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Rabbit Hemorrhagic Disease

Last Modified:



Rabbit hemorrhagic disease (RHD) is a highly infectious form of viral hepatitis (Genus: Lagovirus) that causes death in 50 to 100 percent of cases. It infects rabbits and hares but does not infect people or other animals. There are two main genotypes of RHD virus (RHDV) that have occurred in the US: Classical RHDV, also called RHDVa or RHDV1, and RHDV2. While most primarily affect domestic rabbits, RHDV2 affects domestic, wild, and feral rabbits and hares.

The first U.S. detection (550.98 KB) of RHDV2 was in 2018 in a pet rabbit in Ohio with no evidence of spread. The first detection (550.98 KB) in wild rabbits and hares was in New Mexico in 2020. The disease has since spread to numerous States across the country in both domestic and wild rabbits and hares.

All cases of RHD must be reported to Federal and State animal health officials. APHIS follows World Organisation for Animal Health reporting requirements.

What To Look For

Once infected, rabbits may show any of the following signs:

- Sudden death (typically within 1 to 3 days)
- Nosebleed or blood-stained nose (caused by internal bleeding)
- Convulsions
- Fever
- Lethargy
- Lack of appetite
- Difficulty breathing
- Loss of coordination

How To Prevent This Disease

RHD spreads through contact with an infected rabbit's excretions, blood, meat, or fur. The virus can also spread between rabbits via contaminated materials (such as food, water, bedding, or equipment); insects; and people's clothing, shoes, and hands.

Here's what you can do to prevent the spread:

- Follow strict biosecurity measures at rabbitries, laboratories, wildlife shelters, and other locations with rabbits or hares. This includes proper cleaning and disinfection and maintaining closed colonies or isolating new rabbits entering a rabbitry.

    - For details, view our cleaning and disinfection factsheet (237.52 KB) (also in Spanish (240.49 KB)) for RHDV-contaminated premises.
    - Refer to the U.S. Environmental Protection Agency for a list of disinfectants effective against RHDV2.
- Don't release domestic rabbits into the wild at any time.
- Don't bring wild rabbits into your domestic population at any time.
- If your rabbit(s) appear ill or die suddenly, contact your veterinarian.
- Immediately isolate any sick rabbits to prevent disease spread.
- Don't dispose of a rabbit carcass without consulting your veterinarian or State or Federal animal health officials for guidance.
- If you live near or visit an RHDV2-affected area, don't touch any dead wild rabbits or hares you may see. If you see multiple dead wild rabbits or hares, report it to State wildlife officials.

How It Is Treated

There is no cure for RHD. APHIS' Center for Veterinary Biologics has authorized emergency use of a vaccine to help prevent the spread of this disease and protect healthy animals. Animal owners should speak to their veterinarian or State animal health officials about vaccine availability in their State.

Report Signs of Animal Disease

Producers or owners who suspect an animal disease should contact their veterinarian to evaluate the animal or herd. Find an accredited veterinarian.

Animal health professionals (veterinarians; diagnostic laboratories; public health, zoo, or wildlife personnel; and others) report diagnosed or suspected cases of nationally listed reportable animal diseases to APHIS Area Veterinarians in Charge and to the State animal health official as applicable under State reporting regulations.

Controlling Rabbit Hemorrhagic Disease

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Current Status

Outbreaks of RHDV2 are ongoing in the United States, and the virus has been found in wild, feral, and domestic rabbit and hare species. For the latest information about which States are affected, view our interactive map.

Through our Veterinary Services program, APHIS works closely with State animal health officials to respond to outbreaks of RHDV2 and conduct disease investigations. This includes trace-ins and -outs, testing, providing biosecurity guidance, and ensuring appropriate cleaning and disinfection.

Past RHDV2 Outbreaks in the United States

Below is a summary of APHIS' response to previous detections and outbreaks of RHDV2 in the United States.

2020 Outbreak

New York

RHDV2 was detected in 11 rabbits in a New York City veterinary clinic in early March 2020. The rabbits died over a period of a week. The animals were being housed as patients, boarders, and rescues. There are no known links between this event and previous outbreaks.

New Mexico

Later in March 2020, APHIS confirmed RHDV2 in pet rabbits in New Mexico. There is no known links between this event and the New York City outbreak.

Following the detection in pet rabbits, reports of native wild rabbit and hare mortalities were reported in central and southern New Mexico, Arizona, Colorado, Nevada and Texas in April, in California in May, and in Utah in June. Wild jackrabbits (genus: *Lepus*) and wild cottontail rabbits (genus: *Sylvilagus*) tested positive for

RHDV2, the first detections of this virus in wild rabbits and hares in the United States. Additional RHDV2 detections in wild rabbits and hares were reported in Arizona, California, Colorado, Nevada, New Mexico, and Texas in antelope and black-tailed jackrabbits and desert, eastern, and mountain cottontail rabbits. There are also RHDV2 detections in domestic rabbits.

This 2020 outbreak is ongoing. See our interactive map for the latest information.

2019 Outbreak

Canada

In April 2019 in Vancouver, Canada, RHDV2 was confirmed in four feral rabbits and then confirmed in dead domestic rabbits in June 2019.

Washington

Between July and December 2019, RHDV2 was confirmed in pet and feral European rabbits (*Oryctolagus cuniculus*) in Washington State. The virus was identified in the San Juan Islands and at an animal sanctuary in Clallam County. It was also detected in free-ranging feral domestic rabbits. Whole genome sequencing indicated the RHDV2 virus was similar to the 2018 British Columbia, Canada strain.

2018 Outbreak

Canada

From February to April 2018, RDH2 was detected on Vancouver Island in British Columbia in feral rabbits. This is located just north of Washington State.

Ohio

In September 2018, RHDV2 was detected in a pet rabbit in Medina County, OH. The strain was closely related to the 2018 RHDV2 strain in Canada.

Testing

If RHDV2 is suspected in domestic and wild rabbits, you should consult with your accredited veterinarians and State animal health official. For domestic rabbits, testing may occur at an approved Federal or State laboratory. For wild rabbits, testing is performed at one of the designated wildlife laboratories: USGS-National Wildlife Health Center and the Southeastern Cooperative Wildlife Disease Study

Vaccine

APHIS' Center for Veterinary Biologics (CVB) has issued a conditional license for a domestically produced RHDV2 vaccine.

CVB has since discontinued the import of vaccines against rabbit hemorrhagic disease virus.

Epidemiology

RHD is caused by a non-enveloped, single-stranded RNA virus in the family: Calicivirus; genus: Lagovirus. It has three recognized pathogenic groups: RHDV (aka RHDVa), RHDV1 (considered a subtype of the classic RHDV), and RHDV2 (aka RHDVb), which could be considered a distinct viral subtype.

The incubation period for RHDV2 is 3–9 days. Subacute infection is generally mild and may cause affected rabbits to survive minor clinical symptoms and develop antibodies.

Clinical signs of peracute infection are sudden collapse and death with no other signs. Acute infection may exhibit nervous and respiratory signs, lethargy, anorexia, epistaxis, observable hemorrhages in the eye, blood in feces, and icteric skin coloration. Death typically occurs in 1–3 days. Necropsy of the affected rabbits will reveal hepatic necrosis and hemorrhage.

Domestic rabbits typically experience peracute or acute disease, but chronic illness is possible in a small percentage of infected animals.

Rabbits can become clinically infected with RHDV2 at any age.

RHDV2 has been detected across the world in Europe, Africa, Australia, New Zealand and the Americas.

RHDV2 has a wider host range than RHDV, which only affects domestic European rabbits. RHDV2 has also affected some hares in Italian outbreaks: the Sardinian cape hare and the Italian hare. It has affected a wild range of native North American rabbit and hare species.

Surveillance for Rabbit Hemorrhagic Disease in Wildlife

APHIS' National Wildlife Disease Program works closely with Veterinary Services, diagnostic labs, States, and other partners to track and report the prevalence and spread of RHDV2 across the United States. Learn more about surveillance for rabbit hemorrhagic disease in wildlife.

Spread the Word

- Rabbit Hemorrhagic Disease Factsheet (326.75 KB)

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