WHAT’S THE BIG DEAL ABOUT SCRAPIE
Scrapie is a TSE (transmissible spongiform encephalopathy) Prion (mutated protein) Disease, similar to BSE or “Mad Cow Disease.”

TSEs are a group of progressive, fatal conditions that affect the brain and nervous system of mammals, including goats, sheep, cattle and humans.
What is Scrapie?

While Scrapie is a serious health problem in sheep and goats, it is not a known human health risk like some of the other TSEs.
There are two types of scrapie:

- classical scrapie, and
- nonclassical (atypical Nor98, or Nor98-like scrapie).

Classical scrapie was first recognized as a disease in sheep over 250 years ago, and has been reported throughout the world. The first recorded case of scrapie in the U.S. occurred in 1947 in a sheep flock in Michigan.

Nor98-like scrapie is poorly transmissible or not transmissible under natural conditions. It appears to only sporadically occur in sheep and goats.
What is Scrapie?

The scrapie agent is extremely resistant to heat and normal sterilization processes.

It is thought to be spread from the doe to her kids and other kids through contact with the placenta and placental fluids and milk and colostrum.
What is Scrapie?

There is no cure or treatment.
An infected goat usually appears normal. Signs often don’t appear until 2 to 5 years after the goat is infected, and may even take longer which makes it difficult to control scrapie.
What Does Scrapie Look Like?

Symptoms vary widely among individual goats and can appear similar to those of other diseases.

Early signs include subtle changes in behavior or temperament.

As nerve cell damage progresses, the goat usually exhibits tremors (especially of the head and neck) pruritis (excessive scratching), and loco-motor incoordination.
What Does Scrapie Look Like?

Other symptoms:

- scratching and rubbing against fixed objects,
- loss of coordination,
- weight loss despite a good appetite,
- biting of feet and limbs, and lip smacking,
- high-stepping, hopping like a rabbit, and swaying of the back end.
Yes, Goats Do Get Scrapie

Alpine                Angora                Boer
Nubian                Kiko                  Nigerian Dwarf
Pygmy                 Saanen                Savannah
Toggenburg            and other breeds of goats

have all been infected with scrapie.
What’s the Big Deal about Scrapie?

According to the United States Department of Agriculture, the inability of the U.S. to declare scrapie-free status costs producers $10 to $20 million annually through production losses, increased costs and loss of export revenue.
What’s the Big Deal about Scrapie?

Canada and many European countries ban imports of goats and sheep from the U.S. unless they are from farms that are enrolled in the Voluntary Scrapie Certification Program.

U.S. producers who are not in the program cannot export goats or other goat products to those countries until the U.S. can be declared “Scrapie Free.”
Why is Compliance with the National Scrapie Eradication Program Mandatory?

Because the ability to trace infected and exposed goats is critical to controlling scrapie and other highly contagious diseases like foot and mouth disease.

This also helps protect the producer if a scrapie-positive goat is identified as coming from their herd. Good records can make a producer’s life easier as well as limit loss.
What does “Scrapie Free” Mean?

To be Scrapie Free, there has to be no classical scrapie positive animals detected in the USA for 7 years despite vigorous surveillance to find positive animals and outreach to encourage reporting and testing of animals with clinical signs of scrapie.
Why Goat Producers are the Key to Eradicating Scrapie in the USA
Yes, Goats Do Get Scrapie

There were 3 cases of Classical Scrapie in the United States in FY 2019 – All in Goats.
Scrapie Cases in Goats
FY 2002 – FY 2019

FY 2019: CA 13
FY 2015: CA 13
FY 2014: CA 13
FY 2013: CA 13
FY 2011: CA 13
Prior to FY 2011: CA 13
An ongoing 10 year study by USDA-ARS (Animal Disease Research Unit) into resistance to scrapie in goats identified two potential alleles (genetic markers) that indicate resistance:

- S146 (serine at amino acid 146)
- K222 (lysine at amino acid 222)
The Good News Is

Additional studies in Europe and elsewhere into scrapie resistance in goats have had similar results.
The Good News Is

Goats bearing just a single copy of either one the S146 or K222 alleles have been strongly resistant to infection during natural outbreaks as well as direct challenge experiments.
Genetic Testing for Resistance to Scrapie in Goats is available for U.S. goat producers at:

Veterinary Genetics Laboratory (VGL) at UC Davis in California

https://vgl.ucdavis.edu/tests?field_species_target_id=256

Two of the largest registries in the U.S., the American Boer Goat and American Dairy Goat Associations offer discounts on the test to their members.
The Good News Is

Since 2018, VGL has performed 178 Goat Scrapie Susceptibility Tests. The number of tests has recently risen.

For information about the test and how to have one done visit: https://vgl.ucdavis.edu/test/goat-scrapie-susceptibility
This test is similar to the testing that allowed the sheep industry to select for scrapie resistance and reduce it’s prevalence to almost zero.

Although the test won’t be considered official for regulatory purposes until the USDA offers laboratory approval for scrapie resistance testing of goats, it is a valuable tool that gives goat producers a chance to get a head start on cleaning up their herds.
Remember Three FOUR important steps
Learn to recognize the clinical signs of scrapie.

Visit the Scrapie Disease Information Page: https://americangoatfederation.org/scrapie-the-program/
Draw blood and send to VGL for the test for Scrapie-Resistance in Goats. This will help you make sound decisions about whether to keep a goat based on resistance to Scrapie.

Watch Purdue Extension Service video on how to draw blood samples:

https://www.youtube.com/watch?v=47tlmqXX3eE
Contact your State Veterinarian or the Regional USDA Veterinary Services Office for your state if your goat, older than 12 months, exhibits any signs of scrapie. Testing suspects is the most cost effective way to find scrapie infected animals.

For more information contact the Designated Scrapie Epidemiologist (DSEs) for your state.

Submit samples or whole heads from goats over 18 months of age that die from illness or are euthanized on your premises.

Visit the scrapie sample submission page for information about how to submit your sample and for information about active scrapie disease testing.

Goat Producers hold the Key to Eradicating Scrapie in the U.S.

By committing to the goal of eradicating scrapie from U.S. goats, and following these guidelines, you will help safeguard our animals and our markets, and bring the goat industry to the same level as the sheep industry.
Organizations that Support the National Scrapie Eradication Program

- American Goat Federation
- International Goat Association
- National Institute of Animal Agriculture
- US Animal Health Association
- American Sheep Industry Association
- American Boer Goat Association
- American Dairy Goat Association
- American Kiko Goat Association
- Alabama Sheep and Meat Goat Producers
- Cashmere Goat Association
- Hawaii Sheep & Goat Association
- North American Pack Goat Association
- Texas Sheep & Goat Raisers Association
Update on Goats and the National Scrapie Eradication Program

Presented by Dr. Diane Sutton, who is a senior staff veterinarian with USDA/APHIS Veterinary Services. She has been the National Scrapie Program Coordinator since 1998. She graduated from Virginia-Maryland Regional University and was co-principal investigator at the Scrapie Investigation Center in Mission, Texas from 1989 to 1992.

Genetics of Scrapie in Goats

Presented by Dr. Stephen White, who has been a Research Geneticist with ARS since 2006 and Adjunct Faculty Member in the Department of Veterinary Microbiology and Pathology at Washington State University since 2007. He is working on finding which genes and genetic variants contribute to infectious disease susceptibility, how they work, and how they might be used in selective breeding or other approaches to mitigate infectious disease.

Watch both videos at: https://americangoatfederation.org/scrapie-the-program/
This Presentation was brought to you by a Cooperative Agreement between AGF and USDA/APHIS/VS

FOR MORE INFORMATION, VISIT:

https://americangoatfederation.org/scrapie-the-program/


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If you found this information useful and would like to see more, please consider becoming a Member of AGF.
https://americangoatfederation.org/member/join-agf/

Membership fees help support efforts to provide useful information to goat producers and service providers, increase production and marketing, and represent all goat producers during visits to congress and meetings with USDA and other government agencies.