

## An Overview of Ethnoveterinary Management of Gastrointestinal Disorder of Sheep in Rajasthan

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*Citation: Kinkod, P. (2026). An Overview of Ethnoveterinary Management of Gastrointestinal Disorder of Sheep in Rajasthan. International Journal of Education, Modern Management, Applied Science & Social Science, 08(01(I)), 111–119.*

### ABSTRACT

*Ethnoveterinary medicine (EVM) represents the traditional knowledge and practices used by rural communities for the prevention and treatment of livestock diseases using locally available resources. In Rajasthan, sheep play an important role in the rural economy, but their productivity is frequently affected by gastrointestinal disorders such as diarrhoea, bloat, constipation and parasitic infections. Pastoral communities have long relied on ethnoveterinary practices for the management of these conditions. The present review aims to compile and analyse available literature on ethnoveterinary remedies used for the treatment of gastrointestinal disorders of sheep in Rajasthan. The review highlights the use of various medicinal plants and natural ingredients, including leaves, roots, bark, seeds and whole plants, prepared in the form of powders, decoctions and pastes. These remedies are generally administered orally, often mixed with vehicles such as water, milk or jaggery to improve palatability. Ethnoveterinary practices offer several advantages including low cost, easy availability and cultural acceptance among rural livestock keepers. However, many remedies lack scientific validation regarding their safety, efficacy and standardized dosage. Therefore, systematic documentation and scientific evaluation of ethnoveterinary knowledge are essential for developing sustainable and effective livestock healthcare strategies.*

**Keywords:** *Ethnoveterinary Practices, Gastrointestinal Disorders, Sheep Health Management, Medicinal Plants, Rajasthan.*

### Introduction

Ethnoveterinary medicine refers to the indigenous knowledge and traditional practices used by local communities for the prevention and treatment of animal diseases, including the use of herbal remedies as well as cultural and spiritual healing practices associated with livestock care (Mathias, 2004; Yineger *et al.*, 2008; Meena *et al.*, 2020b). It is also considered a scientific field that examines the knowledge systems, techniques, skills, and practices related to traditional plant-based treatments employed in animal healthcare and management (McGaw *et al.*, 2020; Oliveira *et al.*, 2021).

Ethnoveterinary practices are largely rooted in indigenous knowledge, traditional skills, and cultural beliefs that have been passed down across generations through oral traditions rather than formal documentation (Tabuti *et al.*, 2003; Meena *et al.*, 2021). Over time, these practices have developed through continuous observation, experience, trial-and-error learning, and purposeful experimentation; however, many of them remain insufficiently documented and are still not adequately acknowledged within mainstream veterinary medicine (Meena *et al.*, 2021).

Small ruminants, particularly sheep, play an important role in the rural economy of Rajasthan; however, they are highly susceptible to gastrointestinal parasitic infections because they generally graze on pastures contaminated with infective third-stage larvae (L3) of parasitic nematodes (Tariq *et al.*, 2008). Gastrointestinal parasitism is therefore considered one of the major constraints affecting sheep

productivity, resulting in reduced growth, poor feed utilization, anaemia and mortality in severe cases. Various strategies have been proposed for controlling gastrointestinal nematode infections in livestock, including chemical anthelmintics, nutritional supplementation, improved grazing management, vaccination, biological control, genetic selection for resistance, and ethnoveterinary remedies, with their adoption largely influenced by factors such as availability, affordability, effectiveness, and sustainability under local farming conditions (Githiori *et al.*, 2006; Athanasiadou *et al.*, 2007; Stear *et al.*, 2007; Tufa *et al.*, 2019).

### **Ethnoveterinary Resources, Preparation and Administration**

In traditional livestock healthcare systems, farmers widely utilize medicinal plants and other natural resources for the treatment of gastrointestinal disorders. The ethnoveterinary plants used by pastoral communities are generally locally available and easily accessible, and different preservation techniques such as sun-drying are commonly employed to store plant materials for off-seasonal use (Meena, 2014). Various plant parts, including bark, flowers, fruits, leaves, rhizomes, roots, sap, seeds, stems, thorns, and tubers, as well as in some cases the whole plant, are used in the preparation of ethnoveterinary remedies, while certain formulations also incorporate animal-derived products such as milk, curd, urine, excreta, and hive products as curative, preventive, or supportive components in traditional treatments (Galav *et al.*, 2013; Meena *et al.*, 2021).

Traditional livestock keepers prepare ethnoveterinary medicines in different forms such as cold-water extracts, decoctions, infusions, ointments, powders, poultices, fumigations and tinctures depending on the type of disease and plant material used (Balaji & Chakravarthi, 2010). These remedies are generally given orally since internal ailments are more prevalent in livestock; during preparation and administration, various vehicles such as water, milk, sugar and flour are often added to improve palatability and enhance medicinal effectiveness. In many cases the medicines are given with feed or fodder, while special traditional utensils locally known as "Naal" are also used for oral administration of remedies to animals (Amarawat *et al.*, 2019).

### **Relevance of Ethnoveterinary Medicine**

Ethnoveterinary medicine provides several advantages for rural livestock keepers, particularly in regions where veterinary infrastructure and modern medicines are limited or expensive. Traditional treatments are generally low-cost, locally available and culturally accepted, and therefore serve as practical alternatives to conventional veterinary drugs (Meena *et al.*, 2015). These practices help address the limited availability of modern veterinary services while lowering treatment expenses with relatively minimal financial input (Nag *et al.*, 2007). Furthermore, ethnoveterinary practices encourage the use of indigenous plant resources and environmentally friendly treatment approaches, and they are often considered less prone to the development of drug resistance and harmful environmental residues compared to synthetic drugs (Balaji & Chakravarthi, 2010; Garg & Singh, 2025).

### **Limitations and Challenges of Ethnoveterinary Practices**

Despite the widespread use and cultural importance of ethnoveterinary medicine, several limitations and challenges restrict its broader acceptance within formal veterinary healthcare systems. One of the major concerns is the limited scientific validation of many traditional remedies, particularly with respect to dosage, therapeutic efficacy, and potential side effects. In most cases, ethnoveterinary treatments have developed through empirical observations rather than controlled experimentation, which makes it difficult to standardize formulations or replicate their effects under different conditions. Consequently, systematic pharmacological investigations are necessary to evaluate the pharmacodynamics, safety, and reproducibility of these traditional practices before they can be integrated into mainstream veterinary medicine (Meena *et al.*, 2023).

A major limitation of ethnoveterinary practices is the gradual erosion of traditional knowledge, which has historically been transmitted orally across generations within pastoral communities without formal documentation; however, rapid socio-economic changes, urbanization, modernization, and declining interest among younger generations in indigenous languages and cultural practices have disrupted this transmission process, placing valuable ethnoveterinary knowledge at risk of disappearance and highlighting the urgent need for systematic documentation to preserve this heritage and support future scientific research and sustainable utilization (Yadav *et al.*, 2012; Garg *et al.*, 2019; Garg & Singh, 2025).

Another significant challenge associated with ethnoveterinary remedies is the lack of regulatory oversight and standardized quality control, as most herbal preparations are used without the rigorous preclinical and clinical evaluation required for modern pharmaceuticals, while their therapeutic potency may vary substantially depending on factors such as plant species, the specific plant part utilized (root, stem, leaf, or fruit), seasonal conditions at the time of harvesting, and environmental influences during plant growth, which collectively complicate accurate dosage determination and may lead to either sub-therapeutic effects or potential toxicity (Bhowmik *et al.*, 2009).

The therapeutic effectiveness of many plant-based remedies often depends on precise dosage, as certain medicinal plants may exhibit beneficial effects at low concentrations but become toxic or even fatal when administered in larger quantities. For example, plants such as *Alangium salvifolium*, *Melia azedarach*, *Gloriosa superba*, and *Butea monosperma* are reported to have medicinal value when used in controlled amounts, whereas excessive intake may lead to toxic effects (Galav *et al.*, 2013; Meena *et al.*, 2021). Furthermore, while similar treatments may be applied to different animal species, the dosage generally varies depending on the body weight and physiological condition of the animal, highlighting the importance of accurate dosage determination for safe application (Galav *et al.*, 2013).

Additional constraints include the seasonal availability of medicinal plants, the laborious preparation of certain remedies, limited effectiveness against epidemic diseases, and challenges in standardizing herbal formulations, as the concentration of bioactive compounds may vary according to geographical location and environmental conditions (Mathias and McCorkle, 1989; Garg *et al.*, 2022). Moreover, ethnoveterinary medicine generally shows limited effectiveness against acute viral infections and epidemic conditions where modern therapeutic interventions are essential (Balaji & Chakravarthi, 2010).

#### **Integration of Ethnoveterinary Knowledge with Modern Veterinary Medicine**

Biologically active compounds derived from natural sources have long attracted the attention of researchers investigating infectious diseases and therapeutic agents. In this context, medicinal plants traditionally used in ethnoveterinary systems represent an important reservoir of pharmacologically active substances. Scientific investigation of traditional claims regarding plant-based remedies has become an increasingly active field, as detailed studies on the chemistry and pharmacology of plant products may lead to the discovery of novel drugs useful in the treatment of various diseases affecting both animals and humans (Meena & Rao, 2010). Several modern pharmaceuticals have originated from traditional herbal knowledge, such as vinblastine and vincristine derived from *Catharanthus roseus*, digoxin from *Digitalis lanata*, and atropine from *Atropa belladonna*, and ethnopharmacological surveys play a vital role in identifying such medicinal plants for systematic scientific investigation, thereby facilitating the validation of indigenous practices and supporting the discovery and development of new therapeutic agents (Geerlings, 2001).

Although ethnoveterinary medicine has gained increasing recognition for its therapeutic potential, modern veterinary treatments remain indispensable for managing acute and life-threatening infections where antibiotics and other conventional drugs are the primary line of treatment; however, for common and chronic conditions such as wounds, skin diseases, diarrhoea, and parasitic infections, ethnoveterinary remedies can function as effective alternative or complementary therapies, an approach that is particularly important in the context of growing antimicrobial resistance resulting from the excessive use of antibiotics and the associated risk of harmful drug residues in animal products and the environment (Galav *et al.*, 2010; Galav *et al.*, 2013; Meena *et al.*, 2021).

Therefore, rather than replacing one medical system with another, the integration of ethnoveterinary knowledge with modern veterinary science offers a more balanced and sustainable approach to livestock healthcare. In many cases, a combination of modern treatments and traditional management practices may provide the most effective solution for complex diseases where neither system alone yields satisfactory results (Galav *et al.*, 2010; Meena *et al.*, 2021). Such an integrated and holistic approach has the potential to improve animal health management while preserving valuable indigenous knowledge, particularly in livestock-dependent regions such as Rajasthan.

#### **Results and Discussion**

Animal husbandry constitutes a major economic activity for rural communities in Rajasthan, with sheep rearing playing a significant role in supporting household livelihoods. Livestock owners and nomadic pastoral communities in the region largely rely on locally available natural resources to meet

both the fodder requirements and healthcare needs of their animals. Traditional treatment practices are widely followed among rural livestock keepers, where most households initially rely on self-medication using ethnoveterinary remedies and consult local healers only in severe cases, while preventive measures such as vaccination and isolation of sick animals are practiced by comparatively fewer households, indicating limited adoption of scientific disease management strategies (Meena *et al.*, 2015).

Gastrointestinal infections in livestock, particularly in lactating animals, are often associated with poor-quality fodder and contaminated drinking water, which predispose animals to digestive and parasitic disorders (Luseba & Van der Merwe, 2006; Meen *et al.*, 2020). These ailments are among the most commonly treated through ethnoveterinary practices, and the highest Informant Consensus Factor (ICF) reported for digestive disorders indicates strong agreement among informants regarding the use of specific medicinal plants and highlights their perceived effectiveness within local communities (Upadhyay *et al.*, 2011).

Herbs constitute the dominant life form among ethnoveterinary medicinal plants, followed by shrubs and trees, mainly due to their abundance, easy availability, rapid regeneration, and the relative ease of extracting bioactive compounds from herbaceous species (Galav *et al.*, 2013). Leaves and whole plants are the most commonly used parts in ethnoveterinary preparations, with leaves particularly preferred due to their easy availability and rich content of bioactive secondary metabolites, while remedies are generally prepared using simple traditional methods in which single-plant treatments predominate, although polyherbal formulations are occasionally used to improve therapeutic effectiveness in complex gastrointestinal disorders (Meen *et al.*, 2020).

The ethnoveterinary practices used for the management of gastrointestinal disorders in sheep in Rajasthan, as reported in earlier studies, are discussed below, while a summarized compilation of the documented remedies is presented in **Table 1**.

Among gastrointestinal disorders, **diarrhoea** is widely reported in sheep and goats and is characterized by watery, foul-smelling droppings that may cause dehydration and mortality in lambs if untreated (Meena *et al.*, 2020a). Several ethnoveterinary remedies are employed, including preparations derived from arvi (*Colocasia esculenta*) such as paste of dried leaves and frothy extracts of green leaves and stems, along with other remedies such as soybean (*Glycine max*) extract, paste of soaked chickpea (*Cicer arietinum*), ground tuber of gethi (*Dioscorea kumaunensis*), mustard oil (*Brassica campestris*), paste of latjeera (*Aleurites moluccana*) roots and dried leaves of bhang (*Cannabis sativa*) (Meena *et al.*, 2015). Raika pastoralists also apply formulations such as mixtures of alum and jaggery boiled in water, mixtures of kachri fruits (*Cucumis melo* / *Cucumis callosus*) with sugar and oil, mustard oil combined with red chilli powder, and preparations of isabgol mixed with water, among which the alum–jaggery mixture and mustard oil with red chilli were perceived as the most effective due to easy availability and simple preparation (Meena *et al.*, 2020a).

**Bloat (affara)** represents a frequently encountered gastrointestinal disorder in sheep, characterized by abnormal accumulation of gases within the rumen, and is generally considered by livestock keepers to be a critical condition that requires prompt management (Meena *et al.*, 2020a). Traditional ethnoveterinary management involves a variety of plant-based and household formulations. Commonly reported remedies include combinations of asafoetida (*Ferula assafoetida*) with ajwain (*Trachyspermum ammi*), ajwain mixed with black salt, and formulations containing asafoetida, ajwain, and jaggery. Additional preparations documented in the literature comprise frothy extracts of soybean, fruit powder of tumba (*Citrullus colocynthis*), roasted powder of chamsur (*Lepidium latifolium*), and herbal pastes prepared from fennel (*Foeniculum vulgare*), chirayata (*Swertia chirata*), and ginger (*Zingiber officinale*). Other treatments include paste derived from the stem of gurju (*Pistacia integerrima*), sesame cake (*Sesamum indicum*), and drumstick (*Moringa pterygosperma*) leaves administered with milk (Meena *et al.*, 2015). Raika pastoralists also employ formulations such as mixtures of turpentine oil, linseed oil, hing, and black salt, as well as a paste prepared from acidic butter, black tea, turmeric, and black salt, the latter being perceived through participatory assessments as comparatively more effective owing to its simple preparation method and the ready availability of its ingredients at the household level (Meena *et al.*, 2020a).

Traditional remedies are widely used for the management of **internal parasitic infections** in sheep, where livestock keepers commonly administer neem (*Azadirachta indica*) leaves, marva (*Origanum majorana*) leaves, latjeera (*Aleurites moluccana*) roots, and decoctions prepared from the leaves, roots, and bark of karanj (*Artemisia hilagirica*) mixed with jaggery and bran, while paste prepared

from the bark of simal (*Ceiba pentandra*) combined with wheat bran is also used as an anthelmintic treatment (Meena *et al.*, 2015). Furthermore, dried pumpkin seeds mixed with fodder are provided to animals as another traditional remedy for controlling internal parasites (Meena *et al.*, 2020b). Other reports further document the use of several medicinal plants, including *Achyranthes aspera*, *Aloe barbadensis*, *Calotropis procera*, *Citrullus colocynthis*, *Convolvulus arvensis*, *Nerium oleander*, and *Solanum surattense*, for the treatment of gastrointestinal ailments such as intestinal worms, abdominal pain, constipation, and stomach infections, demonstrating the rich diversity of ethnoveterinary plant resources utilized by pastoral communities (Meena *et al.*, 2020).

Although ethnoveterinary practices mainly focus on the treatment of gastrointestinal disorders, they also include remedies for related digestive problems such as jaundice and constipation. For example, Raika pastoralists treat jaundice by giving herbal tea prepared from the flowers of adusa (*Adhatoda vasica*), decoctions made from the wood of palash (*Butea monosperma*), and mixtures containing lemon juice, baking soda, and black pepper (*Piper nigrum*). In addition, animals are often fed cucumber (*Cucumis sativus*) in large quantities during the treatment period. Similarly, powdered leaves of custard apple (*Annona squamosa*) mixed with mustard oil are traditionally administered to animals to relieve constipation (Meena *et al.*, 2020a; b).

Overall, the findings indicate that ethnoveterinary practices continue to play a significant role in the management of gastrointestinal disorders in sheep in Rajasthan. The strong reliance on medicinal plants, the high consensus among informants regarding their use, and the effectiveness perceived by livestock keepers highlight the importance of documenting and scientifically validating these traditional practices for sustainable livestock healthcare development.

**Table 1: Ethnoveterinary remedies used for gastrointestinal disorders of sheep in Rajasthan (compiled from published literature).**

Botanical Name / Ingredients	Local Name	Part Used	Mode of treatment	Ailment treated	Reference or Source
<i>Achyranthes aspera</i>	Gishkay	Whole plant	Administered in powdered form.	Anthelmintic	Meena <i>et al.</i> , 2020
<i>Adhatoda vasica</i> Nees	Adusa	Flower	A tea prepared from the flowers of the Adusa tree is given to the animals.	Jaundice (piliya)	Meena <i>et al.</i> , 2020b
<i>Aleurites moluccana</i>	Latjeera	Root	A paste prepared from the roots of Latjeera is administered to the animals.	Diarrhoea, Internal parasites	Meena <i>et al.</i> , 2015
<i>Aloe barbadensis</i>	Guvarpatha	Root	Provided in powdered form.	Gastrointestinal infection	Meena <i>et al.</i> , 2020
<i>Annona squamosa</i>	Sitaphal	Leaves	Powdered leaves of custard apple mixed with mustard oil are administered to animals.	Constipation	Meena <i>et al.</i> , 2020b
<i>Artemisia bilagirica</i>	karanj	Leaves	A decoction prepared from the leaves, roots, and bark of karanj is provided to animals.	Internal parasites	Meena <i>et al.</i> , 2015
<i>Azadirachta indica</i>	Neem	Leaves	Fresh neem leaves are directly fed to the animals.	Internal parasites	Meena <i>et al.</i> , 2015
<i>Brassica compestris</i>	sarson	Seeds oil	Mustard oil is administered orally to the animals.	Diarrhoea	Meena <i>et al.</i> , 2015
<i>Brassica napus</i> , <i>Nigella sativa</i>	Kali Jiri, Rai	Seeds Paste	A mixture of kali jiri, rai, and acidic butter is prepared and given to the animals.	Bloat (Affara)	Meena <i>et al.</i> , 2020a
<i>Brassica nigra</i> , <i>Capsicum annuum</i> L., <i>Capsicum frutescens</i> L.	Mustard oil, Red chillies	Oil, Powder	Mustard oil is mixed with red chilli powder and administered to the animals.	Diarrhoea	Meena <i>et al.</i> , 2020a

<i>Butea monosperma</i>	Palash or Dhak	Flower, Wood	Tea prepared from palash flowers is administered to the animals. A decoction prepared by boiling palash wood in water is administered to the animals.	Jaundice (piliya)	Meena <i>et al.</i> , 2020a;b
<i>Calotropis procera</i>	Spulmaey	Fruit, leaves	The preparation is made in the form of a paste or concoction.	Intestinal worms	Meen <i>et al.</i> , 2020
<i>Cannabis sativa</i>	Bhang	Leaves	A paste prepared from the dried leaves of bhang is administered to the animals.	Diarrhoea	Meena <i>et al.</i> , 2015
<i>Ceiba pentandra</i>	Simal	Bark	A paste prepared from the bark of the simal tree is used for treatment.	Internal parasites	Meena <i>et al.</i> , 2015
<i>Cicer arietinum</i>	Chickpea	Seeds	A paste made from soaked chickpea seeds is given to the animals.	Diarrhoea	Meena <i>et al.</i> , 2015
<i>Citrullus colocynths</i>	Tumba	Fruit	Juice or powdered form is used for administration.	Affara (Bloat)	Meen <i>et al.</i> , 2020, Meena <i>et al.</i> , 2015
<i>Colocasia esculenta</i>	Arvi	Leaves	Preparations include paste made from dried leaves, a frothy extract of fresh leaves of the arvi plant, and the use of its stems.	Diarrhoea	Meena <i>et al.</i> , 2015
<i>Convolvulus arvensis</i>	Shankpuspi	Whole plant	The plant material is crushed before use.	Constipation	Meen <i>et al.</i> , 2020
<i>Cucumis melo L. syno Cucumis callosus (Rottler) cogn</i>	Kachri	Fruit	Fruits of kachri are mixed with sugar, oil, and water to prepare a formulation that is administered to animals.	Diarrhoea	Meena <i>et al.</i> , 2020a
<i>Cucumis sativus</i>	Kheera	Fruit	Animals are provided kheera in large quantities.	Jaundice (piliya)	Meena <i>et al.</i> , 2020a
<i>Cucurbita pepo</i>	Kaddu	Seeds	Feeds seed of pumpkin with fodder.	Internal parasite	Meena <i>et al.</i> , 2020b
<i>Curcuma longa</i>	Haldi	Powder and paste	A paste prepared from acidic butter, black tea, turmeric, and black salt is administered to the animals.	Bloat (Affara)	Meena <i>et al.</i> , 2020a
<i>Dioscorea sativa</i>	Gethi tuber	Tuber	Ground tuber of gethi is provided to the animal.	Diarrhoea	Meena <i>et al.</i> , 2015
<i>Ferula assafoetida</i>	Hing	Resin	A mixture of asafoetida, ajwain, and jaggery is prepared and administered to sheep.	Bloat	Meena <i>et al.</i> , 2015, Meena <i>et al.</i> , 2020a
			Linseed oil is mixed with turpentine oil, followed by the addition of black salt and hing; the prepared mixture is then administered orally.	Bloat	Meena <i>et al.</i> , 2020a; b
<i>Foeniculum vulgare</i>	Fennel	seeds	A paste prepared from fennel, chirayata, and ginger is given to the animal.	Affara (Bloat)	Meena <i>et al.</i> , 2015
<i>Glycine max</i>	soyabean	seeds	A frothy extract prepared from soybean is administered to the animal.	Bloat, Diarrhoea	Meena <i>et al.</i> , 2015
<i>Lepidium latifolium</i>	Chamsur	Seeds	Powder prepared from roasted chamsur is given to the animal.	Affara (Bloat)	Meena <i>et al.</i> , 2015

<i>Moringa pterygospermar</i>	Drumstick	leaves	Drumstick leaves are administered along with cow milk.	Affara (Bloat)	Meena <i>et al.</i> , 2015
<i>Nerium oleander</i>	Ghanderay	Whole plant	The preparation is administered in the form of a concoction.	Stomachache	Meen <i>et al.</i> , 2020
<i>Origanum majorana</i>	Marva	Leaves	Leaves of marva are fed directly to the animal.	Internal parasites	Meena <i>et al.</i> , 2015
<i>Piper nigrum</i>	Kali Mirch	Seeds Powder	A mixture of baking soda, a small amount of black pepper, and lemon juice is administered to the animals.	Jaundice (piliya)	Meena <i>et al.</i> , 2020a
<i>Pistacia integerrima</i>	Gurju	Stem	A paste prepared from the stem of gurju is administered to the animal.	Affara (Bloat)	Meena <i>et al.</i> , 2015
<i>Plantago ovata Forsk (Psyllium husk)</i>	Isabgol	Leaves	Powder of isabgol leaves mixed with water is given to the animals.	Constipation, Diarrhoea	Meena <i>et al.</i> , 2020a
<i>Sesamum indicum</i>	Sesame	Seeds	Sesame cake is provided to the animal.	Affara (Bloat)	Meena <i>et al.</i> , 2015
<i>Solanum surrattense</i>	Kandiari	Whole plant	The crushed whole plant is administered to the animal.	Intestinal infections	Meen <i>et al.</i> , 2020
<i>Trachyspermum anum</i>	Ajwain	Seeds	A mixture of ajwain and black salt is prepared and given to the sheep.	Affara (Bloat)	Meena <i>et al.</i> , 2015
<i>Triticum aestivum</i>	gehun	Seeds	Wheat bran is fed to the animal.	Internal parasites	Meena <i>et al.</i> , 2015
Alum + jaggary	Fitkari, Gud	Paste	A formulation prepared by mixing a small quantity of alum with a larger amount of jaggery is boiled in water, kept overnight, and administered to the animals.	Diarrhoea	Meena <i>et al.</i> , 2020a;b

### Conclusion

Ethnoveterinary medicine plays an important role in managing gastrointestinal disorders of sheep in Rajasthan using locally available medicinal plants and natural remedies. These remedies are generally prepared through simple methods and administered orally, reflecting practical indigenous knowledge developed within pastoral communities. Despite their accessibility, affordability and cultural acceptance, many traditional treatments require scientific validation for efficacy, safety and dosage. Therefore, proper documentation and integration of validated ethnoveterinary practices with modern veterinary medicine may offer sustainable and cost-effective approaches for managing gastrointestinal disorders in sheep.

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