

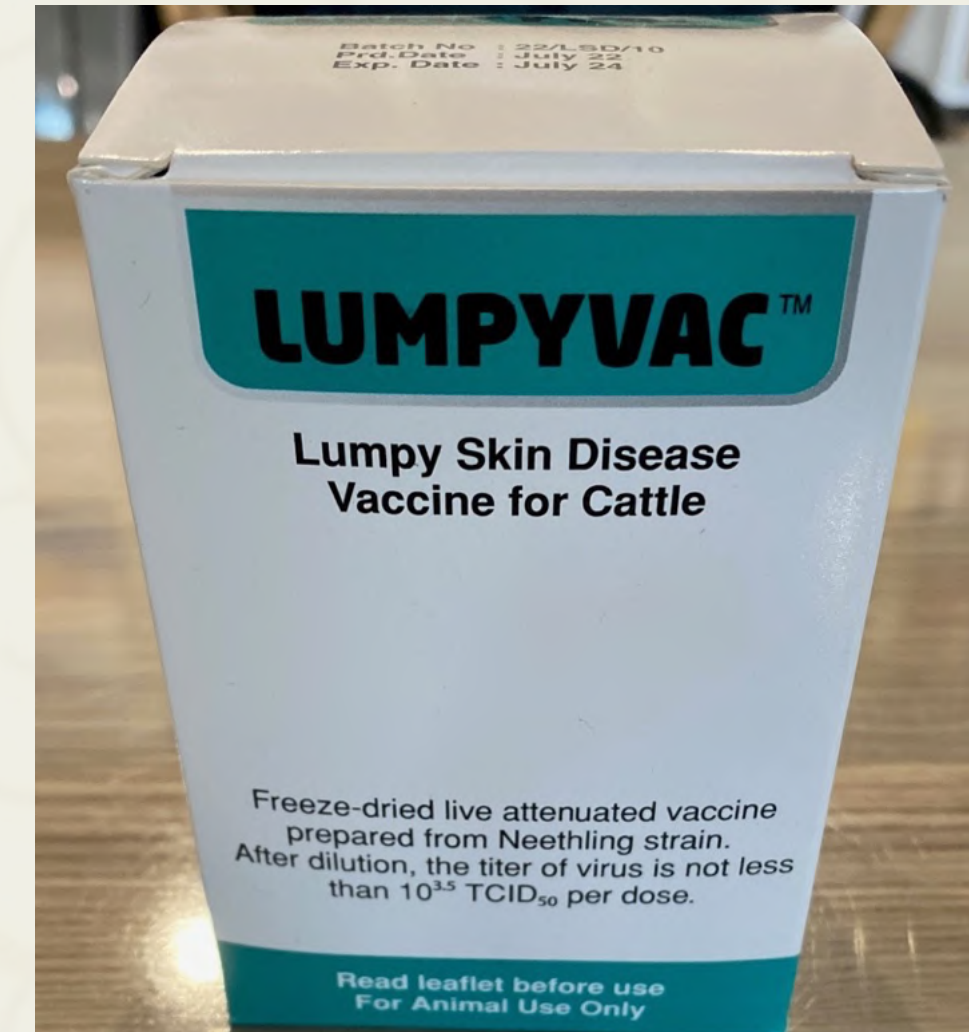


Ministry of Agriculture and Livestock



"Sustainable food system and natural resources for the equitable social and economic well-being"

LUMPY SKIN DISEASE VACCINATION Standard Operating Procedure (SOP)



Presentation by:
National Centre for Animal Health,
Department of Livestock

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PRESENTATION OUTLINE

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Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine

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Adverse reactions likely and very rare to encounter



ABOUT THE VACCINE



Parameter	Description/ Value
Name of the product	LUMPYVAC [®] , (Lumpy Skin Disease Virus Vaccine)
Pharmaceutical Form	Attenuated live vaccine in lyophilized form
Volume for 1 dose	2 ml
Amount of virus contained in one dose	At least $10^{3.5}$ TCID ₅₀
Quantitative Composition	Neethling virus strain, not less than $10^{3.5}$ TCID ₅₀ / dose Lactalbumin hydrolysate: 0.25 mg Sucrose: 0.50 mg
Presentation	50 doses per vial
Storage temperature	+2 to +8°C
Recommended dose per animal	2ml
Duration of immunity	At least 1 year
Shelf life	24 months

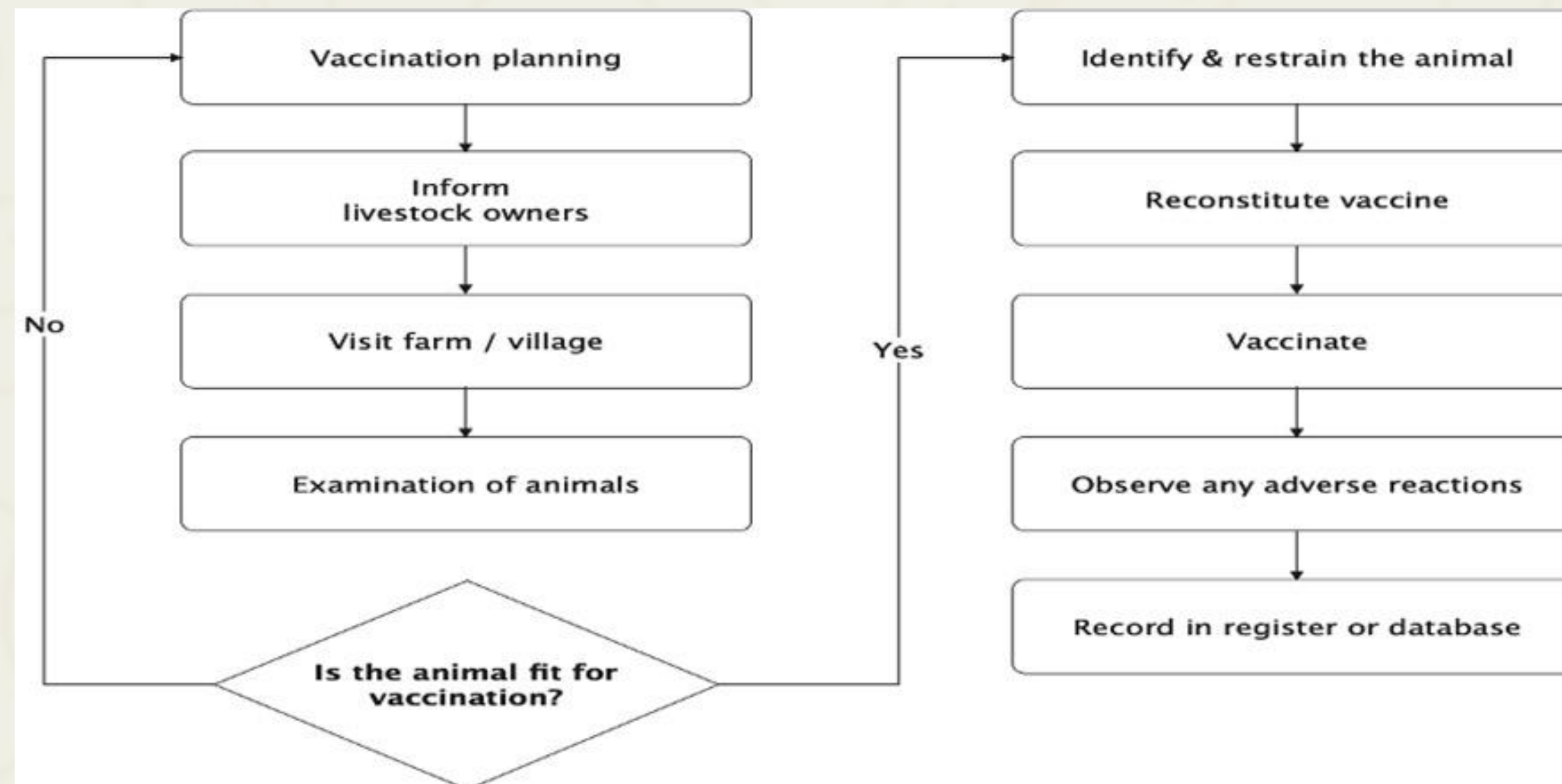




PURPOSE

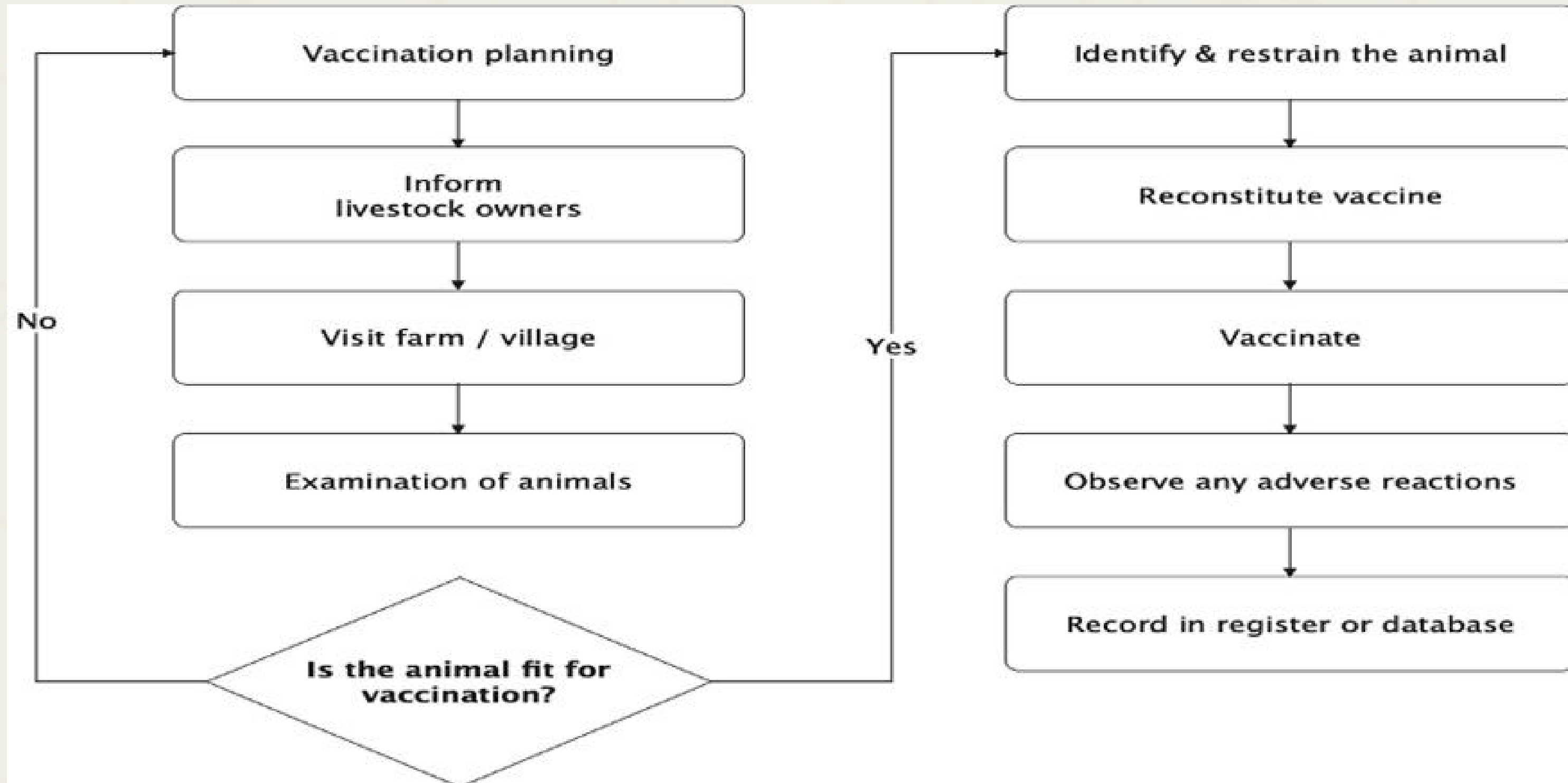


- ❑ Describes the procedures for the reconstitution of Lyophilized freeze-dried vaccine and
- ❑ Vaccine administration against Lumpy Skin disease in cattle, yaks and buffaloes in the country.
- ❑ Including the site of administration and video clips for administration
- ❑ Procedure for administration of FMD and LSD vaccine simultaneously in an animal.





LSD VACCINATION FLOW CHART





SCOPE



Applies to all personnel involved in the vaccination process:

- Veterinarians
- Animal health technicians, and
- Support staff responsible for cattle vaccination.



MATERIALS AND EQUIPMENT



- ☐ 16 to 20 gauze 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:
- ☐ Antiseptic solutions such as Tincture Iodine, Povidone Iodine or Rectified Spirit
- ☐ Cotton swab and
- ☐ Biohazard disposable bags
- ☐ Mobile phone
- ☐ Data recording form



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

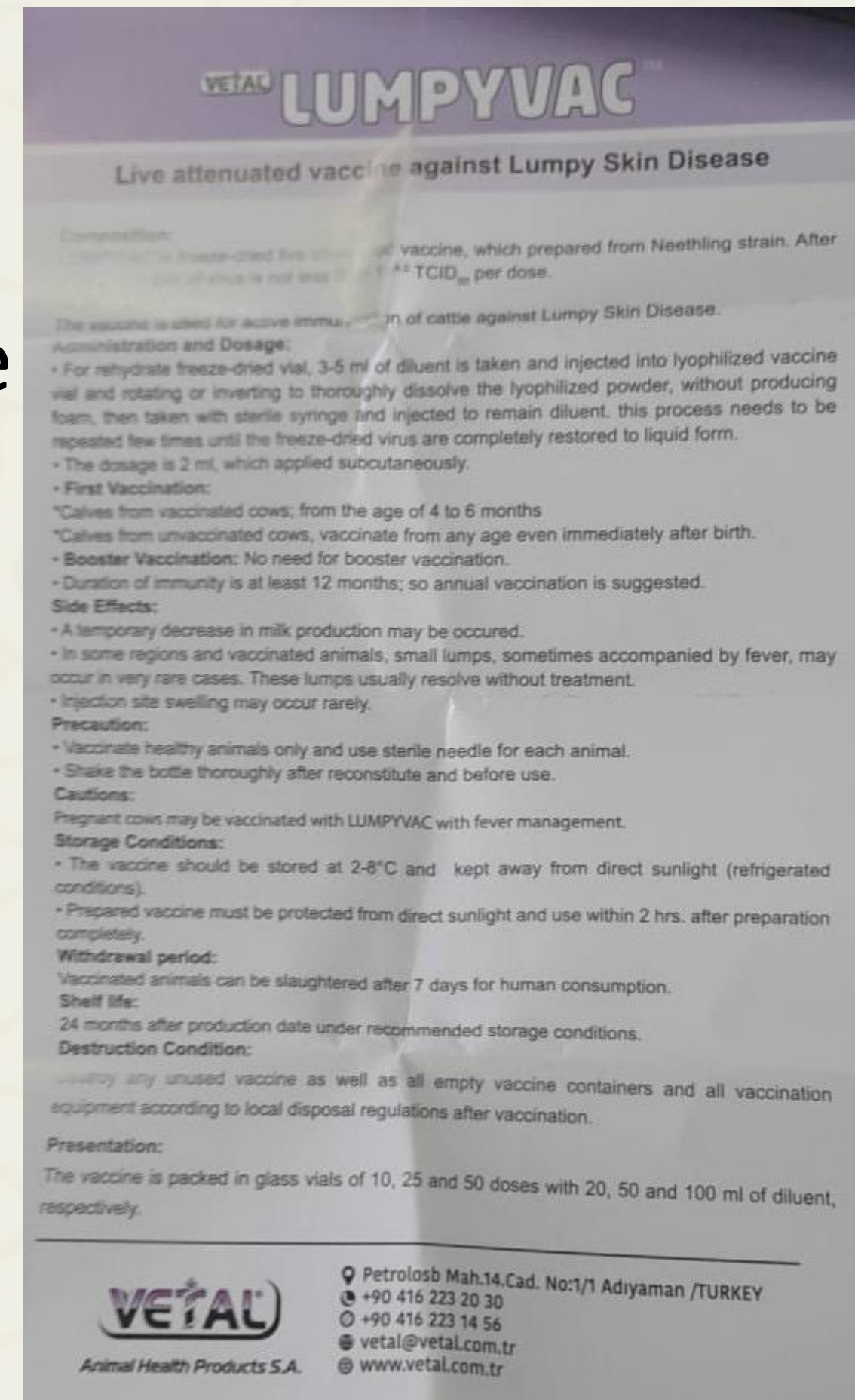


PROCEDURE FOR RECONSTITUTION



Read the original vaccine [leaflet](#) [inserts](#) with the vaccines including the SOP before reconstitution and administration.

- ***Carry appropriate doses of the vaccine with appropriate quantity of diluents with proper maintenance of cold chain (2 to 8 degree Centigrade) till the vaccines are used.***
- ***Reconstituted vaccine should be used within 2 hours of reconstitution***





PROCEDURE FOR RECONSITUTION



- ☐ Open the 50 doses freeze dried vial and dissolve in 100 ml of LSD diluent by adopting the following process:
 - I. Take 3-5 ml 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 unit 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.

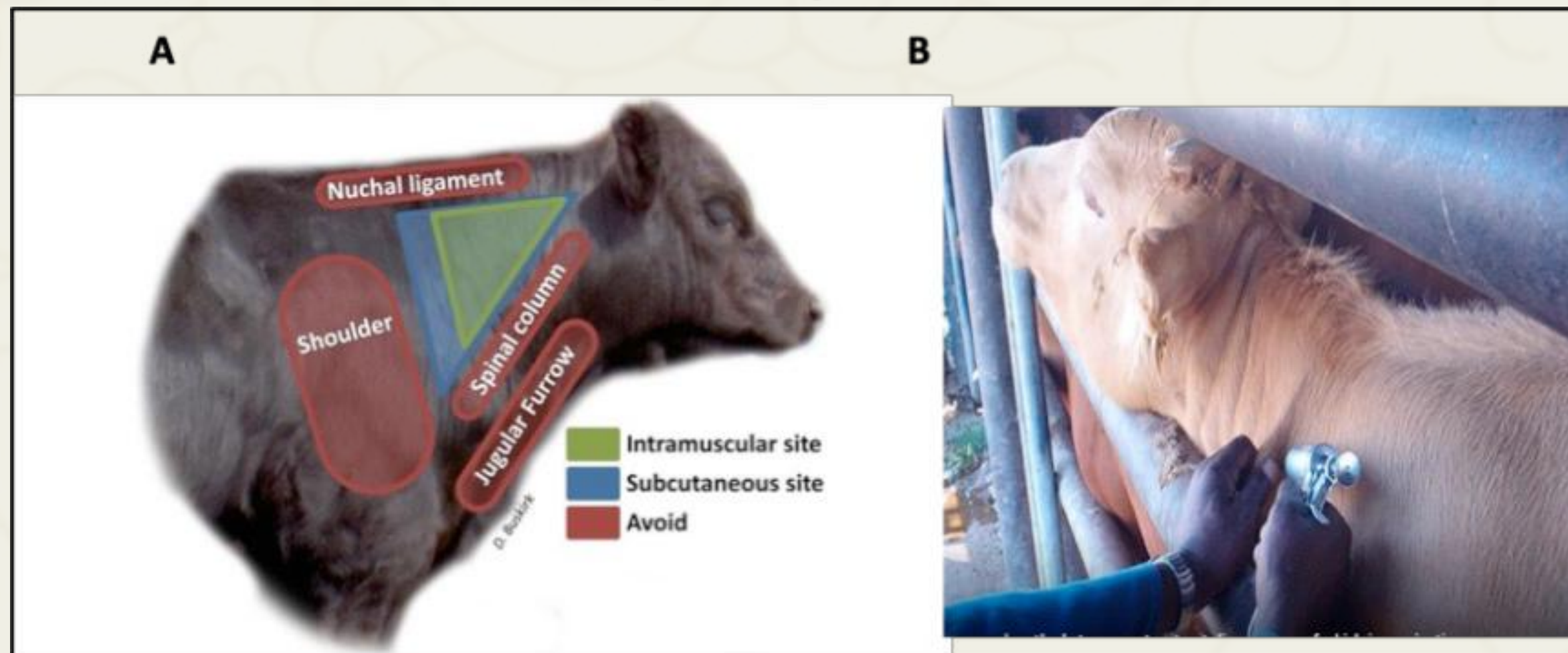


Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine



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.

Best site for subcutaneous injection site in ***cattle-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.***





Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine



- ☐ Ensure the site of *injection is clean, dry and smeared with antiseptics* using a cotton swab.
- ☐ **Draw 2 ml** reconstituted LSD vaccine in 5ml disposable syringe
- ☐ To inject subcutaneously, **first pull the skin** away from the neck to create a gap between the skin and muscle.
- ☐ Then insert the needle through the skin and **into the gap at a 45-degree angle**
- ☐ 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.
- ☐ 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.**
- ☐ Dispose the needle separately. Syringe should be disposed after completion of vaccination in each herd (**one syringe per herd**)



Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine



- ☐ *Draw 2 ml of FMD vaccine in 5 ml disposable syringe*
- ☐ *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.*
- ☐ *Use separate needle and syringes*
- ☐ *Do not mix LSD and FMD vaccine in the same syringe and vaccinate- severe reaction is likely.*



Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine



- ☐ ***Ensure the site of injection is clean, dry and smeared with antiseptics using a cotton swab.***
- ☐ ***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.***
- ☐ ***If blood is aspirated, pull out, refill the syringe with fresh vaccine and insert again.***
- ☐ ***Dispose the needle separately. Syringe should be disposed after completion of vaccination in each herd (one syringe per herd)***
- ☐ ***Observe the animal for any adverse reaction***



Procedure for administering LSD vaccine including simultaneous administration of FMD vaccine



- ☐ *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*



DATA MANAGEMENT



- ☐ ***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_FMD_2023”***
- ☐ ***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.***



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.***



GENERAL CONSIDERATIONS



- ☐ ***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.***



ADVERSE REACTIONS



Temporary probable adverse reactions observed following LSD vaccine administration:

- **Slight fever:** a slight increase in body temperature (usually up to 102°F) and a decreased appetite. It usually resolves within 2-3 days.
- **Decreased feed intake:** This is usually due to the slight fever or due to the local skin reaction or the nodular lesions. The decreased feed intake usually resolves within 1-2 weeks.
- **Temporary decrease in milk production:** This is usually due to the slight fever or due to the local skin reaction or the nodular lesions. The decreased milk production usually resolves within 2-3 weeks.
- **Local skin reaction and nodular lesions (neethling response):** It is rare and characterized by the formation of small, raised nodules on the skin. The nodules usually appear 7-10 days after vaccination and resolve within 2-3 weeks.

Farmers should be advised to contact the nearest livestock extension office if they notice any adverse reactions in their animals after vaccination, especially if the reactions are severe or do not resolve within a few days.



Record



VIDEO CLIPS RELATED TO VACCINATION



☐ **[Video Clip 01](#)**

☐ **[Video Clip 02](#)**



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