

Lumpi-ProVac

January 5, 2023

In news– A memorandum of understanding for production of the Goat Pox vaccine and “Lumpi-ProVac” vaccine was signed recently.

About the vaccine-

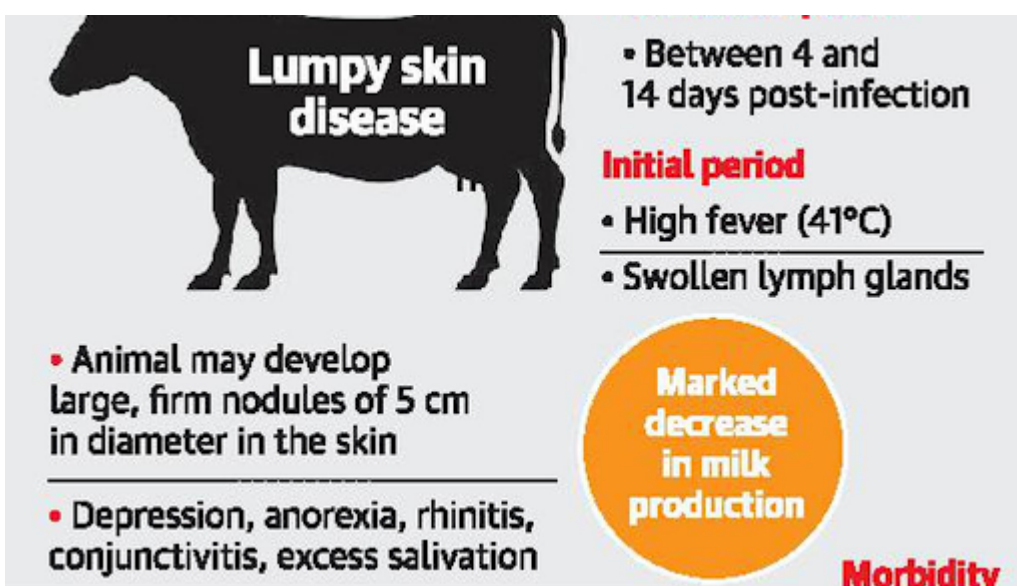
- **'Lumpi-ProVacInd' is safe in animals and induces LSDV-specific antibody**-and cell-mediated immune response, besides providing complete protection against lethal LSDV challenge.
- It is **used for the prophylactic immunization of animals against Lumpy Skin Disease**, which illicit protection for about one year.
- A single dose of the vaccine contains 10^{3.5} TCID₅₀ of live-attenuated LSDV (Ranchi strain).
- **The vaccine is stored at 4°C. The vaccine must be shipped on ice** and must be used within a few hours after reconstitution. The patent has been filed by the ICAR for the technology.
- **National Centre for Veterinary Type Culture, ICAR-NRCE, Hisar in collaboration with ICAR-IVRI, Izatnagar, UP has developed** a homologous live-attenuated LSD vaccine, named Lumpi-ProVacInd.
- Agrinnovate India Limited, the commercial department of Department of Agricultural Research and Education (DARE) under Ministry of Agriculture and Farmers' Welfare granted **“Non-Exclusive Rights” for Commercial production of “Lumpi-ProVac”, to Institute of Veterinary Biological Products (IVBP)** recently.

What is Lumpy Skin Disease?

- Lumpy skin disease (LSD) is a **contagious viral disease of cattle and buffalo that causes relatively low mortality**.
- It does not affect humans. The disease can result in

animal welfare issues and significant production losses.

- **The lumpy skin disease virus (LSDV) is a virus of the capripoxvirus genus** in the poxviridae family.
- It is **transmitted by insects that feed on blood, like mosquitoes, ticks,** and certain species of flies. Lumpy skin disease also spreads through contaminated fodder and water.
- **The disease causes fever, nodules on the skin and can be fatal,** especially in animals that have never been exposed to the virus.
- The Lumpy Skin Disease has been reported in India from 2019 while the first case was reported in the state of Odisha. After that, it has spread to multiple states in the country.
- It rapidly spread in Gujarat, Rajasthan, Punjab, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, and Jammu and Kashmir.
- In 2019, death of a large number of cattle was reported from different states with high morbidity, especially in the North-West region of the country.
- **Currently, the disease has been controlled and contained with the available Goat Pox vaccine in the country.**



The infographic features a black silhouette of a cow on the left. The text 'Lumpy skin disease' is written in white across the cow's body. To the right of the cow, there are several bullet points and a circular callout. The top right section lists the incubation period: 'Between 4 and 14 days post-infection'. Below this, the 'Initial period' is defined by two bullet points: 'High fever (41°C)' and 'Swollen lymph glands'. A horizontal line separates this from the next section, which describes skin symptoms: 'Animal may develop large, firm nodules of 5 cm in diameter in the skin'. Another horizontal line follows, leading to a list of general symptoms: 'Depression, anorexia, rhinitis, conjunctivitis, excess salivation'. At the bottom right, an orange circle contains the text 'Marked decrease in milk production', with the word 'Morbidity' written in red below it.

Lumpy skin disease

- Between 4 and 14 days post-infection

Initial period

- High fever (41°C)
- Swollen lymph glands

- Animal may develop large, firm nodules of 5 cm in diameter in the skin

- Depression, anorexia, rhinitis, conjunctivitis, excess salivation

Marked decrease in milk production

Morbidity