

HAEMORRHAGIC SEPTICAEMIA

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Haemorrhagic septicaemia (HS) is an acute fatal infectious disease of mainly cattle and buffalo, although has also been reported in pigs, fallow deer, horses, donkeys, elephant and yak. HS causes major financial impacts on smallholders, particularly in areas with high buffalo populations and where draught power is important for rice cultivation, plus areas where HS vaccination has been inadequate.

HS is caused by infection with the bacterium *Pasteurella multocida* (serotype B2 in Asian). Although HS-affected animals can die within 24 hours of contracting infection without showing clinical signs, most develop pyrexia with temperatures of 41–42°C, respiratory distress, nasal discharge, increased salivation & swelling (oedema) in the neck region spreading to the brisket, with signs lasting 2–3 days. Buffalo are believed to be more susceptible than cattle with young animals more susceptible in both species.

HS causes high mortality rates (up to 100%) with most deaths seen in older calves or young adults. Recovery from clinical disease is rare unless animals are treated early. Although HS occurs globally, it is most significant in Asia and Africa where it is influenced by husbandry practices, geographical area and climatic conditions. High humidity and temperature during onset of the wet season, increases the risk of HS outbreaks, although they may occur throughout the year in association with: free-range management, high buffalo population densities, poor husbandry practices, exposure to carriers and diseased animals or their decomposing carcasses, plus draught animals compromised by work stress.

As in other Southeast Asian countries, HS outbreaks are common in Cambodia and are more likely where farmer knowledge of disease prevention is poor (especially biosecurity and vaccination) & there is increased large ruminant trading and movement (common in Cambodia where 17% of village cattle are bought and sold annually). When HS is suspected a provisional diagnosis is made on clinical signs, herd history, morbidity and mortality patterns, species susceptibility and age of groups affected. Diagnostic confirmation is assisted by gross pathology and laboratory investigations to isolate and characterise the pathogen by culture, determining the serotype using serological and molecular techniques.

HS prevention and control requires strategic vaccination of susceptible populations with a high-quality vaccine. Current recommendations are to vaccinate twice annually following the initial two doses given 1–3 months apart in all cattle and buffalo over 3 months of age. Protection varies depending on the type of vaccines used with annual vaccination considered adequate when oil-based vaccines are used. Eradication of HS is generally unfeasible although greater control is possible with appropriate biosecurity including quarantine, movement control, traceability, slaughter of infected/exposed animals and disinfection of affected premises. It is critical to differentiate HS from FMD as whilst antibiotics in the early stages of HS may save some clinical cases, this is a costly and inappropriate treatment for FMD. Both HS and FMD are best prevented by improving biosecurity and ensuring vaccination is done correctly and regularly.