

Animal Rabies Vaccination:

Vaccination Requirements and Guidelines

This section of the N.C. Rabies Control Manual covers the following major topic areas related to animal rabies vaccination guidelines and regulatory requirements:

- Rabies Vaccination Required
- Veterinary Rabies Vaccines and Administration of Vaccines
- Vaccination of:
 - Pets and Livestock
 - Hybrids and Captive Wild Animals
 - Animals in Exhibits and in Zoological Parks
 - Wildlife (primarily raccoons)
 - Animals Imported into the U.S. and North Carolina
- Serological Titers (RVNA) Related to Rabies Vaccination

See also “[Animal Rabies Vaccination Guidance for Veterinarians \(Q&A\)](#)”

(http://epi.publichealth.nc.gov/cd/lhds/manuals/rabies/docs/vax_qa_for_vets.pdf) in this Manual.

RABIES VACCINATION REQUIRED:

Pursuant to [G.S. 130A-185](#), every owner of a domestic dog, cat or ferret in North Carolina is required to have their animal currently vaccinated against rabies by four months of age and maintain the animal's current rabies vaccination status throughout the animal's entire lifetime. The owner should retain the original copy of the rabies vaccination certificate, provided by the legally authorized vaccinator as evidence of the animal's current vaccination status. There are no legal waivers or exemptions, rabies vaccinations are required by law for domestic dogs, cats and ferrets in North Carolina.

VETERINARY RABIES VACCINES:

The [United States Department of Agriculture \(USDA\) Center for Veterinary Biologics](#) regulates and licenses veterinary rabies vaccines. Only rabies vaccines that are licensed by the USDA and approved by the Commission (State Veterinarian, N.C. Department of Agriculture and Consumer Services) for the particular species shall be used and legally recognized in the state. The USDA's Animal and Plant Inspection Service (APHIS) publishes the most [current list of licensed rabies vaccines](#) (www.aphis.usda.gov/animal_health/vet_biologics/publications/CurrentProdCodeBook.pdf).

The [Compendium of Animal Rabies Prevention and Control](#) (<http://www.nasphv.org/Documents/NASPHVRabiesCompendium.pdf>), published by the National Association of State Public Health Veterinarians, provides guidance on vaccination and USDA-licensed vaccines. The Compendium is a national guidance document for state and local officials who regulate and enforce rabies laws, and can be used as a supplement to state and local laws, but not as a substitute. Therefore, when state law, rules or local laws and ordinances differ from the Compendium, state and local laws should be followed.

Who can legally administer rabies vaccine in North Carolina?

N.C. General Statute mandates that rabies vaccinations must be administered by a licensed veterinarian, a registered veterinary technician under the direct supervision of a licensed veterinarian (on site), or by a certified rabies vaccinator (defined by [G.S. 130A-186](#), www.ncga.state.nc.us/gascripts/statutes/StatutesTOC.pl?Chapter=0130A). Rabies vaccines administered by certified rabies vaccinators always have a duration of immunity of one year, regardless of labeled duration of immunity (see 10A-NCAC 41G .0101 (a) at <http://ncrules.state.nc.us/ncac.asp>). Rabies vaccines administered by animal owners or others not authorized by North Carolina law are not recognized.

Possession and Use of Rabies Vaccine in North Carolina

Pursuant to G.S. 130A-191, *only* licensed veterinarians, certified rabies vaccinators, and entities that distribute and sell rabies vaccine to legal vaccinators may possess and distribute rabies vaccine in North Carolina. The State Veterinarian authorizes USDA Wildlife Services to use USDA licensed oral rabies vaccines ([ORV](#)) as part of the national [USDA ORV program](#), in select counties of western North Carolina to prevent the westward spread of eastern raccoon variant rabies. It is unlawful for others to possess rabies vaccine. Rabies vaccinations in North Carolina shall be administered only by N.C. licensed veterinarians, registered veterinary technicians (RVTs) under the direct on-site supervision of a licensed veterinarian; and certified rabies vaccinators (approved by the local health director and certified by a state public health veterinarian). Rabies vaccines given by owners or a veterinarian in North Carolina who is not licensed in this state are not recognized as legal vaccinations under any circumstance, even if the vaccine is licensed for that species and not expired. According to the N.C. Veterinary Medical Board, “The [North Carolina Veterinary Practice Act](#) prohibits an individual not licensed by North Carolina as a veterinarian from delivering veterinary services. The law provides that if an individual practices, or attempts to practice veterinary medicine without being licensed by the N.C. Board, that constitutes a Class I criminal law misdemeanor. The penalty for the unauthorized practice of veterinary medicine is set forth in G.S. 90-187.12. Further, such acts of unlicensed practice can provide the basis for the Board to file a lawsuit seeking civil injunction against the person(s) in the Superior Courts of this State” (www.ncvmb.org). Certified rabies vaccinators are exempted by G.S. 130A-185 and may only administer rabies vaccinations with one (1) year duration (expiration date one year from date of vaccination) in the appointed county of certification and under the authority of that county’s local health director.

County Rabies Vaccination Clinics

Pursuant to G.S. 130A-187, local health directors are required to organize or assist other county departments in organizing at least one countywide rabies vaccination clinic per year for the purpose of vaccinating dogs, cats and ferrets. As pet vaccinations expire daily, providing multiple vaccination clinics throughout the year (depending on needs assessment) would likely improve vaccination rates. N.C. DPH recommends that at least one licensed veterinarian participate on-site at these clinics to provide three-year boosters to those animals with proof of previous rabies vaccination (rabies certificate or official veterinary records), and to be available to provide medical care if an adverse vaccine event occurs. *Note:* Local Health Directors, please refer to the [Certified Rabies Vaccinator \(CRV\) Guidance Document](#) (http://epi.publichealth.nc.gov/cd/lhds/manuals/rabies/docs/crv_for_lhds.pdf).

Extralabel Use (ELDU) of Rabies Vaccinations

Extralabel drug use (ELDU) is the term that describes the use of an approved drug in a manner that differs *in any way* from the drug's approved labeling. This includes deviations from FDA-approved labeling such as using the drug in a species not listed on the label. The [Animal Medicinal Drug Use Clarification Act](#) of 1994 (AMDUCA) provides veterinarians acting within a [veterinarian-client-patient relationship](#) (VCPR) with greater prescribing and dispensing options so that animals can receive the medications they need when they need them.

Vaccines are considered “Veterinary Biologics” and are regulated by [APHIS USDA Center for Veterinary Biologics](#) (USDA CVB). Veterinarians are allowed discretionary use of vaccines. If a species requires a vaccine not labeled for that species, the veterinarian can employ discretionary use of a particular vaccine if extralabel use fulfills a medical need for an animal whose health is threatened.

Veterinarians should always contact their professional liability insurance, as well as the N.C. Veterinary Medical Board, regarding extralabel use of rabies vaccines.

VACCINATIONS:

PETS & LIVESTOCK

Required Vaccination of Domestic Dogs, Cats and Ferrets:

North Carolina General Statute 130A-185 requires that any owner of a dog, cat or ferret shall have their animal vaccinated by four (4) months of age and keep the animal currently vaccinated against rabies. The animal(s) should be revaccinated against rabies according to product label directions for the particular species. (Important note: rabies vaccines administered by certified rabies vaccinators, or CRVs, always have a duration of immunity of one year, regardless of labeled duration of immunity.) If a previously vaccinated animal is overdue for a booster, it should be revaccinated. Immediately following booster vaccination, the animal is considered currently vaccinated and should be placed on a vaccination schedule according to the labeled duration of the vaccine used (or one year if administered by a CRV). There are no legal exemptions (waivers) to rabies vaccination of pets in the [N.C. General Statutes](#) (www.ncga.state.nc.us/gascripts/statutes/StatutesTOC.pl?Chapter=0130A), nor in the [N.C. Administrative Code](#) (<http://ncrules.state.nc.us/ncac.asp>). Concerns about re-vaccination schedules after lapses of more than three years between boosters or in cases of immune-compromise, should be addressed on a case-by-case basis in consultation with N.C. Veterinary Public Health (919-733-3419).

Pet owners who are concerned about adverse reactions or over-vaccination should be informed that rabies virus antibody testing (titers) are not to be used in place of current vaccination for either management of rabies exposure or for determination of booster vaccinations for animals. Pursuant to G.S. 130A-197, if a dog, cat or ferret that is not currently vaccinated against rabies (for ANY reason) is exposed to rabies it may be

subject to immediate euthanasia or up to six-month quarantine at the discretion of the local health director.

When is a dog, cat or ferret considered currently vaccinated?

Currently Vaccinated

“*Currently vaccinated* against rabies” describes an animal that has received a primary rabies vaccine at least 28 days ago, or has received a booster vaccine administered in accordance with the vaccine manufacturer’s package insert and is within the vaccine’s duration of immunity for that particular species. Evidence for documentation of current rabies vaccination status includes a rabies vaccination certificate (i.e., [NASPHV form #51](#)) or an official veterinary record of vaccination that includes the information in NASPHV form #51 and is signed by the vaccinating veterinarian.

Unvaccinated

A dog, cat or ferret is considered *unvaccinated* or *never vaccinated* (naïve to rabies vaccination) if it has never been administered a rabies vaccination and there is no evidence or documentation of a prior vaccine (i.e., veterinary records or a rabies vaccination certificate). However, it is important to note that when an animal receives its primary vaccination against rabies, the animal is not considered currently vaccinated and protected against rabies exposure until **28 days** after that initial vaccination (G.S. 130A-197). Owners should be advised to keep their animals under close supervision at all times during that period, particularly to prevent exposures to wildlife or other animals that may transmit rabies or other diseases.

Overdue with Appropriate Documentation

If a previously vaccinated animal is overdue for a booster and the owner provides appropriate documentation of prior vaccination ((i.e., veterinary records or a rabies vaccination certificate), it should be revaccinated without delay. Immediately after the booster, the immune system has a rapid anamnestic (memory) response, and the animal is considered currently vaccinated. The animal should be placed on a booster schedule according to the labeled duration of the vaccine used (see manufacturer’s insert; the legal duration of any vaccine administered by a CRV is one year).

Bites to Humans and Rabies Vaccination Status (dog, cat or ferret)

When a **dog, cat or ferret bites a human**, regardless of vaccination status, the animal should be placed in a 10-day confinement by animal control (G.S.130A-196). If the animal is not currently vaccinated, then it **should not be vaccinated** until the confinement period is completed. Vaccinations and introduction of any new pharmaceuticals is not advised during the 10-day confinement because an adverse or unusual reaction could be misinterpreted as clinical signs of rabies and result in the unnecessary euthanasia of the animal. Veterinarians and local animal control should consult with N.C. Veterinary Public Health (919-733-3419) if the animal is injured or otherwise in need of life-saving care during a confinement period.

Vaccination Schedules for Pets & Livestock

Licensed rabies vaccines for domestic animals include both inactivated and modified live virus vectored products and may vary according to species, minimum age of initial vaccination, duration of immunity (1 or 3 years), and route of administration (subcutaneous or intramuscular). The current [NASPHV Animal Rabies Compendium](#) lists animal rabies vaccines licensed by the USDA and marketed in the United States.

Vaccination of dogs, ferrets, and livestock can be begun as early as three (3) months of age, but no sooner. Purevax 3 and 4 are cat vaccines that can be given as early as two (2) months of age. Regardless of the age of the animal at initial vaccination, a booster vaccination should always be administered one (1) year later. Always review the manufacturer's instructions for the product used to determine appropriate species, age at primary vaccination and booster recommendations (1 or 3 years after initial series, depending on the vaccine used).

Veterinarians have the opportunity to educate owners about rabies and keeping rabies vaccinations current. Vaccine reminders can be sent out to owners well in advance of expiration dates, providing ample time for the owner to bring the pets in for a booster, *prior to* the expiration date. Animal adoption shelters, local animal control, local health departments and veterinarians can form partnerships and work together to educate the public about rabies prevention and control. Owners of adopted animals should be encouraged to develop a relationship with a veterinarian soon after adoption from a shelter or elsewhere, for both the animal's general health care and maintenance of vaccination schedules.

See also "[Animals Imported into North Carolina](#)" on page 10.

Adverse Vaccination Events

According to the 2016 NASPHV [Rabies Compendium](#) committee's literature research, there is currently no epidemiologic association between a particular licensed vaccine product and adverse events. Adverse events are rare, but may include vomiting, injection-site swelling, lethargy, and/or hypersensitivity; rabies in a previously vaccinated animal has been reported. Adverse events should be reported to the vaccine manufacturer and to the USDA, APHIS' Center for Veterinary Biologics (www.aphis.usda.gov; search for "adverse event reporting"). No contraindication to rabies vaccination exists. Animals with a previous history of anaphylaxis can be medically managed and observed after vaccination.

Rabies Vaccination Certificates and Tags for Pets

When a rabies vaccine is administered to a dog, cat or ferret in North Carolina, the licensed veterinarian, registered veterinary technician or certified rabies vaccinator (CRV) that administers the vaccine is required to complete a rabies certificate in triplicate, providing the owner the original certificate and a rabies tag, per G.S. 130A-189 and 190 (see www.ncga.state.nc.us/gascripts/statutes/StatutesTOC.pl?Chapter=0130A). The second copy of the rabies certificate should be distributed to animal control in the county in which the vaccine was administered, and the third copy should be retained in the animal's records by the vaccinator. Veterinarians must retain rabies certificates in their records for a minimum of 3 years. All agencies and veterinarians should use [NASPHV Form 51](#) (<http://www.nasphv.org/Documents/RabiesVacCert.pdf>) the model rabies vaccination certificate recommended by the National Association of State Public Health Veterinarians, or an equivalent. The form must be completed in full and signed by the administering or supervising veterinarian or CRV. Computer-generated forms containing the same information are also acceptable. When a registered veterinary technician vaccinates an animal, both the veterinary technician and supervising veterinarian should sign the rabies certificate and include their license and registration numbers, respectively.

The rabies vaccination tag must display the following information: the year issued (year animal vaccinated), a vaccination number, the words "North Carolina" or the initials "NC," and the words "rabies vaccine." Rabies tags can be purchased from the N.C. Division of Public Health per G.S. 130A-190 (see <http://epi.publichealth.nc.gov/cd/rabies/vets.html>).

Pets Not Wearing Required Rabies Vaccination Tags; Lost Tags

Pursuant to G.S. 130A-190, dogs are required to wear rabies vaccination tags at all times. Cats and ferrets must wear rabies vaccination tags unless they are exempt from wearing the tags by local ordinance; local ordinances for the state of North Carolina can be accessed at www.municode.com/library/clientlisting.aspx?statedID=33. Veterinarians and counties may purchase N.C. DHHS rabies vaccination tags from the N.C. DHHS DPH Veterinary Public Health Program (<http://epi.publichealth.nc.gov/cd/rabies/vets.html>); proceeds support DPH rabies prevention and control programs. If a pet's tag is lost, veterinarians and counties may purchase replacement tags from Veterinary Public Health for the prior year. Documentation should be made in the patient's record, and an addendum attached to the animal's rabies certificate indicating the replacement tag number and date of replacement.

If an animal required to wear a tag is found not wearing a tag, in accordance with G.S. 130A-192, the animal control officer shall determine the animal's owner and contact information, and notify the owner. The owner shall produce the required rabies vaccination certificate to the animal control officer within three (3) days of the notification. If the owner cannot be identified then the Animal Control Officer may impound the animal.

Livestock Rabies Vaccination

There are USDA-licensed rabies vaccines for three species of livestock: horses, cattle and sheep. The [NASPHV Animal Rabies Compendium](#) recommends that all horses should be vaccinated against rabies, and that, even if a vaccine is not licensed and approved for a particular species, all species of livestock that have frequent contact with humans (for example, at petting zoos, fairs and other public exhibitions) and particularly valuable livestock should be currently vaccinated against rabies. A licensed veterinarian should be consulted about vaccination of livestock.

Aedin's Law ([G.S. 106-520.3A](#)), enacted on October 1, 2005, applies to the regulation of animals by permit at sanctioned agricultural fairs on exhibition grounds where physical contact with humans may occur (www.ncagr.gov/oep/AnimalContactExhibit.htm). Rules codified under the law ([02 NCAC 52K .0601](#) HEALTH CERTIFICATE; VACCINATIONS) require that any animal for which there is an approved rabies vaccine be currently vaccinated, and that if an animal is too young to receive rabies vaccination, it is prohibited from animal contact exhibits unless proof of rabies vaccination of the mother within the preceding 12 months is provided.

HYBRIDS & CAPTIVE WILD ANIMALS

Hybrids are defined by the Compendium as the offspring of wild animals crossbred with domestic animals. There are both feline (e.g., Savannah cats) and canine hybrids (e.g., wolf-hybrids).

Ownership of Wild and Hybrid Animals

National Association of State Public Health Veterinarians Position Statement:

The [NASPHV Animal Rabies Compendium](#) recommends that wild animals or hybrids should not be kept as pets. North Carolina General Statute does not prohibit the ownership of non-indigenous wildlife, exotic animals, or hybrids. Please take note that some counties and cities recognize the danger posed by exotic, wild and hybrid animals and have adopted local ordinances that regulate, restrict or prohibit their ownership or possession (pursuant to G.S. 153A-131 and G.S. 160A-187, respectively). Always contact animal control in the municipality in which you live or have a veterinary practice (if you are a veterinarian) prior to engaging in any activities with these animals.

American Veterinary Medical Association Position Statement:

The AVMA has concerns about animal welfare, husbandry, infectious diseases, public health and safety, and environmental impacts relative to ownership of wild animal species and their hybrids. The AVMA believes that all who own or are considering the ownership of wild animal species or their hybrids should:

- *Educate themselves about the animal husbandry, welfare, and safety requirements of the animals involved and about the risks that the animals may pose to humans, other animals and ecosystems; and*
- *Implement means to reduce those risks.*

If owners or caretakers cannot ensure these aspects, the AVMA recommends prohibiting ownership or possession of wild animal species or their hybrids.

Furthermore the AVMA:

- *Supports reasonable regulations (e.g. licensing, registration, inspections) pertaining to ownership, possession, and disposition of wild animal species and their hybrids.*
- *Expects international, federal, state, and local authorities and policymakers to provide adequate funding and other resources to ensure effective enforcement of regulations pertaining to ownership, possession, and disposition of wild animal species and their hybrids.*

In North Carolina, wild hybrids are regarded as wild animals and should be managed as wild animals in the event that a person is bitten. No confinement period can be implemented for a canine-hybrid, wolf-hybrid, feline-hybrid, raccoon, tiger, or other wild animal that bites a person because the shedding period for rabies virus is not known for hybrids and wild animal species. Determination of the shedding period for these species would require a large number of scientific viral challenge studies that have not been accomplished at this time. Therefore, if a hybrid or wild animal bites a person, the animal should be humanely euthanized and the head submitted for rabies diagnostic testing at the State Laboratory of Public Health (<http://slph.ncpublichealth.com/virology-serology/rabies.asp>).

Wildlife Rehabilitation in North Carolina is regulated by the N.C. Wildlife Resources Commission (WRC). Under authority of the WRC, individuals may obtain North Carolina permits to possess all native species of wildlife, **except** black bear, deer, foxes, coyotes, raccoons, skunks and bats. **Foxes, coyotes, raccoons, skunks and bats are prohibited due to the potential for human exposure to rabies. Violation of these restrictions is**

justification for revocation of a rehabilitator's permit. Special authorization is required for the rehabilitation of any endangered or threatened species. No rehabilitators are allowed to possess or rehabilitate black bears in North Carolina, and only permitted fawn rehabilitators are allowed to rehabilitate deer fawns. See

www.ncwildlife.org/Portals/0/Contacts/documents/NC_GUIDELINES_FOR_WILDLIFE_REHABILITATORS.pdf.

Vaccination of Hybrid Animals and Captive Wildlife

According to the [NASPHV Animal Rabies Compendium](http://www.nasphv.org/Documents/NASPHVRabiesCompendium.pdf), no parenteral rabies vaccines are licensed by the USDA Center for Veterinary Biologics for use in wild animals or wild animal hybrids. The efficacies of currently licensed parenteral rabies vaccines for domestic species have not been determined in wild animals or hybrids. Wild animals might be incubating rabies when initially captured; therefore, wild-caught animals susceptible to rabies should be quarantined for a minimum of six months. Employees or people that work with wild animals in zoos or exhibits should receive preexposure prophylaxis rabies vaccination. Carnivores and bats should be housed to preclude contact with the public. Zoos or research institutions may establish vaccination programs to attempt to protect valuable animals, but these should not replace appropriate public health activities that protect humans (Source: <http://www.nasphv.org/Documents/NASPHVRabiesCompendium.pdf>).

If a wild animal or wild animal hybrid is **exposed to a possibly rabid animal**, the exposing animal should be submitted for rabies diagnostic testing, even if the wild or hybrid animal was vaccinated against rabies. **Placing a wild or wild hybrid animal into six-month quarantine is NOT permissible** because the extent of the incubation period for rabies has not been established through challenge studies in these animals as it has in domestic dogs, cats and ferrets. According to the 2011 Rabies Compendium, animals maintained in USDA-licensed research facilities or accredited zoological parks should be evaluated on a case-by-case basis in consultation with local and state public health authorities. Management options may include isolation, observation, or administration of rabies biologics.

It is important to understand that owners of wild and wild-hybrid animals can be very attached to these animals, just as owners of domestic companion animals. Owners of these animals are in a difficult and emotional situation when the wild or wild-hybrid animal bites a human or is exposed by a suspect or confirmed rabies vector. Public health officials should review these incidents on a case-by-case basis with the owner, and help the owner understand the basis of any decision and the overriding intent to protect the public's health.

Special Note to Veterinarians: Veterinarians should be aware of the potential public health and legal consequences and veterinary liabilities associated accept a client with a canine or feline hybrid, exotic or wild animal. Veterinarians are often the first line of education to the public about rabies and in a position to counsel their clients. In addition, each veterinarian should clarify the position of his or her liability insurance carrier to ensure protection will be available if the veterinarian accepts hybrid animals as patients. The following is the current AVMA Professional Liability Insurance Trust's position on vaccination of wolf hybrids.

Position of the AVMA'S Professional Liability Insurance Trust on Vaccination of "Wolf Hybrids" *(Approved by the AVMA Professional Liability Insurance Trust in March 1992; reviewed October 2003; reaffirmed November 2005; revised December 2010)*

The vaccinating of wolf hybrids has become a topic of concern for veterinarians as a result of their increasing popularity as companion animals. The Trust office is frequently asked whether the AVMA liability insurance policy will provide coverage if a veterinarian vaccinates a wolf-hybrid. The answer hinges on the state or local regulations regarding the harboring of these animals as pets.

The Trust office advises veterinarians to check with state authorities to determine the hybrid's legal status as a pet. If the state or local government has no law against keeping a wolf-hybrid as a pet, the Trust would consider the vaccination of this animal as a discretionary use of a biologic by the veterinarian, an act which the policy does not specifically exclude.

Prior to any such vaccination, however, the owner must be informed that the vaccine is not approved for use in wolf-hybrids and that there have been no studies to prove the efficacy of the vaccine in these animals. Make a notation of this discussion in the record and have the owner initial it. This allows the owner to make an informed decision regarding the use of the vaccine.

If the veterinarian practices in a state or jurisdiction where it is illegal to keep these animals as pets, any treatment of a wolf hybrid may be considered an illegal act. Illegal acts are excluded under the AVMA professional liability policy (<https://www.avma.org/KB/Policies/Pages/Vaccination-of-Wolf-Hybrids-Position-of-the-AVMA-PLIT.aspx>).

ANIMALS MAINTAINED IN EXHIBITS & IN ZOOLOGICAL PARKS

Captive mammals that are not completely excluded from all contact with rabies vectors can become infected. Moreover, wild animals might be incubating rabies when initially captured. Therefore, the CDC recommends that wild-caught animals susceptible to rabies should be quarantined for a minimum of six (6) months. Employees who work with animals at exhibits and in zoological parks should receive pre-exposure rabies vaccination. The use of pre- or post-exposure rabies vaccinations for handlers who work with animals at such facilities might reduce the need for euthanasia of captive animals that expose handlers. Carnivores and bats should be housed in a manner that precludes direct contact with the public (see CDC's Rabies Vaccination website, www.cdc.gov/rabies/specific_groups/veterinarians/vaccination.html)

WILDLIFE – ORV PROGRAM

To prevent the spread of rabies in wildlife, particularly raccoons, the U.S. Department of Agriculture Wildlife Services conducts an oral rabies vaccination (ORV) program through its National Rabies Management Program (<https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage>). The goal of the program is to prevent the further spread of wildlife rabies and eventually eliminate terrestrial rabies in the United States through an integrated program that involves the use of oral rabies vaccination targeting wild animals. ORV baits (vaccine packets) are distributed by airplanes in selected rural areas and by hand in selected urban and suburban areas. Each bait contains about 1.5 ml of vaccine and is covered with a tasty substance that attracts raccoons, gray foxes and coyotes.

When the animal bites the packet, the vaccine enters its mouth and throat, causing an immune response and creating antibodies to fight off the disease if the animal is later exposed to rabies. North Carolina is one of 15 states participating in the raccoon ORV program (ORV by state, https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nrmp/ct_rabies_info_by_state). In addition, Texas distributes baits for gray fox and coyote. Only the USDA-APHIS is authorized to use ORV baits; they are not distributed to other agencies or individuals. For more information, see the USDA brochure, Preventing Wildlife Rabies Saves Lives and Money (http://www.aphis.usda.gov/publications/wildlife_damage/content/printable_version/fs_economic_rabies_2011indd.pdf).

ANIMALS IMPORTED INTO NORTH CAROLINA ***Rabies Vaccination Certificates, Health Certificates, and Confinement***

Interstate Travel in the U.S.: Rabies Certificate Required

The Centers for Disease Control and Prevention (CDC) recommends that before traveling among or through U.S. states, commonwealths and territories, all dogs, cats, ferrets and horses should be currently vaccinated against rabies if old enough to be vaccinated. Animals in transit should be accompanied by a valid Rabies Vaccination Certificate, NASPHV Form #51 (<http://www.nasphv.org/Documents/RabiesVacCert.pdf>). When an interstate health certificate or certificate of veterinary inspection is required, it should contain the same rabies vaccination information as Form 51.

Animals Entering the U.S. from Other Countries: Laws, Regulations and Confinement Agreements

Current U.S. regulations govern the importation of pet dogs and cats, as well as African rodents, turtles, monkeys and civets, and any product made from parts of these animals.

Dogs imported into the United States from other countries must have a certificate showing that they have been vaccinated against rabies at least 30 days prior to entry into the United States. These requirements apply equally to service animals for the disabled, such as Seeing Eye dogs. **Dogs not accompanied by proof of rabies vaccination**, including those that are too young to be vaccinated (*i.e.*, less than 3 months of age), may be admitted if the importer completes a **Confinement Agreement (Form 75.37)** and confines the animal until it is considered immunized against rabies, 30 days after the date of vaccination (see CDC web site at <http://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/index.html>). Local health directors are notified when a confinement agreement is received by the N.C. Division of Public Health. The local animal control agency verifies whether the owner/importer is in compliance with the agreement.

The Centers for Disease Control and Prevention does not require cats to have a health certificate for entry into the United States, although some airlines or states (including North Carolina) require them. However, pet cats are subject to inspection at ports of entry and may be denied entry into the United States if they have evidence of an infectious disease that can be transmitted to humans. If a cat appears to be ill, further examination by a licensed veterinarian at the owner's expense might be required at the port of entry. Cats are not required to have proof of rabies vaccination for importation into the United States.

North Carolina law and code require both dogs and cats to be accompanied by a health certificate issued by a licensed accredited veterinarian from the state or country of origin within 30 days of entry. Owners who import dogs, cats or ferrets into the U.S. should be advised that N.C.G.S. 130A-185 requires vaccination with *USDA-licensed rabies vaccines*, usually only available in the U.S. Therefore, it is acceptable for animals imported into North Carolina from foreign countries to be vaccinated in the U.S. within one (1) week of entry; see G.S. 130A-193 (<http://epi.publichealth.nc.gov/cd/diseases/importexport.html>).

Animals Entering North Carolina from Other U.S. States and from Other Countries

All dogs, cats and ferrets imported into North Carolina are required by state law to be accompanied by a health certificate indicating that the animal (three months of age or older) is currently vaccinated against rabies and is apparently free from and not exposed to rabies. The health certificate should be completed within 30 days of entry by a licensed accredited veterinarian from the state of origin and will be valid for 30 days after issuance (02 NCAC 52B .0202 see <http://ncrules.state.nc.us/ncac.asp>). Animals brought into the state that are confined for exhibition purposes and not permitted to run at large are exempt from the requirements of G.S. 130A-193 (<http://www.ncga.state.nc.us/gascripts/statutes/StatutesTOC.pl?Chapter=0130A>).

If a dog, cat or ferret four (4) months of age or older enters the state and is not currently vaccinated against rabies, then per G.S. 130A-193, it shall be immediately confined to the home by the owner and taken to a veterinarian for rabies vaccination within one week of entry. If this is the first rabies vaccination ever for the animal, the animal should be confined by the owner for 28 days after vaccination (G.S. 130A-197), at which time it is considered currently immunized by law. Otherwise, the animal should remain confined at the owner's home under supervision for an additional two (2) weeks after vaccination. If the animal requires a booster vaccination, then immediately after the booster the animal is considered currently immunized because a rapid anamnestic (memory) response is expected.

Exportation of Dogs, Cats and Ferrets to other States and Countries

USDA APHIS Form 7001 (<https://www.aphis.usda.gov/library/forms/pdf/APHIS7001.pdf>) is the Certificate of Veterinary Inspection to be used by North Carolina accredited veterinarians for exportation of dogs, cats and ferrets to other states within the U.S. and its territories as well as internationally to other countries. For information about importation requirements into other states and countries contact the [Veterinary Services service center](#) in the State from which the animals or products will be exported.

International health certificates for the export of animals from the United States are completed by the [accredited veterinarian](#) who certifies animal health status, conducts tests, and records test results for the individual animals being exported. Completed and signed international health certificates for the export of animals from the United States must be endorsed by a Veterinary Services area office in order to be valid. (<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/export/iregs-for-animal-exports>).

SEROLOGICAL TITERS RELATED TO RABIES VACCINATION:

What does the level of rabies virus neutralizing antibodies (RVNA) mean?

Some jurisdictions and regions are considered rabies-free, and for purposes of importation require evidence of previous rabies vaccination and rabies virus antibodies by serological testing to reduce quarantine periods prior to entry.

Serological testing using the Fluorescent Antibody Viral Neutralization (FAVN) test measures antibodies to rabies virus in serum (the liquid part of blood), and provides an indication of an immune response (RVNA) to rabies vaccination. For more information on FAVN testing, contact [Kansas State University Rabies Lab](http://www.ksvdl.org/rabies-laboratory/) (<http://www.ksvdl.org/rabies-laboratory/>).

Whether an animal requires a rabies booster vaccination is not determined by the level of RVNA in blood serum, but by state and local regulations. Each USDA-licensed rabies vaccine has a specific duration of immunity (1 or 3 years), depending on the package insert. Beyond that time frame, there is no guarantee of efficacy even if a measurable RVNA titer exists.

As stated in the [NASPHV Animal Rabies Compendium](#) rabies virus antibody titers are indicative of a response to vaccine or infection. Titers do not directly correlate with protection because other immunologic factors also play a role in preventing rabies and our abilities to measure and interpret those other factors are not well developed. Therefore evidence of circulating rabies virus antibodies in animals should not be used as a substitute for current vaccination in managing rabies exposures or determining the need for booster vaccination.