

Fact Sheet: RHD-2

Rabbit Haemorrhagic Disease (RHD), also known as Rabbit Calicivirus Disease (RCD) or Viral Haemorrhagic Disease (VHD), and referred herein as RHD, is a highly infectious and fatal disease that affects both wild and domestic rabbits. The infectious agent responsible for the disease is a Rabbit Haemorrhagic Disease virus (RHDV), or Rabbit Calicivirus (RCV). The virus causes clinical disease in rabbits, and has been used in some countries to control rabbit populations. However, there are now **two** distinct viral strains; RHD-1 and, the new RHD-2 in the UK.

The original strain (RHD-1), endemic in the UK, was brought under relative control through preventative vaccination. This vaccine has been available for some time and is highly effective at preventing RHD-1 infections. In November 2015 RHD-2 has been positively confirmed through a genetic laboratory test.

So what is RHD-2?

RHD-2 is a variant form of the original RHD-1 virus and differs in the following ways.

- Rabbits infected with the RHD-2 virus typically **DO NOT** show the symptoms that are common with RHD-1 infection so it is far more difficult to diagnose from simple observations.
- Death from RHD-2 occur later and over a longer period of time than RHD-1: typically this is 3-9 days following infection and can last up to 5 days, instead of 2-6 days infection and lasting 3-4 days as generally observed with classical RHD-1. Although this is marginal it is important to note from a quarantine perspective.
- Only following post-mortem examination will initial diagnosis be possible, however further tests are required to definitively confirm RHD-2 which is now recommended for unexplained deaths.
- In mainland Europe, RHD-2 is now very common particularly in France where it was first identified in 2010 and spread country-wide where it was mainly transmitted through the wild rabbit population with cross-over with domestic rabbits. In Italy it has not spread very wide given the differences in wild rabbit population density. A research study has been published that describes the proliferation in RHD-2 in France since 2010 and of relevance to the current situation in the UK.
- Although RHD-2 is less virulent than RHD-1, its difficult early diagnosis means it is more challenging given rabbits can carry the disease for a longer period of time without any visible signs of infection. Hence diagnosis of RHD-2 presents a new challenge for the UK.

Inoculation against RHD-2:

The RHD-1 vaccine currently available in the UK **will not be effective** against the RHD-2 virus. Its use is still strongly recommended to prevent the RHD-1 form of the disease. A RHD-2 vaccine is available in mainland Europe and a licence application for its import and use in the UK is currently underway. Further information will be available in due course.

Containment:

Recent outbreaks of RHD in the UK have been reported in Devon, Kent, Northumberland (November 2015), Avon, Derbyshire, Leicestershire (February 2016 and Shropshire (March 2016). Only in the Devon case has the virus been identified as RHD-2 by viral DNA analysis. It is thought at this point to have been spread by wild rabbits, given their massive and sudden rural decline and close proximity to domestic animals. The virus seems to also be spread via clothing and in the air together with contact between infected animals and via parasites. Other species can also carry the virus although do not become infected hence the needs for increased husbandry and care to contain any suspected outbreak. Given the RHD-2 virus is also airborne, mortality rates can be very high and quick given the ease of transmission.

Action and Advice:

All suspected cases should be immediately reported to the British Rabbit Council and the rules on VHD outbreak should be followed. The forthcoming introduction of a RHD-2 vaccine into the UK will provide a proactive solution.