

THE COMMONWEALTH OF MASSACHUSETTS

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS



Department of Agricultural Resources

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RHDV2 BIOSECURITY

1. Rabbit Hemorrhagic Disease Virus, or Rabbit Calicivirus
 - a. RHDV2 is a highly contagious and often deadly virus that affects wild and domestic rabbits. Infected rabbits shed the virus in their urine and feces, and the virus will live in the environment for months.
 - b. Healthy rabbits become infected after exposure to sick rabbits or objects contaminated with the virus- cages, bedding, feed, a caretaker's clothing, or other animals or insects.
 - c. At this time, RHDV has not been identified in Massachusetts.
 - d. RHDV is considered a foreign animal disease (FAD) and is reportable to state and federal officials.
2. Vaccination
 - a. Currently, there is no licensed vaccine for RHDV available in the United States. Under highly regulated circumstances, the vaccine used in Europe may be imported into states with confirmed cases of RHDV2.
 - b. Although vaccination may reduce the clinical signs of disease, it does not prevent a rabbit from becoming infected, getting sick, or shedding the virus.
 - c. Preventive vaccination strategies will need to rely on an approved US vaccine. Rabbit enthusiasts should work to encourage the development of an approved effective vaccine in the US.
3. Biosecurity and Quarantine: The best way to prevent RHDV is through good biosecurity.
 - a. Keep your rabbits indoors and maintain a closed colony. No wild or domestic rabbits from outside of the colony should have contact with your colony of rabbits.
 - b. If maintaining a closed colony is not possible, then new rabbits (and rabbits returning to the colony following travel) should be quarantined for 14 days minimum prior to joining the colony. Quarantined rabbits should be housed far away from the colony and should be closely monitored for signs of illness. When caring for your rabbits, care for young animals first, then the general population, and quarantined animals last. Wash your hands before and after handling each group of rabbits and between each animal in quarantine.
 - c. Dedicated equipment and supplies should be used for each group of rabbits. If equipment must be shared (exam table, roaming area), then it should be thoroughly cleaned and disinfected between groups of rabbits. Quarantined animals should not share any areas or equipment with animals who are not in quarantine. Supplies and equipment kept in the quarantine area should be used for quarantined rabbits only.
 - d. Wear personal protective equipment (PPE) when caring for quarantined animals. Wash your hands and remove and replace contaminated PPE between rabbits. Do not go back into the general population after caring for the quarantined animals.
 - e. Caretakers and visitors can introduce disease into the colony through contaminated shoes or clothing. Persons entering the colony should remove street clothes and change into clean clothing.

- prior to entering. If a person has handled a domestic or wild rabbit or a rabbit carcass, they should be denied entry.
- f. Insects can transport diseases to your rabbits. Animals that venture outside (dogs, cats) should not have access to rabbit areas or equipment. All animals including rabbits should be treated with appropriate flea prevention, and rodent and insect infestations should be prevented. Windows and doors should be screened to prevent entry of insects.
 - g. Never release domestic rabbits into the wild- this could spread disease into the wild population of rabbits.
4. Proper disinfection of rabbit areas:
- a. Remove animals from areas to be cleaned and disinfected. Ensure adequate ventilation, gloves, respiratory, and eye protection as necessary prior to cleaning and disinfecting.
 - b. Metal and non-porous materials are much easier to clean than porous materials, like wood, carpet, and upholstered furniture. Rabbits in foster homes should be maintained within a cage during their quarantine period. If they become sick, a cage is much easier to clean and disinfect than an entire home.
 - c. Remove and discard all bedding, feed, feces, fur, and visible debris from the area to be cleaned and disinfected. Some disinfectants are inactivated by organic material, so this step is very important. Next, thoroughly wash the area with soap and water. After the area has dried, saturate all surfaces with disinfectant solution. Allow for the appropriate contact time, then rinse the area thoroughly.
5. Disinfectants that will inactivate RHDV2 are labeled to inactivate un-enveloped viruses, like parvoviruses and feline calicivirus.
- a. Accelerated hydrogen peroxide (Rescue)
 - b. Potassium peroxymonosulfate (Trifectant, Virkon S)
 - c. Sodium hypochlorite (Bleach): although bleach is easy to obtain and effective against un-enveloped viruses, it may not be the best choice for disinfection. Bleach is quickly inactivated by organic material, so it is very important to remove all organic debris from the area to be disinfected. Bleach is corrosive and can cause respiratory issues in humans and animals if proper precautions are not taken. New bleach solution should be mixed every 24 hours as it loses efficacy over time, and when exposed to light or heat.
 - i. Bleach solution 0.5%: add 1.5 cup of household bleach (6% sodium hypochlorite) to 1 gallon of water. Contact time necessary to inactivate RHDV with this bleach solution is 5 minutes.
 - d. Review this table of disinfectants from UC Davis Koret Shelter Medicine Program: <https://www.sheltermedicine.com/library/resources/?r=disinfectant-product-table>
 - e. Review this list of disinfectants published by the EPA: <https://www.epa.gov/pesticide-registration/list-o-disinfectants-use-against-rabbit-hemorrhagic-disease-virus-rhdv2>.
 - f. For further information about cleaning and disinfection, go to: <https://www.sheltermedicine.com/library/resources/?r=sanitation-in-animal-shelters#>
6. If you suspect a case of RHDV:
- a. Immediately contact your veterinarian.
 - b. For suspected cases of RHDV2, please contact the Massachusetts Department of Agriculture at (617) 626-1795 and US Department of Agriculture Veterinary Services at (508) 363-2290.