



# Scrapie

Scrapie is a progressive disease affecting the central nervous system of sheep and goats and belongs to a group of diseases called transmissible spongiform encephalopathies (TSEs). It is in the same class of diseases as bovine spongiform encephalopathy in cattle and chronic wasting in elk and deer.

## Cause of the Disease

The agent responsible for scrapie and other TSEs is smaller than the smallest known virus and has not been characterized. There are a variety of theories regarding the nature of the agent. The most widely accepted theory is that the disease is caused by an infectious protein, or prion, that causes the normal cellular version of the protein to change, causing the protein to accumulate and damage the cell. There is no cure or treatment for scrapie. Since 1947, when scrapie was first diagnosed in the United States (U.S.), more than 90% of all cases have occurred in black-faced sheep (primarily in the Suffolk and Hampshire breeds). However, scrapie can infect all breeds of sheep, as well as goats. Most cases of goat scrapie have been related to goats coming in contact with infected sheep.

## Spread of the Disease

Disease transmission occurs primarily from an infected female to her offspring and other lambs or kids exposed to the birth fluids. Male sheep and goats can contract scrapie but cannot spread the disease. There is no evidence that scrapie poses a risk to human health.

## Clinical Signs

- Weight loss, despite a healthy appetite,
- Increased sensitivity to noise/motion,
- High-stepping gait of the forelimbs,
- Bunny-hop movement of the rear limbs,
- Swaying of the back end,
- Loss of coordination,
- Biting at legs or side,
- Behavioral changes,
- Intense rubbing that results in wool loss,
- Wool pulling,
- Tremors,
- Lip smacking,
- Weakness (may be unable to stand), and
- Death.

## Diagnosing the Disease

When an owner notices any sign of scrapie they should contact a veterinarian. Many diseases cause similar signs: mange and ringworm can mimic skin lesions; chemical plant poisons, nutritional deficiencies, trauma, and parasitism may cause incoordination and staggering; rabies causes a fatal neurologic disease; many conditions including parasitism, malnutrition, "broken mouth," or missing teeth and caseous lymphadenitis cause chronic weight loss. The final diagnosis of scrapie is made after the animal dies and a section of the brain is examined. A test using lymphoid tissue from the inner eyelid can also determine if a live animal has scrapie.

## Control of the Disease

Maintaining a closed ewe flock is the best method to avoid introducing scrapie in a flock. Using rams that are genetically resistant, RR at codon 171, only produces more resistant offspring, but also may prevent transmission from an infected dam to susceptible animals.

## Eradication of the Disease

All 50 states participate in the National Scrapie Eradication Program which is a mandatory program that began in 2001 and requires participation by all sheep and goat producers. It includes official identification of sheep and goats with an eartag or tattoo prior to changing ownership (so that animals can be traced) and testing samples from sheep at slaughter facilities to find infected flocks, and providing effective procedures for producers to clean up infected flocks. Official metal eartags are available free of charge from the United States Department of Agriculture (USDA) Animal Plant Health Inspection Services (APHIS) Veterinary Services office. When you request metal eartags, your flock/herd will be assigned a California Flock/Herd ID number (CA number) that will be printed on the tags.

- All Sheep and Goats - must be identified when changing ownership and prior to transport across state lines.
- Animals must be identified before transport to show, fair, petting zoo, or exhibition.
- Registry Tattoos - Registered goats that have a legible registry tattoo accompanied by a copy of the registration certificate do not require a scrapie tag if their tattoo is registered as a unique entity with the breed association and USDA APHIS Veterinary Services office.

## Report Suspect Sheep and Goats

If any signs of scrapie are noticed in a sheep or goat over 18 months of age that continue for several weeks or if a mature sheep or goat dies after showing some signs, it is important for you or your veterinarian to report it. State and USDA animal health officials will determine if the animal should be further examined and possibly tested for scrapie (at no cost to you the producer). Scrapie testing can be done on tissue collected from a living or dead sheep or goat. If the animal is determined to be a scrapie suspect, USDA will offer to purchase the animal.

### Animal Health and Food Safety Services Animal Health Branch

Headquarters - (916) 900-5002  
 Redding District - (530) 225-2140  
 Modesto District - (209) 491-9350  
 Tulare District - (559) 685-3500  
 Ontario District - (909) 947-4462  
**USDA-APHIS-VS - (916) 854-3950 or (877) 741-3690**  
**Official Eartags - USDA - (916) 854-3950**

For more information, please visit: [www.cdfa.ca.gov/ah](http://www.cdfa.ca.gov/ah)

