



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2021; SP-10(10): 560-562  
© 2021 TPI  
[www.thepharmajournal.com](http://www.thepharmajournal.com)

Received: 25-08-2021  
Accepted: 27-09-2021

**K Senthilkumar**

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**V Varudharajan**

Post Graduate Scholar, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**M Selvaraju**

Dean, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**D Gopikrishnan**

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**S Manokaran**

Assistant Professor, Department of Clinics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**M Palanisamy**

Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**M Periyannan**

Post Graduate Scholar, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

**Corresponding Author**

**K Senthilkumar**

Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

## Efficacy of induction of estrum by administration of ethno veterinary medicines (EVM) in anestrus cows

**K Senthilkumar, V Varudharajan, M Selvaraju, D Gopikrishnan, S Manokaran, M Palanisamy and M Periyannan**

### Abstract

The present study was designed to assess the therapeutic efficacy of Bhilawa seeds and combination of aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery for induction of cyclicity in anestrus cows. Twenty anestrus cows were examined and divided into two groups (G1 and GII) and each groups comprising of ten (n=10) animals. Group I (G1) were treated with Bhilawa seeds (3-4 Nos) and in Group II (G II) were treated with combination of aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery. The Overall estrus induction in groups I and II were 40 and 50%. The time taken for the onset of oestrus was  $71.50 \pm 1.27$ ,  $69.00 \pm 1.12$  hours in Group I and Group II, respectively. There was no significant difference in onset of oestrus in both groups. Duration of oestrus in groups I and II were  $21.00 \pm 0.23$ ,  $19.30 \pm 0.71$  hours, respectively. In Group I, cows exhibited 8.33, 58.33 and 33.33 per cent of week, normal and intense oestrus. The corresponding values in Group II were 37.50 and 25.00 per cent, respectively. Conception rate in Group I and II were 30% and 40%, respectively. On the basis of Overall estrus induction, pattern of estrus and conception rate, the combination of aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery have an effective role in the treatment of anestrus cows.

**Keywords:** anestrus, ethno veterinary medicine, estrus induction, conception rate

### Introduction

Anestrus is one of the most commonly occurring reproductive problems in cattle and buffalo in India, affecting livestock productivity and economics to a great extent (Kumar *et al.*, 2014). Fertility management is a vital component in dairy animals which has profound effect in determining profitability of a farm (Chandra *et al.*, 2007). Ethno veterinary medicine (EVM) is the conventional system of curing animal diseases which based on traditional skills, methods, practices, knowledge and beliefs (Mathias-Mundy and McCorkle, 1989) [4]. This indigenous knowledge is passed on orally from one generation to the next and differs greatly from region to region and even within regions (McCorkle *et al.*, 1996; Ole-Miaron, 1997) [8]. Plants have been used for the treatment of animals since long back, since it synthesizes varieties of phytochemicals as a part of their normal metabolic activity and many of these have therapeutic action when consumed by animals. Many plants are rich source of vitamins and minerals whereas some have estrogenic property which is useful in restoration of cyclicity in anestrus animals. The present report documents the efficacy of traditional ethno veterinary preparations in the treatment of anestrus cows.

### Materials and Methods

Anestrus cows which were brought for treatment to the Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal were utilized for this study.

- A total of 20 cows which are clinically diagnosed for anestrus by using ultrasonography were included in this study. Experimental cows were dewormed before starting the trial.
- The experiment was carried out in two groups with each 10 cows, one group were fed with Bhilawa seeds and other with combination of aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery to induce estrum.

**Group I (Bhilawa seeds):** In this group, the anestrus cows were feed with 3 – 4 seeds of Bhilawa (*Semecarpus anacardium*) for three days to induce estrum. Animals will be observed for estrum and inseminated during estrum.

**Group II (Combination of *Aloe vera*, drumstick leaves, adamant creeper, curry leaves and jaggery):** In this group, the anestrus cows were administered with 200 Gms of aloe vera leaf, one leaf per day for four days orally. From 5th to 8th day, the animals were administered with 4 handfuls of grind drumstick leaves mixed with jaggery and smeared over the tongue in small amounts. From 9<sup>th</sup> to 12<sup>th</sup> day, 4 handfuls of grinded adamant creeper stems mixed with jaggery and smeared over the tongue in small amounts. From 13th to 16th day, the animals were administered with 4 handfuls of grinded curry leaves mixed with jaggery and smeared over the tongue in small amounts. Animals will be observed for estrum and inseminated during estrum. Pregnancy verification was done 30 days after AI by ultrasound. Conception rate was assessed in each group.

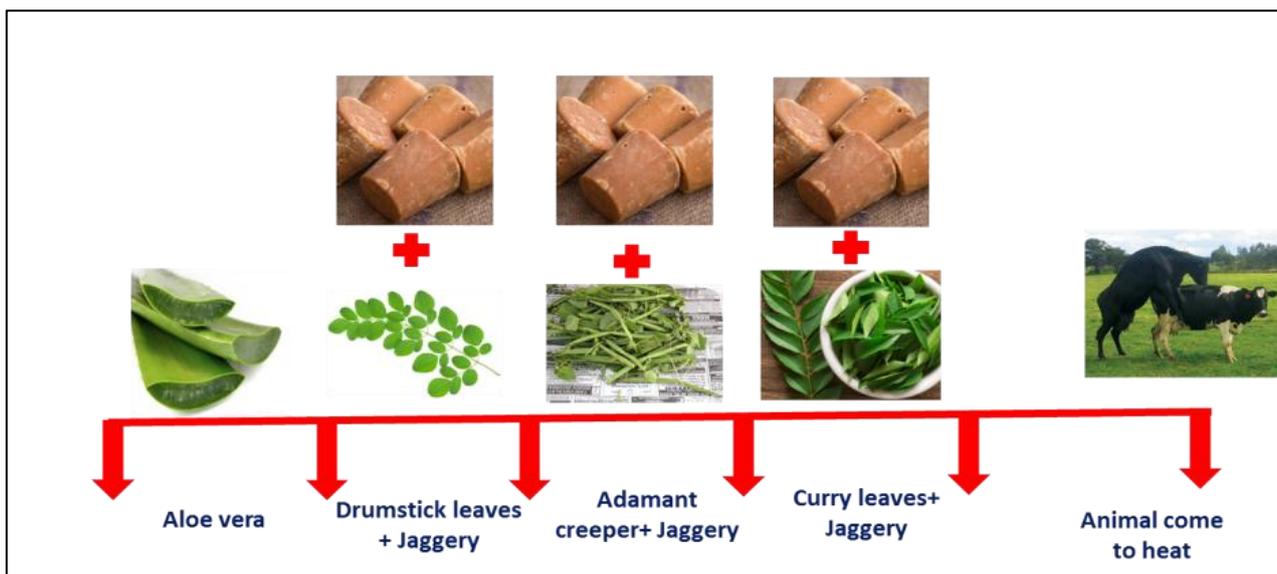
**Results and Discussion**

The overall estrus induction in group I and II were 40 and 50 per cent, similar results were reported by Shrivastava (1982) and Sah (1999). The time taken for the onset of oestrus was 71.50 ± 1.27, 69.00 ± 1.12 hours in Group I and II,

respectively. It was observed that the majority of animals (53.33 per cent) overcome anoestrus by keeping male with the female in practice (Kumar *et al.*, 2007) [3]. Various combinations of herbs have been fed to treat the anestrus animals with variable response on induction of estrus (Kabir *et al.*, 2001; Das *et al.*, 2002; Mehrotra, 2002; Mishra *et al.*, 2002; Rajkumar *et al.*, 2008; Kumar and Punniamurthy, 2009) [2, 1, 6, 2, 11, 12]. Kabir *et al.* (2001) [2] reported 50% estrus induction in anestrus buffaloes. Rajkumar *et al.* (2008) [11] reported higher success rate in anestrus cattle i.e. 83.33 and 66.66% using Methi seed (@ 200g/day/cow for 20 days) and bark of Ashoka tree (@ 50g/day/cow for 20 days), respectively. In the present study, the overall time taken for the onset of induced oestrus was 68.91±2.88 hours. There was no significant difference in onset of oestrus in the synchronized groups. The mean duration of oestrus was 20.50 ± 0.40 hours. In Group I cows exhibited 8.33, 58.33 and 33.33 per cent of week, normal and intense oestrus. The corresponding value in Group II was 37.50 and 25.00 per cent, respectively. Conception rate in Group I and II were 30 and 40 per cent, respectively.



**Fig 1:** Anestrus treatment with Bhilawa seeds



**Fig 2:** Anestrus treatment protocol with aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery

**Conclusion**

On the basis of overall estrus induction, pattern of estrus and conception rate, concluded that aloe vera, drumstick leaves, adamant creeper, curry leaves and jaggery combination have

an effective role in the treatment of anestrus cows. Ethno veterinary medicines can be utilized as low-cost therapeutic management for induction of oestrus in anestrus dairy cows.

## References

1. Das P, Das SK, Arya HP, Subba Reddy G, Mishra A. Veterinary Science and Animal Husbandary. In; Inventory of indigenous technical knowledge in agriculture, Document1, ICAR, New Delhi 2002, 185-285.
2. Kabir KK, Rawal CVS, Ansari MR, Varshney JP, Srivastava RS. Comparative efficacy of herbal preparations in the management of anoestrus in non-descript rural buffaloes. *Indian J. Anim. Reprod.* 2001;22(2):143-145.
3. Kumar R, Singh R, Rajkumar. Control of anestrus in buffaloes through locally available resources. *Ital. J. Anim. Sci.* 2007;6(2):659-662.
4. Mathias-Mundy E, McCorkle CM. Ethnoveterinary Medicine: An Annotated Bibliography. Bibliographies in Technology and Social change. Iowa State University, USA 1989.
5. McCorkle CM, Mathias E, Veen TS. Ethnoveterinary research and development. Intermediate Technology Publications, London, UK 1996.
6. Mehrotra S. Studies on ovarian function using certain medicinal plants in rats, goats and cattle. Ph.D. Thesis submitted to I.V.R.I. Izatnagar, Bareilly 2002.
7. Mishra BP, Nayak N, Mishra D. Indigenous methods for animal health care. International seminar on traditional knowledge, health and environment, held during 23–24 at Bhubaneswar, Abs, 2002, 124.
8. Ole-Miaron JO. Ethoveterinary practice of the Loitokitok Maasai: impact on the environment. *Turkish Vet. J* 1997;17:159-167.
9. Priya Ranjan Kumar, Sanjay Kumar Singh, Suresh Dinkar Kharche, Chethan Sharma Govindaraju, Bijay Kumar Behera, Satya Nidhi Shukla *et al.* Anestrus in Cattle and Buffalo: Indian Perspective. *Adv. Anim. Vet. Sci* 2014;2(3):124-138.
10. Subhash Chandra PS, Oberoi, Amit Kumar, Chandan Kumar. Ethno veterinary practices in animal reproduction: a review. *Indian J Tradit. Knowle* 2007;16(3):463-469.
11. Rajkumar R, Srivastava SK, Varshney VP, Mahmood S. Effect of medicinal plants *Saraca asoca* and *Trigonella foenum- graecum* in anoestrus cows. *Indian Vet. J* 2008;85(12):1281-1283.
12. Kumar S, Punniamurthy N. Estrus induction by supplementation of *Murraya koenigii* in anestrus heifers. *Indian J Anim. Reprod.* 2009;30(2):66-67.