



COUNCIL DIRECTIVE 2006/88/EC DISEASE INFORMATION LEAFLET

VIRAL HAEMORRHAGIC SEPTICAEMIA

BACKGROUND

- Viral haemorrhagic septicaemia (VHS) is caused by a single stranded RNA virus of the family *Rhabdoviridae*, genus *Novirhabdoviridae*. VHS is listed as a non-exotic disease under EU Directive 2006/88/EC, and is notifiable in Ireland, according to S.I. No. 261 of 2008.
- VHS was first reported in freshwater rainbow trout farms in Denmark in the 1960's and has since been reported throughout Europe and in North America, Korea and Japan.
- The VHS virus has been isolated from almost 50 different marine and freshwater fish species.
- Disease outbreaks occur at water temperatures between 4 – 14°C.
- Young fish (e.g. rainbow trout fry) are more susceptible to the disease and survivors often develop a carrier status.
- Ireland has been officially declared free of VHS by the European Commission.

CLINICAL SIGNS

- Fish exhibit typical signs of a systemic infection, loss of appetite, lethargy, and abnormal swimming such as flashing and spiralling.
- Externally, skin darkening, pale gills, extended abdomen, pop-eye and haemorrhages at the base of the fins, gills, eyes and skin.
- Internally, signs include a pale and swollen liver, dark swollen kidney, excess fluid in the abdominal cavity, haemorrhaging of the organs, mucus filled gut.
- Susceptibility can vary with fish species and virus genogroup, although mortalities in rainbow trout fry can reach 100%.



DIAGNOSIS

- The 'Gold Standard' for detection of VHSV is virus isolation in cell culture followed by immunological and/or molecular detection.
- Histopathologically, the disease is characterised by extensive focal necrosis of the kidney, spleen and liver. Very mild changes may be observed in the pancreas.
- Molecular diagnostics have identified four genotypes of the VHS virus: genotype I consists of freshwater European isolates pathogenic to rainbow trout. Genotypes II and III consist of European marine isolates and Genotype IV contains North American and Japanese isolates.

CONTROL

- There is no treatment available for VHS and vaccination is not permitted in areas of the EU which have been declared disease free.
- The VHS virus is quickly inactivated by a range of disinfectants such as chlorine and iodophor based compounds, heat and UV irradiation.
- Animal health surveillance schemes and the use of 'specific-pathogen free' stock are important control measures.

WHAT SHOULD I DO?

- The Marine Institute must be notified in the event of unexplained mortality or the suspicion of a notifiable disease.
- Strict biosecurity measures should be implemented at and around the infected site, in collaboration with the Marine Institute and the retained veterinary practitioner.

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