



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2021; SP-10(11): 2301-2303  
© 2021 TPI  
[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 22-09-2021  
Accepted: 24-10-2021

**Rakesh Kumar**  
Veterinary Surgeon, GVH  
Kirmara, Department of Animal  
Husbandry, Govt. of Haryana,  
Haryana, India

**Amit**  
Veterinary Surgeon, GVH  
Sanwar, Department of Animal  
Husbandry, Govt. of Haryana,  
Haryana, India

**Neeraj**  
Ph. D. Scholar, Department of  
Pharmaceutical Sciences, GJU &  
S.T., Hisar, Haryana, India

**Ravinder Saini**  
Veterinary Surgeon, HVTI,  
Department of Animal  
Husbandry, Govt. of Haryana,  
Haryana, India

**Corresponding Author**  
**Rakesh Kumar**  
Veterinary Surgeon, GVH  
Kirmara, Department of Animal  
Husbandry, Govt. of Haryana,  
Haryana, India

## Use of herbal plants in various reproductive disorders of animals: A review

**Rakesh Kumar, Amit, Neeraj and Ravinder Saini**

### Abstract

Hormonal preparations and other medicines are used at the field level to treat various reproductive disorders in dairy animals but, the high costs, chances of side effects and presence of toxic residues in food due to these treatments raises a question on their use. Using plants to treat human and animal ailments has a documented history in the Indian subcontinent. This review aims to provide information on various plants used in multiple reproductive disorders of animals.

**Keywords:** Plants, traditional medicine, Ethno-veterinary medicine and reproductive disorders

### Introduction

The buffalo milk plays a vital role in the livestock economy of India, and milk production is dependent on the reproductive status of the animals. Various reproductive disorders affect the productive potential of the animals, which leads to economic losses to farmers through increased inter calving interval, poor net calf crops, decreasing milk yield, treatment expenses. Hormonal preparations and other medicines used at the field level to treat these disorders provide good results, but high costs, chances of side effects, and repeated visits to veterinary hospitals always remain problematic to farmers. Therefore hour demands to find alternative medicines that are effective and economical to farmers.

Ethno-veterinary medicine is gaining popularity in developing countries because of policy makers' mindset changes, greater accessibility, lower cost, cultural preferences, safe, time-tested, clear effectiveness, easy to prepare and administer, and based on local resources and strengths<sup>[1-4]</sup>. India is recognised as one of the world's top 12 mega diversity nations with four biodiversity hotspots of the 36 hot spots in the World; The Himalayas, Indo-Burma Region, The Western Ghats, and Sundaland, and accounts for 8% of global plant genetic resources<sup>[4, 5]</sup>. In India, of the 18,000 species of higher plants, 8000 are known for medicinal uses, and 1500 plants with medicinal uses are mentioned in ancient texts, and around 800 have been used in traditional medicine<sup>[6]</sup>. This review aims to provide knowledge about medicinal plants which can help treat various reproductive disorders in female animals.

### Anoestrus

Chaudhry *et al.* 2018<sup>[7]</sup> reported 87.5% and 85.71% estrus induction and conception rate, respectively, in eight anoestrus buffalo heifer after mineral mixture supplementation @ 50g. P.O., *Randia dumetorum* @ 15g. orally and *Tinospora cordifolia* sat @ 25g, P.O. daily for ten days of study. *Tinospora cordifolia* has been suggested to have a direct antibacterial effect<sup>[8]</sup>. It induces leukocytosis<sup>[9]</sup>, activates macrophages<sup>[10]</sup>. Herbal combo therapy involving a sequential administration of *Raphanus sativus* (whole rhizomes), Aloe vera (sliced leaves), *Moringa oleifera* (whole leaves), *Cissuss quadrangularis is* (mashed nodes), and *Murraya koenigii* (mashed leaves) for a period of 20 days led to oestrus signs during the experimental period. The authors further reported significantly increased follicular diameter and overall conception rate among the cows with postpartum anoestrus after treatment with herbal combo therapy<sup>[11]</sup>. Rajkumar *et al.* studied the effect of *Saraca asoca* and *Trigonella foenum-graecum* on reproductive performance, serum progesterone, and macro minerals profile in 24 anoestrus cows. The authors reported a higher percentage of animals in oestrus with a higher overall pregnancy rate using fenugreek seed than *S. asoca* (83.33 and 80.00%)<sup>[12]</sup>. *Tinospora cordifolia* (grinded) and the bark of *Cassia fistula* L. and leaves of *Artocarpus heterophyllus* L. fed to the animal orally for 3-4 days to overcome anestrus by villagers of Kamrup district of Assam<sup>[13]</sup>. Herbal supplementation of *Aegle marmelos* (bael/bili/bhel leaf) and *Murraya koenigii* (Curry leaf) induced estrus in 75% and 100% ovulation with a 75% conception rate in delayed pubertal buffalo heifers<sup>[14]</sup>.

### Retention of placenta

Talukdar *et al.* reported feeding of animals one to two kg boiled rice (*Oryza sativa* Linn.) with fruits of *Carica papaya*; leaves of *Ocimum sanctum* twice a day; whole plant of *Calotropis procera*; bark part of *Cinnamomum camphora*; leaves of *Clerodendrum multiflorum*; fruits of *Cucumis callosus*; crushed leaves of *Camellia sinensis* with lukewarm water; the flower of *Solanum melongena* with leaves of *Musa paradisiaca*; 100gm leaf juice of *Oxalis corniculata* L. mixed with little common salt and administered with the help of bhor chunga or application of crushed leaves of *Bambusa bambos* to the vagina of the animal for the expulsion of the placenta by villagers of Kamrup district of Assam [13]. Feeding bamboo leaves or a mixture of oil bran and bajra grain, a boiled mixture of *Zizyphus jujuba* milk and gur, and administering boiled water of rotten bamboo to animals is practised by villagers of Dindigul district of Tamil Nadu to overcome the retention of the placenta [15]. Equal quantities of the leaves of *Ficus hispida*, *Bambusa arundinaceae*, *Saccharum officinarum*, and the entire plant of *Cyathula prostata* and the inflorescence of *Musa paradisiaca* are crushed to extract fresh juice, which is administered to cattle only once to remove the placenta. A fine paste is made from 50 g of *Jasminum angustifolium* roots and a pinch of *Ferula asafoetida* and rock salt and is administered only once to cattle to cure the placenta's retention. A handful of fresh leaves of *Saccharum officinarum* or *Ficus hispida* is administered only once to cattle for placenta expulsion [16]. 15-20 fresh leaves of *Saccharum officinarum* L.; 10-15 fresh fruits of *Ficus racemosa* L.; or a bunch of mint leaves of *Bambusa tulda* Roxb. Are given to the cattle removal of the placenta from the womb [17]. Leaves of *Sesamum orientale* and *Bambusa bambos* boiled in water; stem of *Ficus benghalensis*; leaves of *Bambusa bambos* and *Dolichos biflorus* juice; leaves of *Moringa oleifera* after boiling in water and boiled water of *Dolichos biflorus* and *Bambusa bambos* leaves is given orally once for retention of the placenta [18].

### Metritis

Wet Jaggery, *Phanera vahlii*, *Cuminum cyminum*, *Terminalia chebula*, *Piper nigrum*, *Curcuma aromatica*, and *Piper longum* is given orally, thrice a day for five days to cure metritis [18].

### Prolapse

The cervicovaginal prolapse was treated with *Mimosa pudica* 100 g orally and injection Enrofloxacin 5 mg/kg b. w the t for the next consecutive three days after repositioning prolapsed mass. All the treated animals showed a successful recovery except one which had re-occurrence [19]. The seed oil of *Brassica napus* L. and leaves of *Mimosa pudica* L. are crushed together in equal amounts and put on the palm, and the protruded portion is gently pushed inside with palm to relieve prolapse. Two hands-full of the whole plant of *Centella asiatica* L. is boiled in two litres of water till volume becomes half and then after filtration with the help of muslin cloth is administered twice a day, preferably in the early morning and late evening with the use of bamboo glass for one week to cure prolapse. The root of *Zizyphus mauritiana* L. and *Chrysopogon zizanioides* L. (200g each) are mixed and decocted with three litres of water until volume becomes one-third and filtered with a muslin cloth and after that is stored in a bottle. 100 ml of mixture is given twice a day for 7-10 days

to cattle along with feed for prolapse [13].

A fine paste is made by grounding two handfuls of *Diplocyclos palmatus* (entire plant) and one handful of *Mimosa pudica* (leaves), and it is administered orally with buttermilk to cattle once a day until the condition is relieved. One handful of *Pongamia pinnata* (bark) is finely powdered and administered orally with rice-washed water three times a day to cattle until the situation is relieved. Two teaspoons of leaves of *Andrographis paniculata* are finely powdered and administered orally with rice-washed water three times a day to cattle until the condition is relieved [16].

The seed oil of *Brassica napus* L. and leaves of *Mimosa pudica* L. are crushed together in equal amounts and put on the palm, and the protruded portion is gently pushed inside with the palm for curing prolapse. Babool latex (25g), Sooth (50 g), and Lal Fitkari (20 g) are crushed and applied to the vagina for prolapse treatment. Two hands-full of the whole plant of *Centella asiatica* L. is boiled in two litres of water till volume remains half, and after filtration through a cloth, it is administered twice a day, preferably in the early morning and late evening with bamboo glass for one week. The root of Jhar-Berri (*Zizyphus mauritiana* Lam.) and Seekh [*Chrysopogon zizanioides* (L.) Roberty syn. *Vetiveria zizanioides* Stapf] 200 g each is mixed and decocted with three litres of water until the volume remains one-third and is filtered with cloth and stored in a bottle. 100 ml of this decoction is given twice a day for 7-10 days to cattle for prolapse [20].

### Repeat breeding

Juice of two stems of Aloe vera (Kalabanda) mixed with sugar is given thrice daily, orally for five days. The ground mixture of Aloe vera, Piper betle, *Asclepias asthmatica* and *Aristolochia bracteata* is given thrice daily, orally for five days [18].

### Conclusion

The documentation of ethnoveterinary knowledge is essential because the people are not getting full benefits from this ancient heritage. Traditional knowledge of medicinal plants could be lost even before we realize their full potential. The efficacy, extensive variation in the doses, preparation methods, and safety of all the reported ethnomedicinal plants need to be evaluated.

### References

1. Singh A, Pal K. An ethnobotanical study of medicinal plants in Haryana: challenges and opportunities. *Int J Eng Sci Math* 2018;7(8):84-90.
2. Kumar M, Gitika. An ethnoveterinary study of some medicinal plants of Haryana, India. *World J Pharm Res* 2016;5(11):1389-1400.
3. Dilshad SMR, Najeeb-ur-Rehman, Iqbal Z, Muhammad G, Iqbal A, Ahmed N. An inventory of the ethnoveterinary practices for reproductive disorders in cattle and buffaloes, Sargodha district of Pakistan. *J Ethnopharmacol* 2008;117(3):393-402.
4. Kamatchi A, Parvathi A. Quantitative Analysis in Traditional Knowledge of Wild Medicinal Plants Used to Treat Livestock Diseases by The Paliyar's Tribe of Sadhuragiri Hillstamil Nadu, India. *Asian J Pharm Res Dev* 2020;8(4):44-57.
5. Balaji N, Chakravarthi PV. Ethnoveterinary practices in India - a review. *Vet World* 2010;3:549-551.

6. Kamboj VP. Herbal medicine. *Curr Sci* 2000;78(1):35-39.
7. Chaudhry V, Kumar A, Kumar J, Srivastava S, Verma R, Vijayalakshmy K. Comparative studies on different herbal medicines for induction of estrus in anoestrus buffalo heifers. *Turkish J Vet Res* 2018;2(2):12-19.
8. Direkbusarakom S, Ezura Y, Yoshimizu M, Herunsalee A. Efficacy of Thai Traditional Herb Extracts against Fish and Shrimp Pathogenic Bacteria. *Fish Pathol* 1998;33:437-441.
9. Thattet UM, Dahanukar SA. Immunotherapeutic modification of experimental infections by Indian medicinal plants. *Phyther Res* 1989;3(2):43-49.
10. Prince PS, Menon VP. Antioxidant activity of *Tinospora cordifolia* roots in experimental diabetes. *J Ethnopharmacol* 1999;65(3):277-281.
11. Soundara Pandian S, Punniamurthy N, Ranganathan V. Herbal Combo Therapy for Oestrus Induction in Postpartum Anoestrus Cows. *J Phytopharm* 2021;10:19-21.
12. 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;85:1281-1283.
13. Talukdar D, Talukdar P, Ahmed K. Documentation of traditional herbal medicines for reproductive disorders of livestock in Kamrup district of Assam. *International Journal of Agricultural Science and Research* 2015;5(6):221-228.
14. Baitule MM, Gawande AP, Kumar U, Sahatpure SK, Patil MS, Baitule MM. Effect of *Aegle marmelos* and *Murraya koenigii* in treatment of delayed pubertal buffaloes heifers. *Vet world* 2016;9(12):1375-1380.
15. Balakrishnan V, Robinson JP, Manickasamy A, Ravindran KC. Ethano-veterinary Studies Amongst Farmers in Dindigul District Tamil Nadu, India. *Glob J Pharmacol* 2009;3(1):15-23.
16. Nair MNB, Unnikrishnan PM. *Ethnoveterinary Botanical Medicine*. Ist. (David R. Katerere, Dibungi L, eds.). Boka Raton 2010.
17. Rajkumari R, Nirmala RK, Singh PK, Das AK, Dutta BK, Pinokiyo A. Ethnoveterinary plants used by the Chiru tribes of Manipur, Northeast India. *Indian J Tradit Knowl* 2014;13(2):368-376.
18. Jagadeeswary V, Sudarshan Reddy M, Satyanarayan K. Ethno-veterinary practices used by tribals of Chittoor district, Andhra Pradesh, India. *Indian J Anim Res* 2014;48(3):251-257.
19. Upadhyay A, Nema SP, Shivhare M, Mehta HK, Kumar S. Effect of *Mimosa pudica* (Lajjalu) in cervico vaginal prolapse in buffaloes. *Buffalo Bul* 2021;40(1):151-155.
20. Kumar R, Bharati KA. Folk veterinary medicines in the Bareilly district of Uttar Pradesh, India. *Indian J Tradit Knowl* 2013;12(1):40-46.