

GUIDE LINES FOR EQUINE INFLUENZA CONTROL DEVELOPED BY NATIONAL RESEARCH CENTRE ON EQUINES

The outbreaks of Equine influenza have been reported from some parts of the country from June- October, 2008. Equine Influenza virus has been isolated from the nasal swabs from the affected animals from Jammu and Kashmir. Virus isolated and identified in the present outbreak is that of A/equi-2 subtype on the basis of haemagglutination inhibition employing standard strain specific serum as per OIE recommendations. Disease has also been confirmed through positive titre for antibodies against equine influenza by Haemagglutination inhibition test in serum samples from Jammu, Delhi and Haryana. Animals from Rajasthan and U.P. have been reported to be positive for equine influenza by confirmed sources.

Fact sheet of Equine Influenza

1. It is an acute viral highly contagious disease of equines (horses, ponies, mules and donkeys) which spreads very fast. The disease is the OIE listed disease of equines.
2. The virus belongs to family Orthomyxoviridae and is a RNA virus. The disease occurs by two subtypes H3N8 (A/equi-2) and H7N7 (A/equi-1).
3. Animals suffering from the disease show the clinical signs which include high rise of temperature, dry hacking cough, watery to mucopurulent discharge and pain in the limbs. Exercise makes the signs more prominent.
4. The disease spreads very fast and with in 1-3 days animal starts showing clinical signs of the disease.
5. The morbidity due to the influenza (up to 80- 90%) is very high in equines while mortality is low. Secondary complication like chronic bronchitis, chronic alveolar pulmonary emphysema and asthmatic conditions are noticed where animals are not given adequate rest and therapy.
6. Horses may keep on shedding the virus for 7- 10 days. The most common way of spread is through aerosol route.
7. The virus can be spread by contact between infected and susceptible horses, contaminated equipment, susceptible horses coming in contact with premises or vehicles recently occupied by infected horses, which have not been decontaminated and persons attending the infected animals.

Samples to be Collected

- Nasal swabs. One swab from each nostril. A normal 6 inch wooden or plastic handle cotton swab is satisfactory. The swab should be kept immediately in phosphate buffered saline containing 40% glycerol or virus transport medium at 4⁰C. The best time to collect samples

is in the initial 24-48 hours of fever. The external nostrils should be wiped with clean swab prior to the collection of samples.

Note: The swabs should be sent to NRCE under cold condition at 4⁰C (on ice) through a messenger immediately after collection.

- 2-3 ml serum from the same animal should be collected at the time of collection of nasal swabs and sent to the laboratory. After 14 days a second sample of serum (paired serum sample) has to be collected for confirming equine influenza infection.

Treatment of the infected animals

1. Animals showing clinical signs should be given symptomatic treatment.
2. Antibiotic coverage (broad spectrum) should be given to the sick animals to avoid secondary bacterial infections.
3. Animal should be given adequate rest for 3-4 weeks.

Control of infection

Quick and timely diagnosis is the best option to control the infection as the disease spreads very rapidly. For this we have to:

- a. Detect infected animals, quarantine them and stop the movement of infected animals and their contaminated items.
- b. Disinfect the premises and the equipments to control the spread of infection.
- c. Create public awareness through Animal Husbandry Departments, NGO's and other organizations dealing with the welfare of equines. This will help in close monitoring and surveillance by seeking active help from individual horse owners and organized industry to identify fresh cases and act suitably and promptly.

a. Detection of infected animals and their quarantine

1. The major strategy required for effective control of the disease is strict quarantine and controlled movement of equine influenza infected animals within the state as well as outside the state. Interstate movement of the equines should be minimized and/ or even stopped completely for six weeks.
2. The newly infected animal can keep shedding the virus till 21 days and OIE recommends 28 days isolation of the infected animals. The infected animals should be kept at minimum distance of 100 meters from healthy animals.

3. Persons attending to the infected animal should not in any way go near to the healthy animals. The utensils, water troughs, feed etc should also not get mixed between healthy and infected animals.
4. Prompt diagnosis of equine respiratory diseases by testing of nasal swabs and serum samples is essential for immediate control of this disease.
5. If disease is detected soon after introduction and is confined to a limited area, the aim will be to achieve containment and then eradication by quarantine and movement controls, without the need for vaccination.
6. Vaccination strategies for healthy stock can be adopted only in addition to quarantine and movement control to limit the rate of spread.

A NATIONAL STANDSTILL ON MOVEMENT OF HORSES IF IMPLEMENTED FOR 6-8 WEEKS CAN HELP IN MINIMIZING AND CONTROL OF SPREAD OF INFECTION TO A GREAT EXTENT.

b. Disinfection of premises/ hands/ utensils

- The influenza virus is fragile and can be quickly inactivated by exposure to ultraviolet light or sunlight, and by heating.
- The virus has been shown to persist in water for 14 days at 4°C and up to 2 days at 37°C.
- In horse urine it can survive for 5–6 days; and in soil under sunlight at 15°C for 8 hours.

The following steps need to be taken to ensure the control of spreading of infection:

i) Disinfecting the surfaces

1. Thoroughly clean the surfaces with detergents to remove grease/ dirt.
2. Use hot water to clean the cracks and crevices.
3. Phenyl (1%), Chloroxynol (Dettol) (1%), chlorhexidine (1-2%), formalin (0.2-0.5%) when applied for 20 to 30 minutes are effective in inactivating the virus.

ii) Personnel disinfection

1. The face, hair and skin especially of the exposed parts such as hands should be washed with soap and warm water.
2. Citric acid, a milder acid available as a powder, can be used safely for personnel and clothing decontamination at a concentration of 0.2% w/v.
3. Gum boots, overalls etc. should be scrubbed with brush, washed with detergent, placed in the disinfectant and dried in the sunlight to ensure inactivation of the virus.

iii) Equipments, feeding troughs and vehicles

1. Equipments and inside surfaces of vehicles used for transportation should be cleaned of straw and manure and washed and cleaned before being sprayed with a disinfectant (phenyl/ formalin) and left unused in the open as the fumes from these disinfectants are irritant.
2. Wheels of the vehicles should be disinfected through use of wheel baths.
3. Ropes, twitches etc should be preferably discarded through burning and in case they are to be used again, then these should be disinfected which can be done by dipping them overnight in disinfectant (Dettol/chlorhexidine).
4. Feed bowls and troughs may similarly be disinfected.

c. Public awareness

1. Awareness in the horse industry is a must to gain cooperation and build confidence in controlling the disease.
2. All state Animal Husbandry Departments, NGO's working for the welfare of the equines and organized industry should be fully aware about the disease, measures to be taken to control the disease. NRCE has already informed the Directors of the concerned states and Army regarding the outbreak in their respective states.
3. Special care has to be taken to inform the individual horse owners in rural areas for the signs of the disease and that they should report to local veterinarian about the disease and the measures to be taken for control. This information can be given through pamphlets and handouts.
4. Support from local media and public relations campaign should be ensured for creating adequate awareness about the disease.

d. Advice to the owners

1. Owners should monitor the health of horses in the premises twice daily by observing for clinical signs such as coughing, nasal discharge, fever, if any.
2. Any suspected cases should be clearly identified, isolated and specific samples as mentioned earlier should be sent to the laboratory.
3. The utensils, water troughs, feed etc should not be allowed to get mixed between healthy and infected animals.
4. Limit people and vehicle access to the premises where horses are kept. Only essential visitors should be given the access. Visitors need to be kept away from horses.
5. Vehicles should be kept away from the horses and preferably left outside the gate.