



## Introduction

Also known as rabbit calicivirus disease, viral hemorrhagic disease of rabbits, hemorrhagic pneumonia, and infectious necrotic hepatitis, RHDV was first discovered in the European rabbit (*Oryctolagus cuniculus*) during the 1980's in China. Rabbit hemorrhagic disease virus (RHDV) is an acute, often lethal disease that commonly presents as hemorrhagic lesions of the lungs and liver. A similar virus, European brown hare syndrome virus (EBHSV), causes a similar presentation of disease in the European brown hare (*Lepus europaeus*).

More recently a strain of RHDV known as RHDV2 has been detected in British Columbia, many southwestern states, Mississippi, Georgia, Tennessee, Kentucky, New York, and Hawaii. In New Jersey, RHDV2 was detected as recently as spring of 2022 in domestic rabbits. RHDV2 poses a particular risk to captive populations of European rabbits but is present in wild eastern cottontail rabbits as well.

## Species Affected

RHDV affects the eastern cottontail (*Sylvilagus floridanus*) and the European rabbit, both domestic and wild.

## Clinical Signs

Onset of clinical disease occurs within 24 to 72 hours of infection, and sudden death may occur following a 6-to-24-hour period of depression and fever. There may be bloody nasal discharge or bloody urine apparent with infection. Incoordination, trembling, and terminal opisthotonos (severe contraction of back and neck muscles) are also possible signs. It is very common for no signs to be present prior to sudden death.

## Transmission

RHDV can be transmitted via oral, nasal, conjunctival, and parenteral routes. It can also be passed through insect vectors such as flies, fleas, and mosquitos. Cages and bedding are common fomites and can aid in the spread of the virus, especially in captive domestic populations of European rabbits. Humans are not susceptible to RHDV.

## Diagnosis

Diagnosis cannot be confirmed without laboratory testing. The USDA Animal and Plant Health Inspection Services' National Veterinary Diagnostics Services Laboratories' Foreign Animal Disease Diagnostic Laboratory tests (ELISA and rt-PCR) for RHDV antibodies and viral RNA.



## **Epidemiology**

Both RHDV and EBHSV belong to the family Calciviridae and the genus *Lagovirus*. Although each viral agent results in similar signs and conditions, the species they affect are distinct.

## **Surveillance/Management**

In North America, European rabbits are common domestic livestock and pets. The US Department of Agriculture Animal and Plant Health Inspection Service monitors the virus nationwide. For more information on RHDV in domestic rabbits, refer to the USDA.

## **Additional Information**

[USDA APHIS | 2020 Rabbit Hemorrhagic Disease -- Affected Counties](#)

[General Guidance for Cleaning and Disinfection of Rabbit Hemorrhagic Disease Virus \(RHDV\) Contaminated Premises - July 2020 \(usda.gov\)](#)

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