



Indian Farmer
Volume 8, Issue 09, 2021, Pp. 474-476.
Available online at: www.indianfarmer.net
ISSN: 2394-1227 (Online)

ORIGINAL ARTICLE



Biosecurity for prevention and control of Foot and Mouth Disease: A farmer's guide

Smrutirekha Mallick

ICAR-Directorate of Foot and Mouth Disease, Mukteswar-263138, Nainital, Uttarakhand

**Corresponding author: drsmrutirekhamallick@gmail.com*

Article Received: 09 September 2021

Published: 13 September 2021

Biosecurity is a set of measures followed to prevent pathogen entry into a herd and limit its spread. Foot and mouth disease (FMD) caused by aphtho virus affects even toed wild and domestic animals including cattle, buffalo, sheep, goat and pig. The clinical symptoms include high fever, vesicular lesions in mouth and foot, hypersalivation, anorexia and lameness. Mortality is often high in young animals while in adults there is decline in milk production, body growth, draft power and reproductive potential. FMD virus is shed in all secretions and excretions of the infected animal. Vaccination with inactivated vaccine provides short term immunity against the designated strain therefore, cannot alone prevent the disease. These factors increase the scope of enhanced biosecurity for FMD prevention and control.

Farm biosecurity measures for FMD control

Biosecurity includes bio-containment, surveillance and bio-exclusion methods. Biosecurity at the farm level involves mostly planning and management without major capital investment. Bio-containment is achieved through immediate isolation of sick animals and their treatment, whereas bio-exclusion is achieved through quarantine of new animals before introduction into the herd. FMD vaccination helps in bio-containment by limiting the clinical severity of the disease and dissemination of the virus. It reduces susceptibility of individual animals and is cheaper than the costs of treating a sick animal.

Location of animal house

Ideally the animal house/farm should be located away from the human habitat and main road. There should be adequate shed to shed distance with provision of separate store room for feed and utensils storage.

Physical isolation of animals

If separate livestock pens are not possible then separate different species and age groups by putting bamboo or wooden barriers within the pen. There should not be any overcrowding of animals in the shed.

Farm management practices

Feeding

Avoid common grazing of pasture. Increase the frequency of FMD vaccination to herds on pasture. Calves under 6 months should not be allowed for communal grazing as they have low vaccinal immunity therefore, more susceptible to infection. Purchase of feed and bedding from reputed/known sources can reduce the chances of virus incursion. Water sanitizer (0.1% Bleach) should be used to chlorinate the drinking water regularly.

Breeding

Natural breeding of cows through stray or shared bulls should be avoided as they can be carriers of FMDV or other sub-clinically infected diseases. Breeding bulls should either be raised in the herd or artificial insemination should be practiced. Vaccination of breeding bull should be done thrice a year.

Quarantine

Newly purchased animals must be kept under quarantine at a separate location for 30 days before introduction into the herd. Animals returning from a fair should not be allowed to share facilities with other animals immediately.

Surveillance

The animals should be monitored for the signs of FMD and other diseases regularly. If suspicious clinical signs appear immediate reporting, isolation and treatment of infected animals should be done. Always handle the animals from young to adult and healthy to sick.

Personal hygiene

Use of dedicated clothing, practice of shoe change and hand wash at shed entry and exit are some of the personal hygienic measures to be followed. Use of protective clothing and gumboots while working with infected animals and during handling infected milk and milk products is essential.

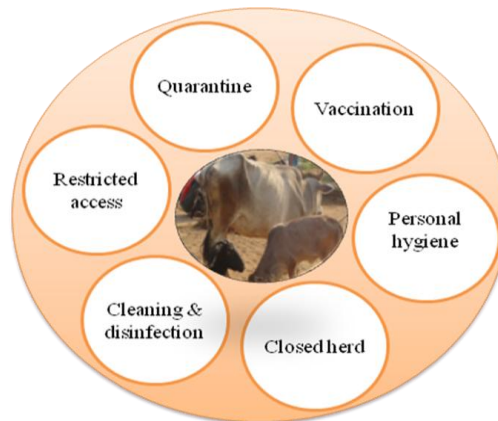
Cleaning and disinfection

Animal shed floor, feeder trough, waterer and utensils should be cleaned daily. Disinfectants like slaked lime powder can be spread directly on the ground around the

animal house. Provision of 4% formalin foot bath at the shed entrance is necessary. Appropriate slurry management and waste disposal should be done.

Wildlife and pest control

Contact with FMDV susceptible wild animals is a potential risk factor for villages situated near forest area, national park or wildlife sanctuary. Fencing the farm boundary, increasing herd immunity through vaccination coverage, animal movement control can help to prevent FMD. Rodent control measures should be taken to prevent rodent entry into the animal house.



Conclusion

FMD can be prevented by continuous biosecurity and regular vaccination. Good biosecurity practices minimize disease incursion and limit the disease consequences thereby reduces the economic burden on livestock farmers.