



## RESEARCH ARTICLE

# A Survey on Traditional Health Care Practices for treating Livestock Diseases in Sitapur District, Uttar Pradesh, India

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## ABSTRACT

**Aim:** An effort was made to collect and document the local health traditions for the treatment of livestock diseases practiced by the indigenous communities of Sitapur district of Uttar Pradesh, India.

**Materials and methods:** Sitapur district is situated in the upper Gangetic plain of Uttar Pradesh and covering an area of 5743sq. km. and is divided into six tehsils namely Sitapur, Biswan, Mishrikh, Laharpur, Mahmoodabad and Sidhauri. Agriculture and animal husbandry are the main occupations of more than eighty percent of the population. In this study, minimum five villages from each of two Tehsils, namely Mishrikh and Sidhauri of Sitapur district of Uttar Pradesh, India, are randomly selected for the survey program.

**Result:** Documentation process was done in group consisting of folk healers/veterinarian, village headman, village sarpanch, village panchayat members, livestock holders, livestock supervisors, paravet, botanist, and the documenter.

**Conclusion:** The results from the study showed that the rural farmers and traditional herbal healers of villages in Sitapur district have been using a number of ethno-veterinary medicinal plants for the health care of livestock.

**Clinical Significance:** In the studied area of Sitapur district of Uttar Pradesh, India, a total of 29 plant species belonging to 25 families were found to be used traditionally by the rural livestock keepers for the treatment of 20 diseases.

**Keywords:** Disease, Ethno-veterinary, Livestock, Traditional, Uttar Pradesh.

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## INTRODUCTION

Traditional health care practice of indigenous people pertaining to human health is known as ethno-medicine. The study of traditional veterinary knowledge, practices, and belief is termed as ethno-veterinary medicine. Ethno-veterinary medicine is emerging as a challenging field in today's life. The main advantages of using ethno-veterinary practices over conventional system of treatment of diseases in animals are that it is less expensive, easily accessible, and more effective.<sup>1</sup> Livestock industry contributes 33% to agriculture GDP in India. The total livestock population in India is 512.05 million according to the 19th Livestock Census, All India report, 2012, Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhawan, New Delhi, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India. In India, about 70% of rural households depend on livestock farming for supplementary income.<sup>2</sup> Since the poor livestock farmers cannot afford modern veterinary approaches for treating their livestock, proper documentation and scientific validation of traditional medicinal plants are most important for better care, management, and treatment of different diseases in animals and subsequently for further enhancement of the growth in livestock sector.

The rural community people have been relying upon ethno-veterinary practices since ancient times which are based on the plants available in their localities. The Vedic literature, particularly Atharvaveda, is a repository of traditional medicine including prescriptions for treatment of animal diseases. In Vedic veterinary practices, the most efficacious remedy for animal disease was *Arundhati*, which not only kept cattle free from disease, but also enhanced milk in cows.<sup>3</sup>

The state of Uttar Pradesh, India, is a huge reservoir of ethno-veterinary medicinal plants and the ethnic people of this state have been using traditionally large number of medicinal plants in their traditional animal health care

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practices.<sup>4-7</sup> In this context, an effort was made to collect and document the local health traditions for the treatment of livestock diseases practiced by the indigenous communities of Sitapur districts of Uttar Pradesh, India.

Sitapur district is situated in the upper Gangetic plain of Uttar Pradesh and covering an area of 5743 sq km and is divided into six tehsils namely Sitapur, Biswan, Mishrikh, Laharpur, Mahmoodabad, and Sidhauri. Agriculture and animal husbandry are the main occupations of more than 80% of the population.

## MATERIALS AND METHODS

**Study area:** Sitapur district of Uttar Pradesh, India (Fig. 1).

Sitapur district is situated in the upper Gangetic plain of Uttar Pradesh and covering an area of 5743 sq km and is divided into six tehsils namely Sitapur, Biswan, Mishrikh, Laharpur, Mahmoodabad, and Sidhauri. Sitapur district is located between at 27.57°N 80.68°E. According to 2011 census, Sitapur district had a total population of 4,474,446. Sitapur is mainly a rural district. Majority of its population is engaged in agriculture. Sugarcane, wheat, rice, potatoes, and vegetables are among the most important crops grown in the district. Pulses and mustard are also grown over a large area. Agriculture and animal husbandry are the main occupations of more than 80% of the population. In this study, minimum five villages from each of two Tehsils namely Mishrikh and Sidhauri of Sitapur districts of Uttar Pradesh, India, were randomly selected for the survey program.

Documentation process was done in group consisting of folk healers/pashu vaidya, village headman, gramya sarpanch, gramya panchayat members, livestock holders, livestock supervisors, paravet, botanist, and the documenter. Documentation includes general details of the folk healer, details of the health condition, traditional

remedial measures for the health ailments, plant part use, and mode of preparation, doses and method of administration, and duration of treatment.

Information regarding local traditional animal health care practices was collected through a semi-structured questionnaire during the survey period, 2014 to 2015. The medicinal plant specimens were collected, identified by the botanist, shade dried, and herbarium specimens were prepared and deposited to the office, National Veterinary-Ayurveda Research Institute & Hospital, Lucknow, India.

## RESULTS

The results of the study are presented in Table 1. For each plant species, botanical name, family, local name, parts used, and mode of administration are provided. The rural farmers and traditional herbal healers of villages in Sitapur district have been using a number of ethno-veterinary medicinal plants for the health care of livestock. In the studied area of Sitapur district of Uttar Pradesh, India, a total of 31 plant species belonging to 25 families were found to be used traditionally by the rural livestock keepers for the treatment of 20 diseases.

## DISCUSSION

In the studied area of Sitapur district of Uttar Pradesh, India, it was reported that a total of 31 plant species belonging to 25 families have been used traditionally by the rural livestock keepers for the treatment of 20 diseases. The rural farmers and traditional herbal healers have been using these plants to treat the various diseases of livestock like body heat, cold, diarrhea, dysentery, fever, foot infections, intestinal worm, jaundice, joint pain, paralysis, removal of ectoparasites, snake bite, and wounds. They have used single medicinal plant or in combination with other plants, oils, and salts for preparing the ethno-veterinary formulations for

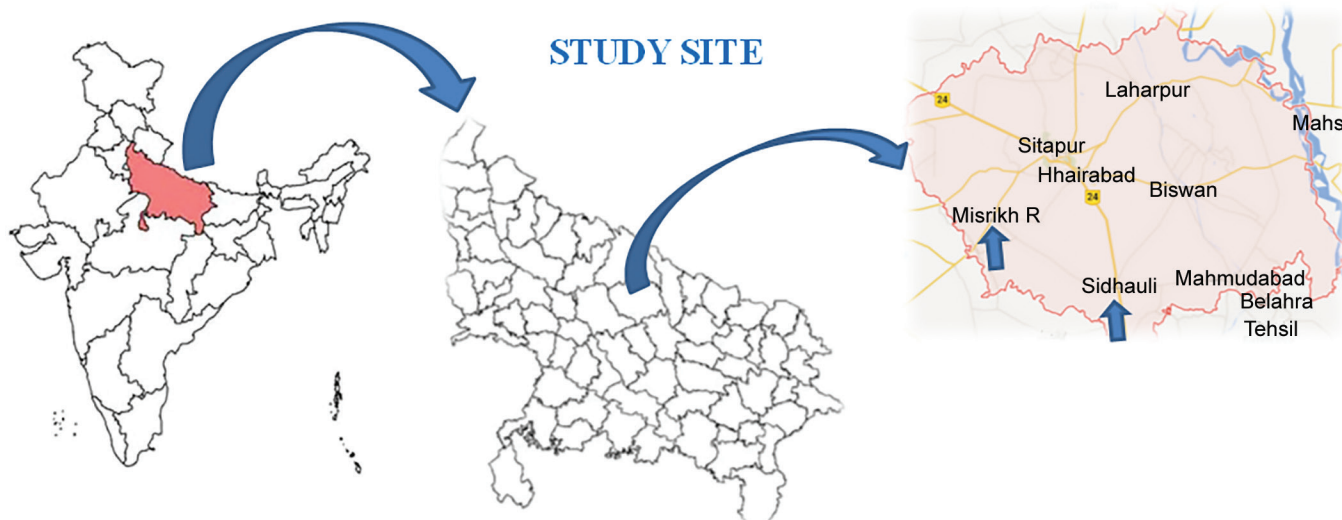


Fig. 1: Study area: Sitapur district, Uttar Pradesh, India

Table 1: Local health traditions practiced by rural farmers of Sitapur district, Uttar Pradesh, India, for livestock health care

Ailment/disease (local names in brackets)	Name of plant/family name	Plant's local name	Ayurvedic name	Parts used	Ethno-veterinary formulations/mode of preparation and use
Dysentery (Khuni dust)	<i>Euphorbia hirta</i> L. (Euphorbiaceae)	Dudhiya	Dugdhiika	Stem	The stem of <i>Dudhiya</i> is crushed and the paste is given orally to livestock
Excessive heat in the body (Garmi)	<i>Musa paradisiaca</i> L. (Musaceae)	Kela	Kadali	Leaf	Young leaves of Kela are given orally for 1 week to reduce body heat of cattle.
Cough, cold (Khasi, thand)	<i>Ocimum gratissimum</i> L. (Lamiaceae)	Tulsi	Ajaka	Leaf	100 gm leaves of <i>Tulsi</i> and 10 gm sodium bicarbonate mixed and crushed given orally 2 times a day to the diseased animal
Diarrhea (Dust/Pokna)	<i>Psidium guajava</i> L. (Myrtaceae)	Amrood	Peruka	Leaf	Fresh leaves of <i>Amrood</i> crushed and the paste given orally to the cattle. Dose: 3 times a day
	<i>Acacia nilotica</i> L. Delle (Leguminosae)	Babul	Babbula	Leaf, bark	Fresh <i>babul</i> leaves are given orally to the livestock to treat diarrhea. Decoctions of <i>babul</i> bark and <i>Jarnun</i> ( <i>Syzygium cumini</i> ) bark are also given orally 2 times a day to the animals
	<i>Dalbergia sissoo</i> DC. (Leguminosae)	Sessam	Shinshapa	Leaf	200 gm of <i>Sessam</i> leaves and salt crushed and given orally to the animals 3 times a day
	<i>Justicia adhatoda</i> L. (Acanthaceae)	Arudsa	Vasa	Leaf	100 gm of <i>Arudsa</i> leaves, 6 <i>Kali mirch</i> ( <i>Piper nigrum</i> L.) and black salt crushed and given orally to the livestock 3 times a day
	<i>Trigonella foenum-graecum</i> L. (Leguminosae)	Methi	Methika	Seed	20 gm <i>Methi</i> , 10 gm <i>Mangrail</i> ( <i>Nigella sativa</i> ), 50 gm onion and 20 gm sodium bicarbonate are crushed and administered orally 2 times a day to the diarrheic animal
Parturition (Prasav)	<i>Annona squamosa</i> L. (Annonaceae)	Shareefa	Subada	Leaf	100 gm fresh <i>Shareefa</i> leaves crushed and given orally 3 times a day
	<i>Bambusa bambos</i> L. Voss (Poaceae)	Bamboo	Bans	Leaf	Fresh bamboo leaves are given for easier delivery during pregnancy in livestock
	<i>Helianthus annuus</i> L. (Compositae)	Surajmukhi	Adityabhakta	Seed	About 60 mL oil of <i>Surajmukhi</i> is given daily during pregnancy to cattle for smooth delivery
Eye infections (Ankho ki Sankraman)	<i>Argemone mexicana</i> L. (Papaveraceae)	Bhadbhar	Brahmadandi	Seed	2–3 mL oil of <i>Bhadbhar</i> put into the eyes once a day
Fever (Bukhar)	<i>Caesalpinia bonducella</i> L. Fleming/ (Leguminosae)	Kanj	Kubarakshi	Leaf	About 100 gm <i>Kanja</i> leaves, 10 gm <i>kali mirch</i> ( <i>Piper nigrum</i> L.) and 20 gm black salt are crushed together for one dose. The paste is dissolved in water and administered orally to the cattle. Dose may vary from 2 to 3 times a day
	<i>Cinnamomum camphora</i> L. (Lauraceae)	Kappor	Kapur	Leaf	100 gm leaves of <i>Kappor</i> and 20 gm black salt crushed for one dose and given orally 2 times a day to the livestock
	<i>Leucas cephalotes</i> L. (Labiataceae)	Guima	Dronpushpi	Leaf	Decoction of <i>Guima</i> leaves are given orally to the animal 3 times a day for treating fever
	<i>Justicia adhatoda</i> L. (Acanthaceae)	Arudsa	Vasa	Leaf	100 gm leaves of <i>Arudsa</i> and black salt are crushed and given orally to the livestock 3 times a day
Fistula (Nasur)	<i>Allium sativum</i> L. (Amaryllidaceae)	Lashuan	Rasonam	Bulb, Seed	20 gm <i>Lashuan</i> and <i>kali mirch</i> ( <i>Piper nigrum</i> L.) are crushed and given orally to the livestock 2 times a day for treating fistula
	<i>Acacia nilotica</i> L. Delle (Leguminosae)	Babul	Babbula	Leaf	200 gm leaves of <i>babul</i> and black salt are crushed and given orally 2 times a day
Foot and mouth disease (Khur pakka)	<i>Acacia nilotica</i> L. Delle (Leguminosae)	Babul	Babbula	Bark	Decoctions of <i>babul</i> bark and <i>Palash</i> ( <i>Butea monosperma</i> ) bark are applied topically to the infected hoof of the livestock
	<i>Azadirachta indica</i> A. Juss. (Meliaceae)	Neem	Nimba	Leaf	The infected hoof is washed with <i>Neem</i> and <i>Kukraundha</i> ( <i>Blumea lacera</i> ) leaves.

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Illment/disease (local names in brackets)	Name of plant/family name	Plant's local name	Ayurvedic name	Parts used	Ethno-veterinary formulations/mode of preparation and use
Fracture (Haddi tootna)	<i>Achyranthes aspera</i> L. (Amaranthaceae)	Lathjeera	Apamarga	Bark	The infected hoof is washed with decoction of <i>Neem</i> , <i>Kachnar</i> ( <i>Bauhinia variegata</i> ) and bark of <i>babul</i> ( <i>Acacia nilotica</i> )
Haemorrhagic septicaemia (Gala ghotu)	<i>Nerium oleander</i> L. (Apocynaceae)	Nerium	Karavir	Leaf	The infected wound is washed with decoction of <i>Lathjeera</i> leaves
	<i>Datura stramonium</i> L. (Solanaceae)	Dhatura	Kanakavhya	Seed	100 gm seeds of <i>Nerium</i> are crushed and applied on the surface of fracture of livestock
	<i>Allium cepa</i> L. (Amaryllidaceae)	Piyaj	Yavanesta	Seed, Oil	100 gm of <i>Dhatura</i> seeds, 20 mL mustard oil and 5 <i>kali mirch</i> ( <i>Piper nigrum</i> L.) are crushed and the paste is applied externally on the surface of infection of the animal
Intestinal worms (Pet mei keera)	<i>Ziziphus nummularia</i> (Burm.f.) Wight (Rhamnaceae)	Jhari ber	Mudga	Bulb, Seed	100 gm onion ( <i>Allium cepa</i> ), garlic ( <i>Allium sativum</i> ), jaggedy, black salt, and <i>kali mirch</i> ( <i>Piper nigrum</i> ) are crushed and is administered orally to the infected animal 3 times a day
Jaundice (Kamala)	<i>Boerhaavia diffusa</i> L. (Nyctaginaceae)	Gadahpuma	Punarnava	Leaf	250 gm tender twig and leaves of <i>Jhari ber</i> are given twice a day for 7–8 days to expel intestinal worms from the livestock
Mastitis (Thanilla)	<i>Trichosanthes tricuspidata</i> Lour. (Cucurbitaceae)	Balbandua	Kakanasa	Root	About 200 gm <i>Punarnava</i> root is grinded well and mixed with 250 mL water, and the solution is given orally twice daily for 15–20 days to the animal to cure jaundice
Decrease in milk production (Dudh ki kami)	<i>Asparagus racemosus</i> Willd. (Liliaceae)	Satawari	Shatavari	Fruit	100 gm fresh fruit pulp of <i>balbandua</i> is given orally 2 times a day to treat mastitis of cows
Paralysis (Pakhsha ghat)	<i>Butea monosperma</i> (Lam.) Taub. (Leguminosae)	Palas	Palas	Root	Decoction obtained from 250 gm roots of <i>Satawari</i> in 2 L of water is given orally 1 time a day to the dairy cows
Retention of placenta (Garbhanaal reh jana)	<i>Achyranthes aspera</i> L. (Amaranthaceae)	Chirchiri	Apamarga	Flowers	Decoction of flowers of <i>Palas</i> is given to the cattle thrice a day for 1 month for the treatment of paralysis of livestock
Skin blister (Chamre mei chhala padana)	<i>Brassica campestris</i> L. (Brassicaceae)	Sarson	Raktasarshapa	Root	A decoction of <i>Chirchiri</i> is made with a salt and is given 2 times a day to the cows to expel retained placenta
Snake bite (Sarpadanash)	<i>Calotropis procera</i> L.R. Br (Asclepiadaceae)	Madar	Arka	Oil	Mustard oil ( <i>Sarson tel</i> ) is applied topically on the affected skin of cattle
Wound (Jakham)	<i>Eclipta prostrata</i> L. (Compositae)	Bukkan	Bhringraj	Latex	Milky latex of <i>Madar</i> is applied externally on the site of snakebite to neutralize poison
				Leaf	About 100 gm leaves of <i>Eclipta</i> is crushed and paste is prepared and then applied on the wound of animals



treating livestock diseases. Common formulations used by the livestock farmers are decoctions, oil, powder, and paste made from the medicinal plants. It has been observed that in the studied area of Sitapur district, Uttar Pradesh, India, the rural livestock farmers use a wide variety of ethno-veterinary formulations for treating diarrhea (6 formulations) followed by fever (4 formulations) and foot and mouth disease (3 formulations). Herbs were found to be the mostly used ethno-veterinary medicinal plant followed by trees and shrubs. Out of the herbaceous plant species, *Asparagus racemosus* of family Liliaceae was climbing herb and *Musa paradisiaca* of family Musaceae was only large herbaceous plant while grasses *Bambusa bambusa* was woody perennial grass.

## CONCLUSION

The research findings presented are very preliminary and need further scientific validation. Pharmacological investigation of the documented local health traditions for treating livestock diseases will shed light on the relationship between ethno-veterinary knowledge and modern mainstream pharmacology and pharmaceuticals. Such information will not only promote the development of useful concepts in veterinary medicine but also encourage the maintenance of biocultural diversity.

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## हिन्दी सारंश

### उत्तर प्रदेश के सीतापुर जिले में पशु रोगों की चिकित्सा के लिए पारंपरिक चिकित्सा अभ्यास पर एक सर्वेक्षण

**लक्ष्य:** भारत के राज्य उत्तर प्रदेश के सीतापुर जिले के स्वदेशी समुदायों द्वारा प्रचलित पशुधन रोगों के उपचार के लिए स्थानीय स्वास्थ्य परंपराओं को एकत्र करने और दस्तावेज बनाने का प्रयास किया गया।

**सामग्री और तरीके:** सीतापुर जिला उत्तर प्रदेश की ऊपरी गंगा मैदान में स्थित है और 5743 वर्ग कि.मी. में फैला हुआ है और इसे छह तहसीलों में बांटा गया है, अर्थात् सीतापुर, बिस्वान, मिश्रीख, लाहरपुर, महमूदबाद और सिदाउली। कुल आबादी के अस्सी प्रतिशत से अधिक का मुख्य व्यवसाय कृषि और पशुपालन हैं। इस अध्ययन में, उत्तर प्रदेश, भारत के सीतापुर जिले के दो तहसील, मिश्रीख और सिदाउली से प्रत्येक के न्यूनतम पांच गांवों को यादृच्छ विधि से सर्वेक्षण कार्यक्रम के लिए चुना गया।

**परिणाम:** प्रलेखन संबंधित प्रक्रिया लोक चिकित्सक/पशु वैद्य, गांव के मुखिया, गांव सरपंच, ग्राम पंचायत सदस्य, पशुधनधारक, पशु पर्यवेक्षक, पैरावाट, वनस्पतिशास्त्री और प्रलेखक के समूह में किया गया।

**निष्कर्ष:** अध्ययन के परिणाम बताते हैं कि सीतापुर जिले के गांवों के ग्रामीण किसानों और परंपरागत हर्बल चिकित्सकों ने पशुधन की स्वास्थ्य देखभाल के लिए कई चिकित्सीय औषधीय पौधों का इस्तेमाल किया है।

**आतुरीय महत्व:** भारत के उत्तर प्रदेश राज्य के सीतापुर जिले के अध्ययन क्षेत्र से सम्बंधित कुल 31 पादप प्रजातियां जो 25 पादप कुल से सम्बन्धित थी, का प्रयोग पशुओं के देखभाल करने वाले ग्रामीण लोगों द्वारा 20 रोगों के उपचार हेतु पारम्परिक रूप से प्रयोग किया जाता है।

**शब्द कुंजी:** रोग, प्रजाति-पशु चिकित्सक, पशुधन, पारंपरिक, उत्तर प्रदेश।

