

SOP for Lumpy Skin Disease vaccination

1. Purpose

This SOP describes the procedures for the reconstitution of Lyophilized freeze-dried vaccine and vaccine administration against Lumpy Skin disease in cattle, yaks and buffaloes in the country. The patent name of the vaccine is LUMPYVAC imported from Vetel Animal Health Products Inc. Turkey. It is a live attenuated homologous vaccine widely used in Balkan countries and in Asia such as in Nepal, Indonesia, Pakistan and Vietnam.

The SOP also describes the procedure for administration of FMD and LSD vaccine simultaneously in an animal.

2. Scope

This SOP applies to all personnel involved in the vaccination process, including veterinarians, animal health technicians, and support staff responsible for vaccination

3. Materials and equipment

- 16 to 20 gauge ½ to 1-inch disposable needles
- Use 5 to 10 ml capacity of disposable syringes
- Disposable gloves
- LUMPYVAC Vaccine and diluent
- Cool box and ice packs: Carry appropriate doses of the vaccine with appropriate quantity of diluents with proper maintenance of cold chain ranging from 2 to 8 degree Centigrade till the vaccines are used. The reconstituted vaccine should be used within 2 to 6 hours of reconstitution as per the manufacturer's guidelines with proper maintenance of the cold chain.
- Antiseptic solutions such as Tincture Iodine, Povidone Iodine or Rectified Spirit
- Cotton swab and
- Biohazard disposable bags
- Mobile phone
- Data recording form

4. LSD Vaccination exclusion criteria

- Calves below one month of age
- Animal currently infected or showing clinical signs and symptoms of LSD
- Clinically sick animals due to any other disease



All other animals not falling into these categories are eligible for vaccination

5. Procedure for reconstitution of LSD vaccine

- Read the original vaccine leaflet inserts with the vaccines including the SOP before reconstitution and administration.
- Open the 50 doses freeze dried vial and dissolve in 100ml of LSD diluent by adopting the following process:
 - I. Take 3-5ml of the diluent and inject into a lyophilized vaccine vial.
 - II. Rotate or invert the vial thoroughly to dissolve the lyophilized powder without producing foam.
 - III. Take out the dissolved vaccine with the sterile syringe and inject into the remaining diluent vial.
 - IV. Repeat the dilution process few times until the freeze-dried virus is completely restored to liquid form.
- After reconstitution it should be kept inside the cool boxes protected from direct sunlight and maintained within 2 to 8°C.

6. Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine

- Restrain the animals either inside the crate or tied in a tree/pole to avoid butting and kick injury from the animal both to the vaccinator and the restrainer.
- LSD vaccine administration
 - i. The best subcutaneous injection site in cattle is in a triangular area in the neck region formed by the three structures comprising of nuchal ligament and the spinal cord above, shoulder at the back and Jugular furrow
 - ii. Ensure the site of injection is clean, dry and smeared with antiseptics using a cotton swab.
 - iii. Draw 2 ml reconstituted LSD vaccine in 5ml disposable syringe
 - iv. To inject subcutaneously, first pull the skin away from the neck to create a gap between the skin and muscle.
 - v. Then insert the needle through the skin and into the gap at a 45-degree angle
 - vi. Make sure that the needle does not go into the muscle. If blood is aspirated, pull out, refill the syringe with fresh vaccine and insert again.
 - vii. If no blood is aspirated, inject the vaccine, withdraw the needle and massage the area lightly with the palm for better dispersion and absorption of the vaccine.
 - viii. Dispose the needle separately. Syringe should be disposed after completion of vaccination in each herd (one syringe per herd)



- FMD vaccine administration
 - I. Draw 2 ml of FMD vaccine in 5ml disposable syringe
 - II. FMD vaccination should be administered intra-muscularly in the neck or gluteal muscles. Care should be taken that both LSD and FMD vaccines are not administered on the same side of the neck.
 - III. Ensure the site of injection is clean, dry and smeared with antiseptics using a cotton swab.
 - IV. After inserting the needle into the injection site, If no blood is aspirated, inject the vaccine, withdraw the needle and massage the area lightly with the palm for better dispersion and absorption of the vaccine.
 - V. If blood is aspirated, pull out, refill the syringe with fresh vaccine and insert again.
 - VI. Dispose the needle separately. Syringe should be disposed after completion of vaccination in each herd (one syringe per herd)
 - VII. Observe the animal for any adverse reaction
 - VIII. Record the vaccination details in the Epi-Collect project named “LSD VACCINATION_BHUTAN_2023”. If it is not convenient to record data in Epi-Collect on a real-time basis, maintain a paper-based record and enter into the Epi-Collect project after reaching back to the station.

Notes:

- *Note the injection site and observe the animal for any adverse reaction or ask the owner to observe for any changes if the team moves to another location. Provide the contact number of the team leader of the campaign. Adverse reactions if reported must be recorded in the Epi-Collect project named “ADVERSE VACCINATION REACTIONS_LSD_2023”*
- *The use of auto-syringes is discouraged given the prevalence of LSD In the cattle population. It is recommended to use a new and sterile needle per animal.*
- *Reconstituted vial should be stored under proper cold chain and be used within 2-6 hours.*

7. Safety precautions

- All personnel engaged in vaccination shall follow the biosecurity protocols prescribed by the management of farm/premises that they visit for vaccination.
- The vaccinator will seek the support of the owner for safe handling of cattle to avoid injury during vaccination.
- The cattle shall be properly restrained by the owner or assistant.
- The used vaccine vials along with needles and syringes shall be packed in appropriate containers for safe disposal.

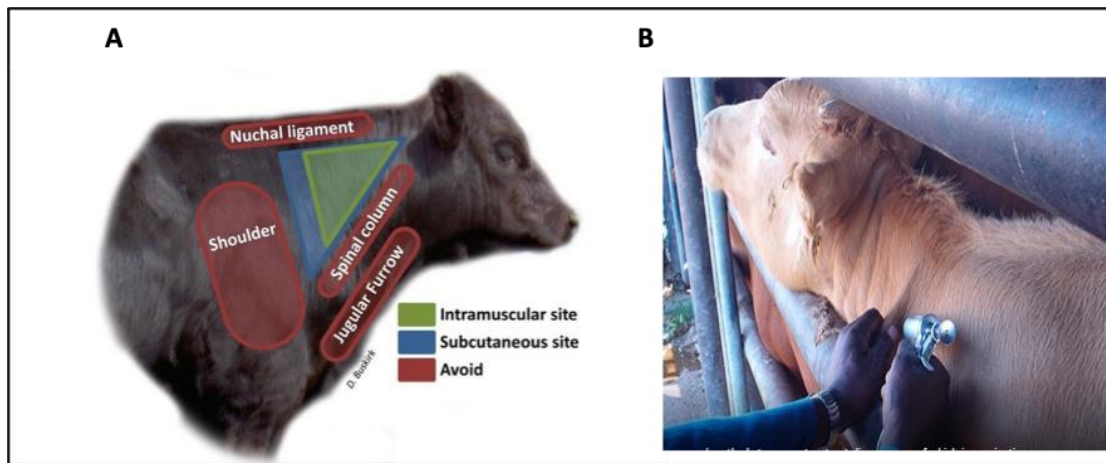


8. General precautions

- Vaccination must be initiated from the non-infected gewogs, villages or farms first and then move the infected locations or farms so that mechanical transmission of LSDv to non-infected farm is prevented.
- Do not gather a large number of animals or different herds together in one location as it leads to the spread of disease and stress to animals. It is better to move from herd to herd in this situation as the disease is endemic in the country.

9. Annexure

1. Anatomical location of subcutaneous vaccination in cattle (A) and the method to achieve that (B)



2. LSD vaccination SOP is summarized in the process flow chart

