
Vaccination against Emerging Unwelcome Lumpy Skin Disease in Cattle

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ABSTRACT

The B.sc.,(Hons.) Agriculture final year students of Adhiparasakthi Agricultural College, Kalavai attending the Rural Agricultural Work experience (RAW) programme at Walajabad Block. The students have been to several locations to learn from farmers about field and cultivation techniques. The students have participated in conducting demonstrations, organizing rallies, camps, meetings, etc. as a part of this program. The students from the Walajabad block performed a veterinary camp, which is detailed in this article.

INTRODUCTION

Rural Agricultural Work Experience (RAWE) is a course offered for B.sc (Hons.) Agriculture students to gain knowledge about Farming, Livestock rearing etc., Dr. Kandhasamy, BVSc, organized the veterinary camp. The primary goal of the camp is to immunise the livestock against Lumpy Skin Disease (LSD).

WHAT IS LSD?

Lumpy skin disease is a viral infection disease that affects cattle and is identified by nodules on the skin and other regions of the body. The situation is frequently made worse by secondary bacterial infection. Traditionally, lumpy skin disease only affects the southern and eastern parts of Africa, but in the 1970s, it spread into sub-Saharan West Africa. Since 2000, it has expanded to a number of



Middle Eastern nations. In 2013, it also reached Turkey and a number of Balkan nations. In India, outbreaks of the lumpy skin disorder have lately been observed. International worry has been raised by the lumpy skin disease's recent worldwide expansion.

ETIOLOGY AND EPIDEMIOLOGY

The causative virus is connected to the sheep pox virus. Lumpy skin conditions might show up frequently or suddenly. Although it can happen in the winter, its occurrence is greater in humid summer conditions. It is mainly common in low-lying areas and beside waterways. Biting insects have been implicated as mechanical vectors since quarantine measures meant to stop the spread of infection frequently fail; nonetheless, outbreaks have happened in situations where insects could feasibly be excluded.

SYMPTOMS OF LSD

Infected calves experience fever, lacrimation, nasal discharge, and hypersalivation, which are followed by the typical skin eruptions and other body part eruptions in about 50% of susceptible cattle. The time of incubation is 4–14 days. The entire epidermis as well as the mucosa of the GI, respiratory, and vaginal systems are affected by the nodules, which are well-circumscribed, spherical, slightly elevated, firm, and painful. On the muzzle, as well as in the mucous membranes of the nose and mouth, nodules can form. A solid, creamy-gray or yellow mass of tissue is present in the skin nodules. Localized lymph nodes swell, and udder, brisket, and leg edoema form. When a secondary infection happens, there may be considerable suppuration and

sloughing, which causes the animal to lose a lot of weight. Over time, the nodules either disappear or the skin begins to necrotize, leaving behind hard, elevated regions that are distinct from the surrounding skin (referred to as "sit-fasts"). These regions slough off, leaving ulcers that heal and leave scars. Mortality is normally low; morbidity ranges from 5% to 50%. Reduced milk production and loss of physical condition are the main causes of loss.



Lumps on the Affected Cattle

OUTBREAK IN INDIA

A virus that primarily affects cattle causes lumpy skin disease (LSD). The disease, which was first discovered in an outbreak in Zambia in 1929, is brought on by the LSD virus (LSDV), a poxvirus belonging to the genus Capripoxvirus. Up until the 1980s, the African continent was the only place where LSD outbreaks frequently occurred. Infections were first reported outside of Africa in Israel in 1989. In 2016, LSD findings pointed to South-East European countries and Russia.

The disease was first identified in Bangladesh in 2019 before spreading to China, India, Nepal, Bhutan, Vietnam, Hong Kong, and Myanmar in the Indian subcontinent. Lumpy Skin Disease was lab-verified across the country in November 2019. It happened only occasionally in places like Odisha. When cases were first made public in April 2022, Gujarat banned the movement of livestock through some regions. On August 4, the Jalgaon district received a report of the first case in Maharashtra. Rajasthan put limitations on cattle fairs on August 6. Uttar Pradesh began imposing limitations on August 20. Movement was prohibited in the affected districts of Madhya Pradesh. A cattle trafficking in Mumbai was outlawed on September 14; health permits are required. On September 23, Uttar Pradesh expanded its restrictions on livestock transportation. Even though it had no known cases of the disease, states like Chhattisgarh were taking preventative steps. On September 26, Delhi began offering immunisations without charge.

VACCINATION STATUS

In a significant development, two institutes of the agriculture research organisation ICAR have created an indigenous



vaccination for the cow disease known as Lumpy Skin Disease, which has recently spread to numerous states. The Lumpy Skin Disease (LSD), which has killed cattle in six states, will be controlled as soon as possible by the Center through the commercialization of this vaccine, which was created by the two ICAR institutes.

TREATMENT

Herbal

One handful basil leaves, one handful henna, one handful *Acalypha indica*, one handful neem leaves, 10 garlic cloves, and 10 g of turmeric, grind into a paste and boil in 250 ml gingelly oil. Then apply the paste to the wounds.

For oral medicine

Ten betelvine leaves, 10 g pepper, 10g rock salt, jaggery. Grind them into a paste and give it to the animal once for 3 hours.

CONCLUSION

Together, all nations and the European Commission should acquire the additional funding and other resources required for the fight against LSD. In particular, the EU will continue to make efforts and look into all available options to maintain its leading position as a provider of various forms of support (expertise, training, vaccines, reimbursement of some specific costs, coordination) against LSD for all countries in the region. The EU has already provided significant support during 2016 and will continue to do so.