



A Monthly e Magazine  
ISSN:2583-2212  
May 2024 Vol.4(5), 1701-1704

Popular Article

## Ethno-veterinary practices for successful therapy in Lumpy Skin Disease

Anindita Sandilya<sup>1</sup>, Nadima Khan<sup>2</sup>, Chandramita Das<sup>3</sup>, Udipta Bhuyan<sup>4</sup>

<sup>1-3</sup>College of Veterinary Science and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram-796015

<sup>4</sup>College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam-781022

<https://doi.org/10.5281/zenodo.11146247>

### Abstract

Lumpy Skin Disease (LSD) is a notifiable disease because of its rapid spread and economic losses. It is more susceptible among cattle with low immunity. It is characterized by high fever and enlargement of superficial lymph nodes all over the skin along with multiple nodules and lumps. No medicines are prescribed for this disease, rather symptomatic treatment is done. Recent uses of ethno-veterinary medicines for the treatment of LSD have showed a very good result, some of which are mentioned in this article.

**Keywords:** Ethnoveterinary, Lumpy Skin Disease, Treatment, Notifiable disease

### Introduction

Livestock is important to the Indian economy. There are over 20.5 million individuals who depends on livestock for their livelihood. The proliferation of new diseases, which results in decreased milk output, meat production, draft capacity, dung generation, and hide production, is one of the most important restrictions in such a situation. An establishing viral illness with major economic impact that affects cattle and buffaloes is Lumpy Skin Disease (LSD). Morbidity and mortality rate of this disease is usually 10-15 % and 1-5% but morbidity reached upto 45 % in affected areas during outbreaks. LSD outbreaks caused huge economic impact on livestock industries. At national level, overall economic loss was estimated to be INR 18337.76 crores.

### Etiology and Epidemiology

The Lumpy Skin Disease Virus (LSDV), which belongs to the *Poxviridae* family's genus Capripoxvirus, is connected to LSD. Traditionally exclusive to the continent of Africa, the LSDV has

1701



recently begun to spread to other regions of the world. Lumpy Skin Disease was reported for the first time in Odisha, India at the end of 2019. Kerala, Tamil Nadu, Andhra Pradesh, Telangana, Jharkhand, West Bengal, Assam, Tripura, Chhattisgarh, Maharashtra, and Madhya Pradesh are now LSD affected states in India.

### **Transmission and Signs**

Transmission of LSD can happen predominantly through vectors (mosquitoes and flies) or by natural mating or artificial insemination (AI) or contact with infected feed or water. The LSD virus is stable and may thrive in a pH ranging from 6.3 to 8.3 in extremely dry and cold settings. Scabs are released by infected animals from skin sores. The virus may continue to spread for several months inside the scabs. Skin nodules, fever, mastitis, peripheral lymph node swelling, appetite loss, miscarriage, infertility, increased nasal discharge, and watery eyes are some of the symptoms associated with LSD. Skin nodules with a diameter of two to five centimetres are typically observed.

### **Treatment:**

LSD could not have a specific treatment; allopathic antibiotics have only been indicated as a symptomatic treatment. Gone are the days when Ethno Veterinary Medicine (EVM) was viewed with mistrust. There is no denying the importance of EVM in cattle development both now and in the future. Scientists are deciphering the effects and mode of action of phytomedicines used by local and indigenous cultures worldwide. Once more, there have been a number of documented effective attempts to lessen the symptom through ethno-veterinary practices, lowering the financial loss to cattlerearers and farmers. Ethno-veterinary medicine, the scientific theory for treating conventional animal ailments, provides affordable alternatives to allopathic medicines.

### **Various ethno-veterinary protocols**

1. A topical and oral combination for the treatment of LSD. For the first three days following infection, take a paste made from ten betel leaves, ten black peppercorns, ten grams of crystal salt, and as-needed jaggery every three hours. For infections lasting three to fourteen days, use a paste made of two numbers of garlic, 15 grams of coriander leaves, 15 grams of cumin leaves, one hand's worth of holy basil (tulsi), 15 grams of clove leaves, 15 grams of black pepper, five numbers of betel leaves, two numbers of shallots (a small onion), 10 grams of turmeric powder, one hand's worth of neem leaves, and three spoonfuls of ad lib jaggery.

For an open wound, boil [*Acalypha indica* leaves (Indian mercury/Indian copperleaf), 10 garlic cloves, neem leaves, holy basil (tulsi), 10 grams of turmeric powder, and henna leaves]. Coconut oil is used. After cleansing the wound, cool the content and apply it to the affected area.



2. LSD sores can be very effectively treated by traditional methods, by applying chopped *Croton megalobotrys* leaves externally.
3. National Dairy Development Board (NDDB) recommended that-
  - a. Requirements for one dose are 10 betel leaves, 10 grams of salt, 10 grams of black pepper, and jaggery. Blend the ingredients thoroughly to form a paste and mix with jaggery. One dose every three hours orally in the first day and from the second day, three doses are recommended daily for next three weeks. Each dose made, should not be used the next day. Doses should be prepared on a daily basis.
  - b. Requirement for two doses are two pearls of garlic, 10 grams each of cumin, coriander, and tulsi. 10 grams each of bay leaves, black pepper, and 5 betel leaves, 2 bulbs of shallots, 10 grams of turmeric powder, 30 grams of chirata leaf powder One handful of sweet basil, one handful each of neem leaves, *Aeglemarmolos* (BEL) leaves and 100 grams of jaggery. Blend the ingredients thoroughly to form a paste and mix with jaggery. One dose every three hours orally in the first day and from the second day, two doses i.e., in the morning and evening respectively are recommended daily till the condition resolves.
  - c. Ingredients required for external wounds: One handful of *Acalypha Indica* leaves, 10 pearls of garlic, one handful of neem leaves, 500 millilitres of coconut or sesame oil, 20 grams of turmeric powder, one handful each of mehendi and tulsi leaves. Blend each ingredient with 500 ml of coconut or sesame oil, then boil the mixture and let it cool. After preparing the ointment, clean the wound and apply directly over it. If any maggots are notices in the wound areas, use *Anona* leaf paste or camphorated coconut oil during the very first day.
4. Treatment for lumpy skin disease (LSD) using several plants are given as below:

Species	Family	Used parts
<i>Acacia abyssinica</i> Hochst. exBenth.	<i>Fabaceae</i>	Bark
<i>Acacia macrothyrsa</i> Harms	<i>Fabaceae</i>	Bark, Leaves
<i>Acacia spirocarpa</i> Hochst. Ex A. Rich.	<i>Fabaceae</i>	Bark, Leaves
<i>Carissa spinarum</i> L.	<i>Apocynaceae</i>	Bark
<i>Rhus vulgaris</i> Meikle	<i>Anacardiaceae</i>	Flower, leaves
<i>Steganotaeniaaraliacea</i> Hochst.	<i>Apiaceae</i>	Bark, root, tuber
<i>Tagetesminuta</i> L.	<i>Asteraceae</i>	Whole plant
<i>Zanthoxylumchalybeum</i> Engl.	<i>Rutaceae</i>	Root



The above-mentioned plants should be soaked in water and administer orally.

### Conclusion

Utilizing medicinal plants to treat clinical illnesses might lessen the loss brought on by reduced production, medical expenses, and other adverse effects of allopathic medication. These treatment protocols will be very useful for the cattle rearers and farmers as a whole.

### References

- Malabadi, R.B., Kolkar, P.K. and Chalannavar, K. (2022). Outbreak of lumpy skin viral disease of cattle and buffalo in India in 2022: Ethnoveterinary medicine approach. *Int. J. Innov. Sci Res Rev*, 4(11), 3562-3574.
- Yadav, S.N., Ahmed, N., Nath, A.J., Thakuria, P. and Boro, P.K. (2021). Ethnoveterinary approach for lumpy skin disease management-an update. *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*. 14: 9: 2319-2372.
- Rauf, M., Zaheer, Z., Hussain, Y. and Khan, A.H. (2023). The devastation of Lumpy skin disease in third world countries: a mini-review on the current status of the disease focusing phytochemicals. *PHYTONutrients*, 63-75.

