemination (AI) [1, 2]. For sustainable goat production increase the growth of indigenous breed like Tellicherry breeds using synchronization of ovulation with fixed time artificial insemination is necessary. Hence, the present experiment was conducted the efficacy of ovsynch protocol in Tellicherry goats.

Materials and Methods

A totally forty Tellicherry does which had completed 60 days post-kidding were selected for this study. All the does were divided in to two experimental group and each group contain 20 does. Group I (Ovsynch) and Group II (Co-synch). Artificial insemination was done 16 hrs after second GnRH in both groups. All the collected data were analysed statistically [5].



Group I (Ovsynch) and Group II (Co-synch)

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Results and Discussion

The results of estrus behaviour are presented in Table 1. In group I and II the does expressed with 100 percent and 95 estrus response. These results concurred with observation of 96-100 percent of the ovsynch treated goats in estrus during 49 hours after prostaglandin injection and in 100 percent of the goats in estrus synchronized with cronolone vaginal sponges during 37 hours after sponge removal. The 100 percent estrus response in group I group might be due at the time of selection all the does were in mid luteal phase. The results in the present study concurred with the observations in goats following ovsynch treatment^[2, 3, 5, 6]. The mean (\pm SE) for observed estrus are presented in Table 1. In this experiment although mild variations observed in the onset of observed estrus among groups (groups I and II) was not in wider range. It might be due to the PGF α injection in

synchronization of ovulation protocol which might have favored complete luteolysis in all the treated groups^[2]. In the present study, there is no significant difference was found between duration of induced estrus. which might be due to administration second GnRH injection in both the groups which would have stimulated LH surge and ovulation^[2]. In the present study, the fertility rate was higher in group I than group II. Our results are in agreement with the findings of higher percent conception rate following AI in goats^[10], In contrast 38 and 24 percent kidding rate was obtained in nulliparous Sannen goats treated with chrongest supplemented ovsynch and co-synch protocols^[9]. The reason could be due to administration of second GnRH induced the LH surge, ovulation and timed artificial insemination leads to higher fertility in ovsynch treated group than cosynch protocol^[2].

Table 1: Fertility rate following synchronization of ovulation

S. No	Treatment groups	No of does treated	Oestrus response (percent)	Time to observed estrus (hours)	Duration of oestrus (hours)	Fertility rate (AI or NS)
	Group I	20	100	36.55 \pm 0.60 ^b (34-38 hrs)	32.60 \pm 0.73 ^b (30-34 hrs)	75.00 (15/20)
	Group II	20	95	37.75 \pm 0.54 ^b (35-39 hrs)	32.20 \pm 0.59 ^b (30-34 hrs)	70.00 (14/20)

Group I – Ovsynch, Group II -Cosynch

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