EFFECT OF COMBINATION OF MINERAL MIXTURE AND HERBAL SEEDS ON REPRODUCTIVITY OF BUFFALOES UNDER FIELD CONDITION

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ABSTRACT

The study was conducted at three villages of Kheda block of Kheda district during the months of September to February, 2016-17. The recently calved buffaloes (n=20)were dewormed using Fenbendazole 3 g and then were randomly divided into two groups, viz., Group-A) received combination of oral supplementation of herbal seeds 100 g/day/animal for 25 days and oral chelated mineral mixture @ 50 g/day/animal for 60 days post partum(n=10), Group-B) were kept as a control as Farmer's Practice (Oral supplementation of Herbal seeds 100 g/day/animal for 5 days post partum) (n=10) The highest conception rate (80.00 %), shortest service period (101 days) and early induction of post partum estrus (68 days) was observed for group-A buffaloes as compared to group-B. The corresponding values for group-B were 50 %, 156 days and 104 days respectively. The use of combination of Mineral mixture and herbals to recently calved buffaloes for longer period will help in augmenting cyclical activity resulting early induction of post partum estrus, higher conception rate and shorter service period under field conditions.

Keywords*: herbals, buffaloes, mineral mixture, conception rate etc.*

INTRODUCTION

Postpartum fertility is one of the major factors of economic importance in buffalo reproduction. Because of diversity in feeding and management practice, large number of animals exhibit long postpartum anestrus under field condition. Prolonged postpartum anestrus is the major reproductive concern of economic losses to the buffalo breeder. Early establishment of cyclic ovarian activity in postpartum buffaloes is desirable as it improves the reproductive efficiency. The majority of cows and buffaloes resume ovarian cycles within the first month of calving (Patel *et al.,* 2005). Some animals have a longer postpartum interval and may still be acyclic during the period when they should be inseminated (Khasatiya *et al.,* 2006). Failure to resume ovarian activity after calving is the main reason for delay in conception (Abdoul-Ela *et al.,* 1988). Early postpartum breeding to shorten the calving interval in buffaloes would increase reproductive efficiency (Khasatiya *et al.,* 2006). The aim of this study was to evaluate the effect of combination of Mineral mixture and Herbal seeds on Reproductivity of buffaloes under field condition.

OBJECTIVE

To know the effect of combination of meneral mixture and herbal seeds on reproductivity of buffaloes under filed condition.

METHODOLOGY

The present study was carried out under field conditions on 20 recently calved buffaloes under field condition in 2016. The selected buffaloes were dewormed using Fenbendazole 3 g and then were divided into two groups. Animals of group-A (n=10) received combination of oral supplementation of herbal seeds 100 g/day/animal for 25 days and oral chelated mineral mixture @ 50 g/day/animal for 60 days post partum (manufactured by AAU, Anand). Group-B buffaloes (n=10) were kept as a control as Farmer's Practice (Oral supplementation of Herbal seeds 100 g/day/animal for 5 days post partum). All the treated and control buffaloes were monitored for five months from postpartum. They were monitored for estrus detection and were bred by AI, if found in standing oestrus. The non-returned buffaloes were examined for pregnancy per-rectum 60 days post-AI. The effects of treatment on duration of estrus induction, conception rate and service period were worked out for all the treated as well as untreated control group of buffaloes. The list of herbal seeds and its effect on animal body was described in the below table.

Table 1 : List of herbal seeds and its effect on animal body

Common Name	Botanical Name	Effects
Dill/ Suva	*Anethum graveolens*	Galactogogue, Increased Milk Production (Mohanty *et al*, 2014)
Fenugreek	*Trigonella foenumgraecum*	Galactogogue, Oxytocic, Uterotonic effect. (Mohanty *et al*, 2014)
Black Cumin/ Black seed	*Nigella sativa*	Analgesic,anti-inflammatory,Antimicrobial (Mohanty *et al*, 2014, Atila Yildiz & Engin Balikci, 2015)
Black Pepper	*Piper nigrum*	Ecbolic, Uterotonic, Oxytocic effect (Mohanty *et al*, 2014)
Common Grass	*Lepidium sativum*	Immuno Modulator, Uterine Cleanser (Lessard M. *et al*, 2003)

RESULTS AND DISCUSSION

Shorter Duration of the induction of post partum estrus was observed in group A (68 days) given the combination of Herbals for 25 days post partum and chelated mineral mixture for 60 days as compared to group B (104 days). The conception rate was observed higher in group A (80 %) as compared to Group B (50 %) where as the service period was higher in group B (156 days) as compared to group A (101 days).

Table 2: Effect of combination of herbal seeds and mineral mixture on reproductivity of buffaloes

n=20

Treatment Group	No. of Animals	Duration of Induction of Post partum estrus	Conception Rate	Service Period
Group A	10	68 days	80 %	101 days
Group B	10	104 days	50 %	156 days

Similar findings observed by Nidhi *et al*. (2010), reported higher estrus induction and conception rate with the use of herbal heat inducer and mineral mixture, Therefore, the improvement in reproductive efficiency of buffaloes in the present study might be attributed to the beneficial action of the supplementation with minerals on the neuro- endocrine axis and reproductive function. In present study, the service period was reduced by using the combination of Mineral mixture and herbals for longer period after calving. Similar findings were observed by Parmar *et al*, 2012 he reported shorter service period in surti buffaloes using minerals and herbals which helped to increase the lactation of buffaloes resulting more profit to animal keepers.

CONCLUSION

The findings of estrus induction response and conception rate clearly indicated that resumption of ovarian cyclicity with ovulatory estrus can be effectively induced with using the combination of Mineral mixture and herbals for the longer duration in recently calved buffaloes under field conditions, thereby reducing their service period and calving interval towards achieving the goal of augmenting reproductive efficiency for better economic return.

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