

## EFFECT OF HERBAL DURGS AND MINERALS ON FERTILITY IN POST PARTUM ANESTRUS OSMANABADI GOATS\*

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### ABSTRACT

A clinical study was carried in a flock of Osmanabadi Goats reported with the history of infertility and post-partum anestrus. A total of 20 Osmanabadi Goats were divided into two equal groups. Group-I (n=10) was untreated control and animals of treatment group II (n=10) were administered orally with herbal uterine tonic and restorative Uterine cleanser (Exapar) @ 20 ml/goat/day for 5 days alongwith herbal heat inducer (Cap. Janova) @ 2 cap/day/goat for three days and tablet mineral supplementation (Mintrus) @ 1 Tab/day/goat for 20 days. Induction of oestrus was 80 % in group-II within 106.87±7.51 hrs and 75 % conceived with 1.83 services per conception whereas in control group I, 30 % estrus was observed within 185.5±10.89 hrs and 33.33 % conceived with 3.00 services per conception. It may be concluded that uterine cleanser is a potent herbal ecobolic and which alongwith herbal heat inducer and mineral supplementation has lead to induction of fertile post partum estrus and higher conception rate in Osmanabadi goats.

**Key words:** Herbal heat inducer, Mineral supplementations, Post partum anestrus, Osmanabadi goat

Osmanabadi goat is the most popular dual purpose breed in Maharashtra, India and has best proliferative potential with three to five kids per kidding. Some of Osmanabadi goats maintained under improved managerial conditions have recorded highest fecundity. A series of integrated anatomic and physiologic re-adjustments of both uterus and endocrine system occur during post partum period that play important role in the resumption of reproductive capacity and regular cycling of a breeding goat (Greyling, 2000). Completion of uterine involution and resumption of sexual activity following parturition in ruminants normally depend on several factors, such as nutrition, nursing of offspring and season of parturition (Delgadillo *et al.*, 1998; Mwaanga and Janowski, 2000; Yavas and Walton, 2000). Hence, the study was undertaken as a research trial for promptly inducing cyclicity and conceptions with herbal drugs and minerals in post partum anestrus Osmanabadi goats.

The research was carried out on 20 Osmanabadi goats belonging to Goat Farm Unit, College of Veterinary

and Animal Sciences, Udgir, Maharashtra, India during the period from December 2008 to March, 2009. All goats were selected only after 60 days of kidding. Optimum health score conditions and managerial care were confirmed in each animal before including them for trial. These animals were approximately of same age and nutritional health status with the history of post-partum anestrus and infertility. Goats were divided into two groups I and II, Group-I (n=10) animals were not subjected to any treatment and served as control group. Group II (n=10) animals were administered orally with uterine cleanser @ 20ml/goat/day for 5 days alongwith capsule herbal heat inducer @ 2 cap/day/goat for three days and mineral supplementation @1 tab/day/goat for 20 days. Estrus was detected by buck parade and visual examination. Goats were naturally bred by Osmanabadi buck. The total experimental duration was 150 days and the observations on post treatment estrus induction, conception rate and nature of discharge were recorded. The data was analyzed by using Completely Randomized Design (unequal) as per Sendecor and Cochran (1968).

Group II animals responded with 80 % success of induced estrus within 106.87 ± 7.51 hrs after treatment which was significantly higher than untreated control group (30 %). Eight goats were recorded in estrus whereas two goats were induced with heat within 3-4

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days after repeat treatment. Average duration of estrus was also significantly higher in treated goats (31.00  $\pm$  02.37 hrs) than control (24.75  $\pm$  03.37 hrs). In group II, six goats (75.00 %) conceived with 1.83 services per conceptions and two goats remained cyclic non-breeder. In contrast, in control group three goats conceived with three services per conception, conception rate was recorded to be 33.33 % and estrus was induced within 185.5  $\pm$  10.89 hrs. The regularity of post partum estrus cycle was observed after every 21 days in treatment group. The significant improvement in fertility and estrus induction in goats may be attributed to the constituent herbs of herbal uterine tonic and restorative Exapar Liq. viz; Plumbago zeylanica, Peganum harmala, Rubia cordifolia, Tribulus terrestris, Aloe barbadensis and many more which are well established for their antibacterial and immunostimulant activity (Hutter et al., 1996 and Satyavati et al., 1987). In addition to it, capsule Janova is also scientifically well proven for its estrus inducing and synchronizing activity. Janova with ingredients viz., Citrullus colocynthus, Piper longum, Piper nigrum, Zingiber officinale is known to exert gonadotropin like action and synchronizes the release of physiological hormones (FSH, LH and estradiol) for inducing ovulatory estrus (Srivastava, 1997). Feeding of Janova appears to stimulate the hypothalamo-hyposeal-ovarian axis thereby synchronizing the hormonal release and inducing estrus in early post-partum anestrus period with comparatively higher conception rate (Singal, 1995). Another formulation claimed as herbal uterine tonic with the trade name Exapar is a potent herbal ecboic, scientifically proven to be uterine cleanser that increases the uterine tone and the involution process, thus mimicking the PGF<sub>2 $\alpha$</sub>  like activity (Singal, 1996). It has been documented that absence of proper involution in post-parturient period or metritis, in case of retained placenta, interferes with the timely re-establishment of reproductive cyclicality (Vahora et al., 2002).

It may be concluded that mineral supplementations alongwith polyherbal uterine cleanser and heat inducer therapy is efficacious in induction of

post partum estrus and the induced ovulatory estrus can suitably improve conception rate in small ruminants.

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