African Swine Fever (ASF)

Introduction:

- African Swine Fever (ASF) is a highly contagious and fatal disease of domestic and feral pigs, caused by a DNA virus of the family *Asfarviridae.*
- Pig species of all breeds and ages are susceptible.
- It is transmitted through direct and indirect contacts, ingestion of contaminated feedstuffs and by certain tick vector species.
- Mortality rate is as high as 100% in per acute cases.
- The incubation period varies from 4 to 19 days
- The disease does not infect humans (not Zoonotic) or other livestock species.
- ***No vaccine or drugs*** are available to prevent ASF infection at present.
- India notified the first outbreak of ASF virus in January, 2020 in the North Eastern States of Assam and Arunachal Pradesh.

Transmission:

- The virus can spread through blood, tissues, secretions and excretions of sick and dead animals.
- Recovered pigs may also act as carrier.
- Direct contact with sick or infected animal or feeding of garbage containing ASF infected meat could lead to infection.
- The virus is also known to be transmitted by soft ticks of genus *Ornithodoros.*

Symptoms:

- The disease is manifested in per -acute, acute, sub-acute to chronic form
- **Per-Acute form** - High fever (41-42 °C) and sudden death within 1-3 days
- **Acute form-** High fever (40-42°C) with reddening of skin of ear tip, tail, ventral aspects of chest and abdomen, and death within 6-9 days for highly virulent strains, or 11-15 days for moderately virulent isolates. Mortality upto 90-100 %
- **Sub-acute form** -- Slight fever, reddening of skin and death within 15-45 days. Mortality between 30-70%
- **Chronic form--** The lethality rate in this form is less than 30%. Pig shows irregular peaks of temperature, respiratory signs, necrosis in skin, ulcer, arthritis, joint swelling

Post-mortem (PM) Lesions

- Haemorrhage in renal and gastro-hepatic lymph nodes
- Congestive splenomegaly
- Cutaneous ecchymoses on legs and abdomen,
- Petechiae in mucus membranes of larynx, bladder and visceral surfaces

Nature of the Virus:

- The virus can survive easily at low temperature.
- At high temperature i.e., at 60 ^{0}C virus can survives for 20 minutes.
- Virus gets inactivated at pH less than 3.9 or at pH over 11.5.

Disinfectants:

- Agents like 2% sodium hydroxide, 2% caustic soda, detergents and phenol substitutes, sodium or calcium hypochlorite (2 - 3% available chlorine) and iodine compounds are effective disinfectants for ASF virus.

Vaccination:

- At present no vaccine is available.
- Strict preventive measures should be taken to prevent spread of infection

Preventive measures:

- The dead pigs should be disposed of by deep burial /incineration only and not thrown in rivers /canals /streams / water bodies
- Feed left over, bedding, Manure, other farm waste products etc. should be disposed properly through deep burial /incineration.
- Slaughter waste including blood / kitchen waste has to be buried or burned.
- Management and control of soft ticks and their habitat.
- Animal movement within and from affected areas should be restricted.
- The movement of human from infected premises to another farm should be restricted.
- Upon entry and prior to leaving the premises any vehicles permitted on/off under license will require proper cleansing and disinfection

Source:

National Action Plan for control, containment and eradication of African Swine Fever

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