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Oral Rabies Vaccination

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Wildlife Services works cooperatively with local, State, and Federal governments, universities and other partners to to reduce wildlife rabies by distributing oral rabies vaccine (ORV) baits in targeted areas.

Vaccinating Wildlife to Protect Domestic Animals and Save Lives

Rabies is a deadly viral disease that affects the nervous system of mammals. Several different variants of the rabies virus exist in the United States. Each variant is spread predominantly by one wildlife species, but all variants are capable of infecting mammals, including humans. Raccoons and skunks account for the most reported cases, but bats, foxes, and coyotes are also among the commonly infected wildlife species.

People are most frequently exposed to the rabies virus through their pets. Dogs and cats can become infected by means of exposure to rabid wildlife. Fortunately, rabies can be prevented through the use of vaccines for humans, pets, livestock and wildlife. By combining the expertise of human health care providers, veterinarians, and wildlife professionals, rabies management programs can improve the health and well-being of all species impacted by the disease. Such partnerships make the management of rabies the premier example of a One Health approach.

Benefits of Vaccinating Wildlife

- Reduced human exposure and post-exposure prophylaxis costs
- Reduced epizootic-related pet vaccination, quarantine, and euthanasia
- Reduced burden on State services for animal diagnostic tests
- Reduced livestock losses

Preventing Rabies in Wildlife

In the United States, approximately 90 percent of reported rabies cases occur in wildlife. Wildlife species that are often susceptible to rabies, such as raccoons, thrive in many environments and maintain the rabies virus either at low levels (endemic rabies) or spread the virus quickly during rabies outbreaks (epizootics).

Humans can receive pre- or post-exposure prophylaxis vaccines, while dogs and cats typically receive rabies vaccines annually or every 3 years. Rabies vaccination of livestock occurs in areas with a high incidence of wildlife rabies or during rabies outbreaks.

Since 1995, APHIS' Wildlife Services (WS) program has been working cooperatively with local, State, and Federal governments, universities, and other partners to reduce rabies in wildlife. ORV baits are distributed to wildlife in targeted areas. This edible bait consists of a sachet, or plastic packet, containing the RABORAL V-RG® rabies vaccine. To make the bait attractive to wildlife, the sachets containing the vaccine are sprinkled with fishmeal coating or encased inside hard fishmeal-polymer blocks about the size of a matchbox. Each year, WS and cooperators distribute about 6.5 million baits in selected States to create a zone where raccoon rabies can be contained. This program is critical to national rabies prevention as raccoon populations are present in all 48 States. While raccoon vaccination is the largest of WS' efforts, the program has also been involved in a cooperative ORV operation in Texas that targets canine rabies in coyotes and a unique variant of the disease in gray foxes.

Recent ORV Successes

- An economic evaluation of rabies prevention data indicates that for every dollar spent on a coyote ORV program in Texas, between $4 and $13 are saved.

- The domestic dog-coyote variant of rabies was successfully eliminated from the United States in 2008 as a result of an ORV baiting program in Texas, proving that ORV of wildlife can successfully eliminate terrestrial rabies.
- A gray fox ORV program in the southwest United States stopped the expansion of a rabies outbreak and reduced the original treatment zone by 50 percent.
- A raccoon ORV program in the eastern United States has created a barrier against the westward spread of raccoon rabies into naïve raccoon populations beyond the Appalachian Mountains and across the western United States.

Economic Benefits of ORV Programs

Although the United States rabies prevention network is effective, approximately 55,000 people are administered post-exposure prophylactics (PEP) annually resulting in over $200 million in health care costs. Recent economic analyses by WS indicate that preventing the spread of raccoon rabies in the western United States alone could reduce PEP costs by as much as $50 million annually. This is in addition to savings associated with reduced pet vaccinations, quarantine and euthanasia; surveillance and animal diagnostic tests; and livestock losses.

Today, State and Federal wildlife ORV programs are faced with declining resources. Ironically, as these resources shrink, societal and environmental changes are leading to increased opportunities for people and pets to be exposed to wildlife, particularly in urban environments. Progress has been made towards eliminating rabies in terrestrial wildlife, but continued coordinated efforts are still needed. The crucial component to rabies elimination within the United States lies in vaccinating the potential wildlife reservoirs of the disease.

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