



# RABIES: NEED TO KNOW INFORMATION FOR AGRICULTURAL PRODUCERS

## WHAT IS RABIES?

Rabies is a disease caused by a virus that attacks the central nervous system (brain and spinal cord). It is primarily a disease of animals, but it can spread from an infected animal to a person. Humans can contract rabies from wildlife or from domestic animals. Once symptoms appear in animals or people, rabies is always fatal. Rabies is a reportable disease under the *Health of Animals Act and Regulations*. A suspect animal case must be reported to a federal veterinarian.

## INCIDENCE AND DISTRIBUTION

Rabies is found worldwide with the exception of a few isolated areas, primarily island nations. In Canada, the epidemiology of rabies has changed significantly over the last 100 years. For most of the past century, the majority of cases were reported in dogs. Currently, more than 90% of all reported animal rabies cases occur in wildlife.

The table on the following page shows confirmed cases of animal rabies in Canada from January 1, to September 30, 2013 as reported by the Canadian Food Inspection Agency.<sup>1</sup>

## ANIMALS AFFECTED

All warm-blooded animals are susceptible to rabies infection.

Relatively few species play a significant role in transmitting the disease to humans and domesticated animals. The most common animals in Canada proven rabid are wild terrestrial carnivores (foxes, skunks, and raccoons), bats, cattle, dogs and cats.<sup>2</sup> In Saskatchewan, horses, cows, skunks, dogs, cats, bats, bears and raccoons have tested positive for rabies.<sup>3</sup> In Saskatchewan rabies is most often diagnosed in skunks and bats.

Rabies can be transmitted to farm animals by wildlife or by stray dogs and cats. In Canada there have been three recent human deaths from rabies, a 41-year old man from Ontario in 2012, a 52-year old man from British Columbia in 2003 and a 9-year-old boy from Quebec in 2000. Prior to that, the most recent death due to rabies occurred in B. C. in



<sup>1</sup> <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/rabies/positive-rabies/eng/1356156989919/1356157139999>

<sup>2</sup> Public Health Agency of Canada, 2006.

<sup>3</sup> <http://www.health.gov.sk.ca/cdc-section4#page=15>

Positive Animal Rabies in Canada 2013 (Lab Submissions and Clinicals)  
January 1 to September 30, 2013

Species	NT/NU	YT	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Total	% Total
Dogs	5	-	-	1	-	2	1	-	-	-	-	-	9	9.78
Cats	-	-	-	-	1	-	-	-	-	-	-	-	1	1.09
Bovine	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equine	-	-	-	-	-	1	-	-	-	-	-	-	1	1.09
Caprine	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ovine	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Skunks	-	-	-	-	4	14	-	1	-	-	-	-	19	20.65
Bats	-	-	2	3	4	-	21	13	-	-	-	-	43	45.74
Foxes	17	-	-	-	-	1	-	-	-	-	-	-	18	19.57
Raccoons	-	-	-	-	-	1	-	-	-	-	-	-	1	1.09
Wolves	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coyotes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Badger	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antelopes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Woodchuk/ Ground Hogs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fisher	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bison	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lynx	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>22</b>	<b>-</b>	<b>2</b>	<b>4</b>	<b>9</b>	<b>19</b>	<b>22</b>	<b>14</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>92</b>	<b>100.00</b>

## 1985. HOW IS RABIES SPREAD?

Rabies virus is transmitted through saliva and brain/nervous system tissue. Only these excretions and tissues transmit rabies virus.<sup>4</sup> The disease is most commonly spread when a rabid animal bites - or less commonly scratches - another animal or a person, and virus enters the victim's body. Rare cases of rabies have occurred when saliva or other infected material came into contact with a pre-existing break in the victim's skin or with intact mucous membranes of the eyes, nose or mouth. Physical contact including petting or handling animals, contact with blood, urine or feces is not considered a risk for an exposure.<sup>5</sup>

## COURSE OF THE DISEASE

The disease appears usually 2 to 8 weeks following

exposure. It may occasionally appear in as short as 10 days or may take up to several years, depending on the severity of the wound, the wound site's richness of nerve supply and its distance from the brain. Symptoms seen in rabid animals are quite variable, making early detection difficult. The disease appears in one of two forms:

- The classic or "furious" form of rabies, marked by restlessness, excitability and aggressive behaviour.
- The depressed or paralytic form of rabies, marked by behavioural change, muscle weakness and incoordination.

The late stage of both forms of the disease involves spasm of muscles on attempts to swallow and convulsive seizures. Death occurs as the result of respiratory paralysis in 12 to 48 hours after the onset of symptoms.

<sup>4</sup> <http://www.cdc.gov/rabies/exposure/materials.html>

<sup>5</sup> <http://www.cdc.gov/rabies/exposure/materials.html>

## WHEN SHOULD YOU BE CONCERNED ABOUT RABIES?

### In wildlife, be suspicious when an animal:

- Behaves in an unusually aggressive or an unusually tame manner.
- Appears restless and agitated and attacks without reason.
- Drools and appears to have difficulty swallowing.
- Is a bat found on the ground in a paralysed or semi-paralysed state.

### In pets and livestock, be suspicious when an animal:

- Shows signs of extreme nervousness or aggression.
- Has weakness in one or more limbs. Horses may show abnormal postures, wobbliness of the hindquarters or lameness in one leg followed by an inability to rise the next day. Equine rabies is fatal.
- Drools and appears to have difficulty swallowing.
- Has a decrease in appetite or refuses to eat.
- Has a change in voice. Cows typically develop a hoarse bellow.

### Bat Exposure<sup>6</sup>

- If there has been no “direct contact” with the bat, it should not be captured for testing. Attempting to capture the bat puts the individual at risk of coming into direct contact with the bat, which potentially exposes them to rabies.
- If there has been “direct contact” with the bat, it is best to call a trained animal control or wildlife professional to capture the bat, if possible.
- Extreme care should be taken to ensure that there is no further exposure to the bat if it is captured.



- If attempting to capture the bat, the person should always wear thick leather gloves and place the bat in a closed secure container.
- Once the bat has been captured, the local public health department should be contacted. They will arrange with the CFIA to send the bat for rabies testing.
- The Centers for Disease Control (2011) identifies steps that can be used to catch a bat at the following website: <http://www.cdc.gov/rabies/bats/contact/capture.html>.

## WHAT SHOULD YOU DO IF YOU SUSPECT AN ANIMAL MAY BE INFECTED?

If you suspect a domestic animal may have rabies, treat the animal with caution and confine it or isolate it. Report your observations to your veterinarian or notify the local Canadian Food Inspection Agency (CFIA) district office, listed in the blue government pages of your phone book. A veterinarian will assess the situation and recommend further action. (The following link provides a list of CFIA District Offices in Canada; Saskatchewan offices are accessed by expanding the list under Western Area: <http://www.inspection.gc.ca/animals/terrestrial-animals/offices/eng/1300462382369/1300462438912>).

If you suspect that wildlife harassing your animals may have rabies, contact a CFIA veterinarian who conduct field investigations when domestic animals are reported to have symptoms of rabies. Each positive diagnosis, with known human exposure, is reported to the public health authorities. The only accurate test for rabies is through microscopic examination of brain tissue. If the animal is suspected of having rabies, the head may be sent to the Animal Disease Research Institute in Lethbridge, AB or the CFIA Reference Laboratory in Ottawa, ON for testing.

<sup>6</sup> <http://www.health.gov.sk.ca/cdc-section4#page=15>

## WHAT SHOULD YOU DO IF YOU HAVE BEEN EXPOSED TO RABIES?

Because an infected animal may not show signs in the early stages of the disease, all bites from foxes, skunks, bats and raccoons are considered to be an exposure to rabies unless:

- The area is known to be rabies free.
- The animal is available for testing and found to be rabies free.

Exposure is also considered to have occurred if a potentially rabid animal's saliva (or other infectious material such as brain tissue) comes into contact with a cut, scratch, or abrasion of the skin; or with the mucous membranes of the person's eyes, nose, or mouth. Immediate first aid and medical treatment are crucial for a person exposed to rabies.

## FIRST AID AND MEDICAL TREATMENT

If you have been exposed to a potentially rabid animal:

1. Remove clothing that may be contaminated.
2. Flush the wound immediately with lots of water.
3. Clean the wound thoroughly with soap and water.
4. Go to your physician or to the nearest hospital emergency department or contact public health who will do a risk assessment about whether you need to be vaccinated. Based on the assessment, vaccination may be started. A full course of immunization includes an immediate dose of rabies vaccine and of rabies immune globulin; and three subsequent doses of rabies vaccine given over two weeks.



## PREVENTING RABIES

Rabies is both a health hazard and a financial risk for agricultural producers. Here are tips to reduce the chance of rabies harming you, family members or your operation:

- Make your farm less attractive to stray dogs, cats, racoons and other wildlife by eliminating nesting, hiding and roosting places and by using specific deterrents such as screening potential entry points into buildings. For more information on animal control, contact your local municipal office or the SPCA.
- Never feed stray animals or wildlife and don't leave pet food or garbage in open, unsecured containers.
- Have dogs and cats routinely vaccinated for rabies. Dogs and cats under one year of age are given a one-year vaccination. Animals over one year of age are given a three-year vaccination, providing they have been previously vaccinated for rabies.
- Never pick up a sick or injured bat.
- Warn children to stay away from stray animals, not to try to capture a wild animal and not to touch the dead carcass of any animal.
- Vaccinate livestock for rabies if they are often exposed to potentially rabid animals. Pastured animals are generally at greater risk although rabid animals, especially stray dogs and cats, may enter a barn and expose animals to rabies. Vaccines are licensed for cattle, sheep and horses.



Generally, production animals such as herds of dairy cows or flocks of sheep are not vaccinated because the potential risks are lower than the annual costs of vaccination. Horse owners may choose to vaccinate their animals because of the close and frequent contact they have with their horses. Your veterinarian can help you decide about the need for rabies vaccination.

- Report unusual animal behaviour to the local medical health officer or to a veterinarian.

- If you have been exposed to a potentially rabid animal, see your doctor immediately or contact the nearest hospital emergency department.

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For further information about rabies in Canada, consult: the Canadian Food Inspection Agency's rabies web site:  
<http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/rabies/eng/1356138388304/1356152541083>