FMD SAMPLING, PACKAGING AND SUBMISSION

By

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The NVQCL also known as FMD institute is mandated to do FMD diagnosis in the Eastern Africa region.

The Lab has the capability of doing the diagnosis using the Elisa system which is validated by OIE for Ag detection.

The expected results take 72 hours upon receipt to be analyzed and reported.
FMD VIRUS SAMPLING

Overview:

1) Types Of Samples
2) Collection Of Samples
3) Packaging
4) Labeling
5) Preservation
6) Submission
7) Regulations
An Outbreak Response Team
Requirements for Sampling

- FMD diagnosis can be confirmed and Virus type determined by testing of Epithelium samples from un ruptured vesicles/lesions.
- Large amounts of virus are contained in these specimen
- Correct transport medium and conditions need be observed
- Clinical manifestation(assess the herd)
FMD Lesion good for sampling
Sampling mouth lesions
Cont....

- If a good lesion is present – carefully remove the EPITHELIUM with FORCEPS
- A GOOD Sample should be 1cm x 1cm (5 gms)
If old cases – look for FOOT LESIONS

In any event try to sample TWO OR THREE animals each into a SEPARATE BOTTLE. Use clean FORCEPS.

A GOOD Sample should be 1 cm x 1 cm (5 gms)
Teat lesions
Cont.

- Observe cold chain on transit (cool box)
- Outbreak investigation form. (history of the disease outbreak)
- Disinfectant (4% w/v sodium carbonate) for self and vehicle decontamination on site.
TYPES OF SAMPLES

- Epithelium Tissue
- Vesicular fluid /Saliva
- Probang (Throat washings)
- Myocardial tissue (fatal cases)
- Whole Blood
COLLECTION OF SAMPLES

- Sedate animal to avoid personal injury also for animal welfare.
- Place epithelial samples in sterile container bearing transport medium.
- Replace lid (leakproof).
- Seal using sleek Tape.
- Label sample container using waterproof ink.
PROBANG SAMPLE/SWABS

- ESOPHAGEAL-PHARYNGEAL FLUIDS (OP) can be obtained by means of PROBANG CUPS OR THROAT SWAB in pigs.
PRESERVATION

- Transport medium 50% glycerol and PBS enough to cover the material.
- pH 7.2 – 7.6
- Antibiotics- Neomycin Sulphate 100 IU
- Antifungal- Mycostatin 100 IU
- Tissue culture medium.
- Maintain low temperatures all the time.
- Probang sample : special media
COLLECTION OF BLOOD/SERUM

- Collect blood (20-25ml) from jugular vein or caudal vein in large animals.

- Use a needle and a universal bottle/vacutainer **without** anticoagulant but the latter is the most preferred.

- Allow the blood to stand in a slanting position at ambient temperature (but protected from excessive heat) for 2-3 hours until the clot begins to contract.
PACKAGING

- Packaging should be done carefully to avoid contamination.
- Coolant should be placed under and over the container.
- Cushioning should be provided.
- Seal the outer container properly using masking Tape.
PROCESS OF PACKAGING AND PACKING

• Sample is packed in the primary leek proof receptacle
• Absorbent material wrapped round sample vial
• Leek proof secondary receptacle is used to contain the primary receptacle
• Third receptacle is used to contain the secondary receptacle
• Dry ice is put inside the styrofoam box to surround the sample secondary receptacle
• An outer package is labeled and marked.
• Outer package used can contain four fibre boxes; it is marked and labeled
Sample packaging and dry ice

Styrofoam box

top cover

Sample vial
(labeled)

Absorbent
material

Primary container
(labeled)

Secondary container–
(Fibre box)

Dry Ice

Styrofoam box

Outer packaging with
markings and labels
LABELING

- Include source of material
- Name of owner (sender)
- Country of origin (display import license)
- Type of material (Biological)
- Nature (Urgent !)
- Instruct not to be opened.
- To be kept refrigerated on transit.
SUBMISSION

- Submit sample in a coolbox to ensure temperature is constant on transit and to maintain the FMD virus that maybe in the sample.

- Include FMD submission form (ND1) with necessary info regarding disease outbreak.

- Be generous on information.

- Don’t forget your return address.

- Call lab. Before submission.

- Include your tel. no. and call for results.
REGULATIONS

- Adhere to special precautions for sending perishable suspect FMD material within and without the borders.

- IATA (international air transport association), Dangerous goods Regulations (DGR) have explicit requirements for packaging and shipment of diagnostic specimen by commercial means of transport.
UN2814 INFECTIOUS SUBSTANCE, AFFECTING HUMANS

Shipper___________
__________________
______________

Consignee_________

Responsible Person: Mr. John________

4G / CLASS 6.2 / 03 ECDV / USA
DEFINITIONS : INTERNATIONAL SHIPPING OF INFECTIOUS AND DIAGNOSTIC SPECIMENS

- Infectious agents and diagnostic specimens are classified as dangerous goods.
- Dangerous goods are classified into nine classes. (Detailed illustration in manual)
- Infectious agents and diagnostic specimens are class 6.2 dangerous goods.
- Dry ice a miscellaneous dangerous good (Class 9).
- IATA Packing instructions apply to respective categories of goods being shipped.
1. Explosives

2. Gases

5. Oxidizing agents and organic peroxides

3. Flammable liquids

4. Flammable solids

7. Radioactive materials

6. Toxic (1) and infectious (2) substances

9. Miscellaneous dangerous goods

8. Corrosive materials
INFECTIOUS SUBSTANCES:

• Defined as substances “known” or reasonably suspected to contain “Pathogens”

• Pathogen defined as any microorganism (bacteria, viruses, rickettsia, fungi and prion agents) that may cause fatal illness or permanent damage to humans or animals

• Put into two categories:

  • **Category A Infectious substance** -
    • UN2814 Human specimen
    • UN 2900 Animal specimen
    • **Packing instruction PI602**
THANK YOU FOR YOUR ATTENTION