

Botulism in Horses

Navajo Nation Veterinary and Livestock Program



History of Botulism poisoning on the Nation

In 1997, the Navajo Veterinary & Livestock Program investigated 13 horse deaths in the Crownpoint community stables. A New Mexico foreign animal disease veterinarian was invited to the Nation with a team of USDA disease specialists. It was determined that all of the horses died of Botulism type C poisoning from raven droppings. These ravens were able to keep the toxin within their digestive tract and poison the horses by the depositing their droppings in the feeders and watering troughs. The ravens received the toxin by consuming the flesh of dead carcasses that had the toxin. The NNVLP provided anti-toxin treatments to the remaining horses, a cooperative effort with the University of Pennsylvania.

Since 1997, the Navajo Nation has had multiple cases of botulism poisonings in horses, it has become a spring disease on the Nation. This year alone horses in the LeChee area, Manyfarms, and the St. Michaels/Window Rock vicinities have had botulism-poisoned horses.

What is Botulism?

Botulism is a bacterium that grows in an environment without oxygen and as it grows it produces a deadly toxin that paralyzes nerves, a neuro-toxin. On the Navajo Nation, it has been determined that the primary source of this toxin are the decaying carcasses of dead animals.

How does this toxin poison horses?

Horses are the most sensitive of all animals to the botulism toxin. Historically, on the Nation, the ravens in an area wait for the horses to be fed each morning and evening and obtain a free meal of grain and water. While they are eating they defecate in the feeders and watering troughs of horses. In the droppings is the deadly toxin and the horses eventually consume the droppings along with its feed or water, eating the poison.

Signs and symptoms of botulism poisoned horses:

Horses initially show mild depression, difficulty closing eyes and swallowing, trembling, lie down more than usual, weakness, walk stiffly and stumble, unable to raise the tail and lose control of their tongue. Eventually, the horse cannot get up and die because the respiratory muscles become paralyzed. These signs develop within several hours to 7-10 days after eating the contaminated feed or water. Horse owners should contact their local Navajo veterinary clinic for any additional questions.

To reduce the risk of botulism in horses:

The Navajo Veterinary & Livestock Program would like to prevent the likelihood of this disease. Clean out your water troughs and feeders. Only provide enough water so that your horses will have clean water every day. Hang CD's by fishing line to scare away ravens from your horse pens – Keeping ravens away from your horses.

This disease is not contagious but a hygiene issue. Prevent the disease first. Today antitoxin treatment is expensive, \$3,000.00 per horse and it does not guarantee the horse will survive, since it depends on the amount of toxin consumed and how early the treatment is given

What should I do if I see dead large animal carcasses?

- ❖ Notify your chapter, the grazing official and CHR
- ❖ Report the location to the Resource Enforcement Office (928) 871-6701, or Division of Emergency Management (928) 871-6892, or Navajo Veterinary & Livestock Program (928) 871-6615

Report suspect horse cases:

- ❖ Notify your chapter and the grazing official
- ❖ The Resource Enforcement Office (928) 871-6701, or Navajo Veterinary & Livestock Program (928) 871-6615 and anyone of its Agency Veterinary Clinics (Chinle – (928) 674-2069, Shiprock (928) 368-1007, Tuba City (928) 283-4644 or Window Rock – (928) 871-6615)