

SCRAPIE: ERADICATE IT

The sheep industry's scrapie eradication efforts.



American Sheep Industry Association

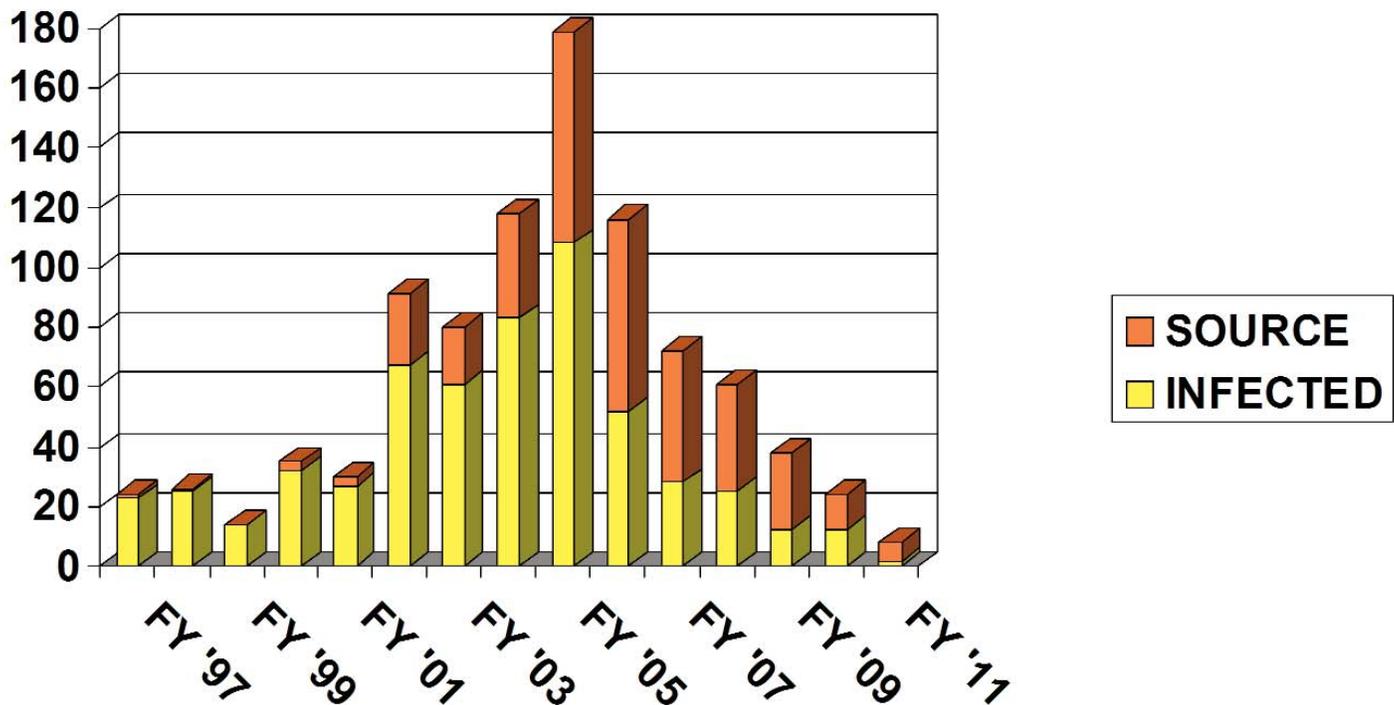
March 2011

The goal of the American Sheep Industry Association (ASI) and the U.S. sheep industry is to eradicate scrapie from our borders by 2017. In addition, it is the objective to have the World Organization for Animal Health, OIE, declare the United States scrapie free. This quarterly publication is created specifically for those of you in the field who are also working to achieve this goal.

This newsletter brings together, into one spot, current information from all 50 states, as well as from the U.S. Department of Agriculture and any other organization providing scrapie news, and reports it back to the field.

If you have first-hand accounts that you believe would be relevant for others to read or have information that you would like included in this newsletter, please let us know at becky@sheepusa.org.

Infected and Source Flocks New Statuses by Year FY 1997 – 2011*



*Through February 28, 2011

Scrapie: On its Way to Eradication

The Production, Research and Education Council (PERC) and the Animal Health Committee at the American Sheep Industry Association's (ASI) annual convention held in January both had a chance to learn the latest information on scrapie disease research and eradication progress

"It's exciting for me to come in and talk because it just keeps getting better all the time," said Katherine O'Rourke, Ph.D., with the U.S. Department of Agriculture's (USDA) Animal Research Service Animal Diseases Research Unit in Pullman, Wash., who presented the latest research on the disease to PERC.

O'Rourke said that while statistics are very encouraging, there are still areas that the industry needs to be vigilant about, such as the possible re-introduction of scrapie from co-pastured goats

and the re-introduction of scrapie from prions bound to soil in pastures.

When it comes to goats, there is a lot unknown about scrapie in the species. According to O'Rourke, it may occur over a wide age range, in most genotypes, may be spread by a number of routes and may be hard to diagnose with preclinical testing methods.

Currently, no genotype has been observed to be totally resistant. European trials have only shown 50-percent sensitivity to rectal biopsies in goats and in her agency's own trials, very few positive follicles show up in live-animal samples as opposed to post mortem samples.

"Goats are just hard to determine," she related, adding that there are currently challenge trials underway to determine scrapie susceptibility genetics in goats.

In addition, she says there are current studies to determine scrapie transmission via placenta in both sheep and goats.

"You can see a goat's scrapie prion proteins in the placenta," O'Rourke said, however, the scrapie-causing prions (PrP-Sc) are sparse. But, in trials, kids born to infected does will become infected.

"They will be born fine, but a few minutes later, they probably are infected with the scrapie agent," she related.

In addition, there may be some concern feeding healthy kids and lambs milk from infected goats.

Another possible transmission pathway may be the lambing environment. PrP-Sc does bind to some types of soil particles, with some soil components more effective at binding than others.

"In model experimental systems, the scrapie prion protein PrP-Sc binds only to soil particles on the surface," O'Rourke said.

In order to determine the role of soil in scrapie transmission, O'Rourke said new research to determine the binding capacity of U.S. soil components, development of a system for estimating the prion binding capacity of U.S. farm soils using soil analysis and ways to mitigate binding prions will be looked at.

Overall, by understanding these possible transmission avenues, the industry is one step closer to eradication.

"I want to say congratulations to ASI, the sheep industry, USDA's Animal and Plant Health Inspection Service and the States for their progress toward scrapie eradication. There will be a day when you come to this meeting and scrapie won't be on the agenda," she related.

National Scrapie Eradication Program Update

Diane Sutton, DVM, National Scrapie Eradication Program (NSEP) coordinator and Alan Huddleston, DVM, associate NSEP coordinator, summarized the NSEP to ASI's Animal Health Committee. Progress is being made to eradicate the disease. According to Sutton, the industry has seen a 90-percent decrease in percent positive black-face sheep sampled at slaughter since the start of slaughter surveillance in fiscal year (FY) 2003. There were also 37-percent fewer newly identified infected and source flocks in FY 2010 compared to FY 2009.

Sutton then explained some revisions made to the National Scrapie Surveillance Plan, in order to enhance surveillance efficacy and to make sure that the United States meets the World Organization for Animal Health (OIE) standards.

The main points of the plan include:

- States with slaughter collection sites will continue to sample all targeted sheep and goats.
- States will have annual state-of-origin sampling minimums for sheep. Sampling minimums will also be established for goats, most likely in FY 2013.
- The annual state-of-origin sampling minimum for sheep will be 20 percent of the number required to detect a scrapie prevalence of 0.1 percent with 95 percent confidence or 1 percent of the breeding flock in the state annually, whichever is less.
- The objective is to sample sufficient sheep in a five-year period to detect a scrapie prevalence of 0.1 percent with 95 percent confidence or 5 percent of the breeding flock in the state, whichever is less.

"If states meet these requirements, we may be able to designate them as a lower risk state," said Huddleston. If several contiguous states meet this requirement, then the region may be considered lower risk and the sampling levels reduced, and so on, until the United States can demonstrate it meets the OIE standards for scrapie freedom

Sutton said that a major goal for FY 2011 is to publish a proposed rule to revise 9 CFR Parts 54 (Control of Scrapie) and 79 (Scrapie in Sheep and Goats). APHIS is considering giving the administrator authority to relieve requirements for sheep and goats exposed to certain scrapie types, such as Nor98-like, that do not pose a significant risk of transmission; make identification and movement requirements for goats similar to those currently in place for sheep; require states to meet reasonable surveillance goals to remain a consistent state; increase the flexibility in how investigations can be conducted and allow the epidemiology in a specific flock to be given more consideration in determining flock and animal status; and update the genetic-based approach in the program regulations.

APHIS is also currently developing a proposed rule to update the import regulations for sheep and goats and their products. Requirements under consideration include the following: requiring breeding sheep and goats to meet OIE standards (i.e., free-country or free-flock); requiring an awareness, surveillance and control program for countries to export slaughter or feeding for slaughter sheep and goats to the United States and post entry movement controls to insure slaughter; and requiring free-country or free-flock status or testing of donors for embryo importation.

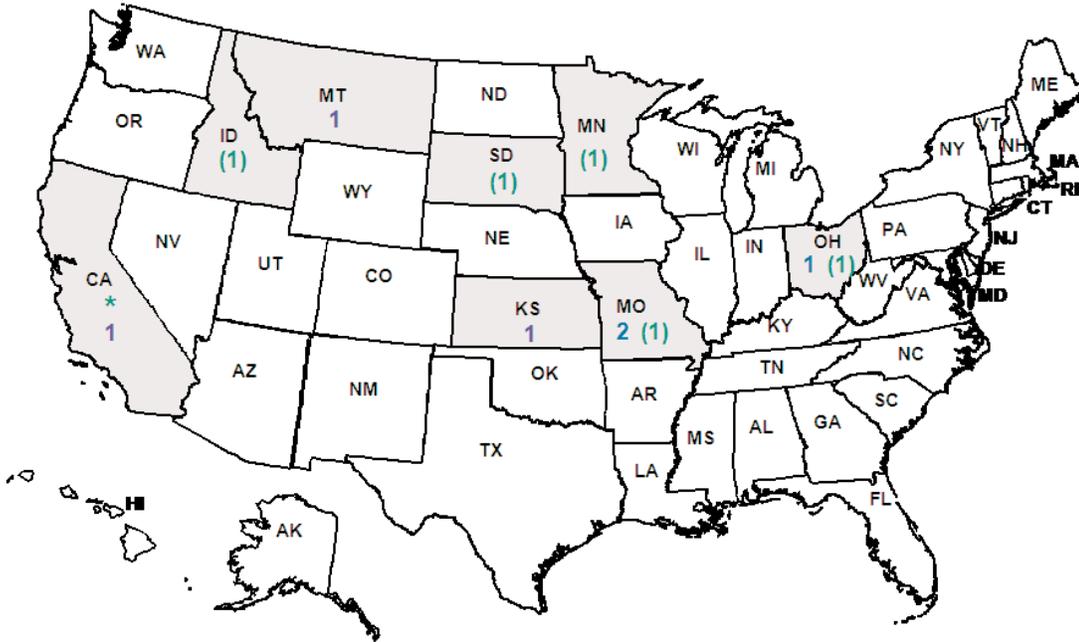
"Remember, these are both proposals, and will come out for public comment. We will consider everyone's input," assured Sutton.

Animals Sampled for Scrapie Testing *Sheep and Goats*

As of February 28, 2011

14,510 animals have been sampled for scrapie testing: 13,146 RSSS; 864 regulatory field cases; and 500 regulatory live animal biopsies.

Scrapie Confirmed Cases in FY 2011

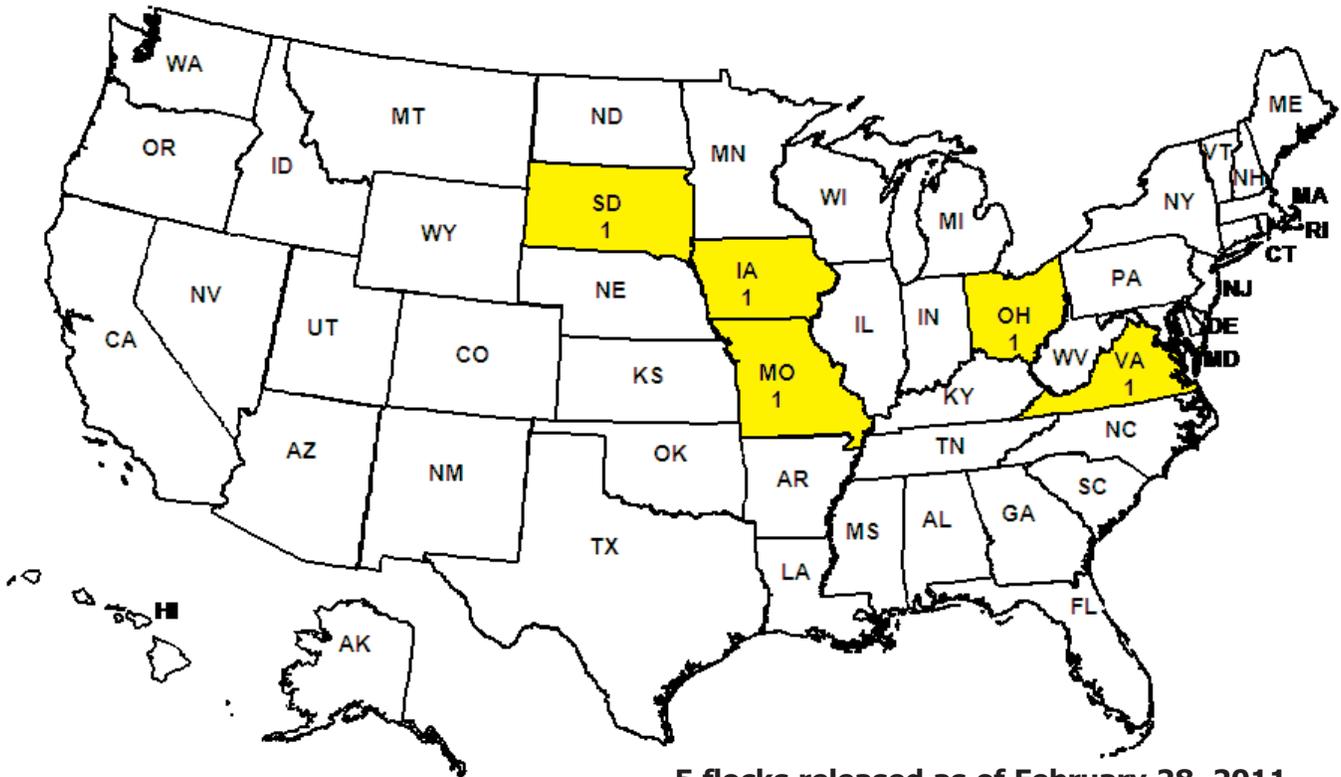


Classical Scrapie cases = 11;
 NOR98-like Scrapie cases = 1;
 6 field cases, including 1 positive goat;
 6 RSSS cases (reported by State of ID tag. Collected FY 2011 and confirmed as of March 10, 2011.

Note: Field cases include animals from infected source flocks, so the state totals often include several animals from the same flock.

*Nor98-like case

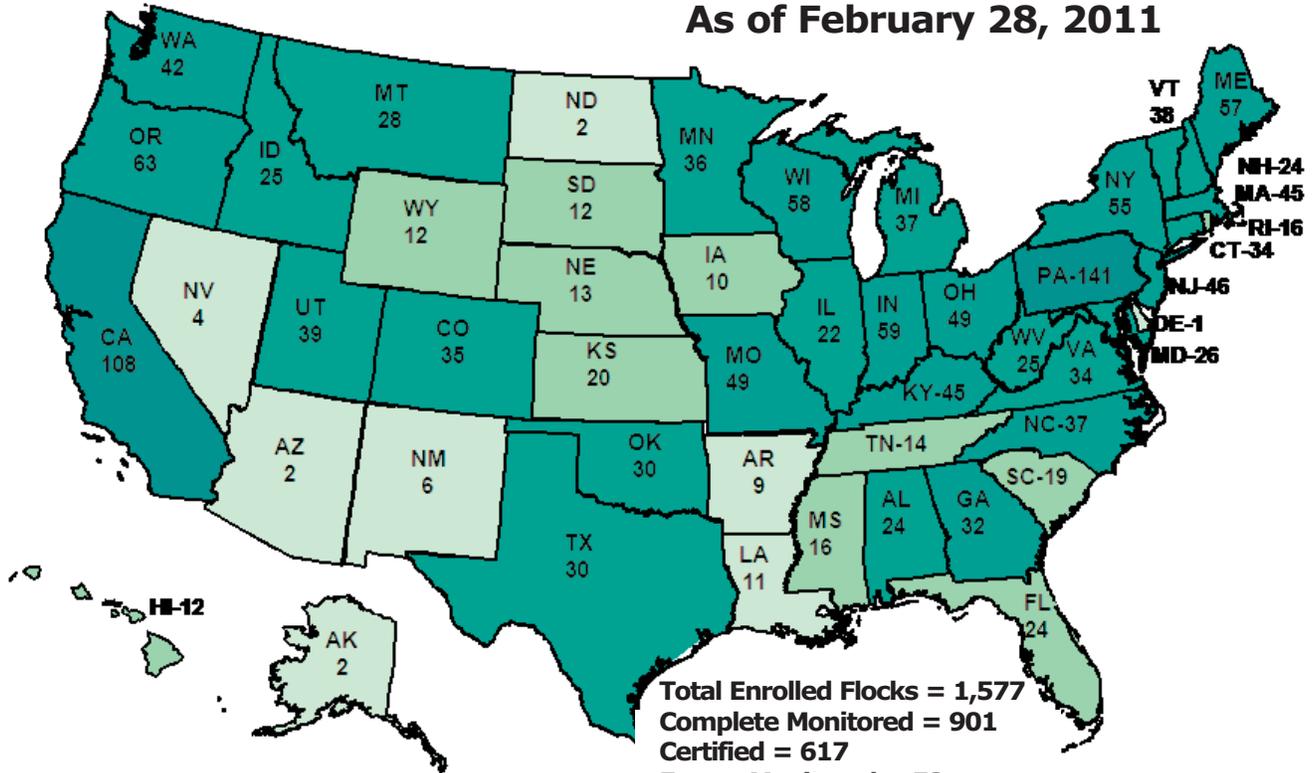
Released Scrapie Infected and Source Flocks FY 2011



5 flocks released as of February 28, 2011

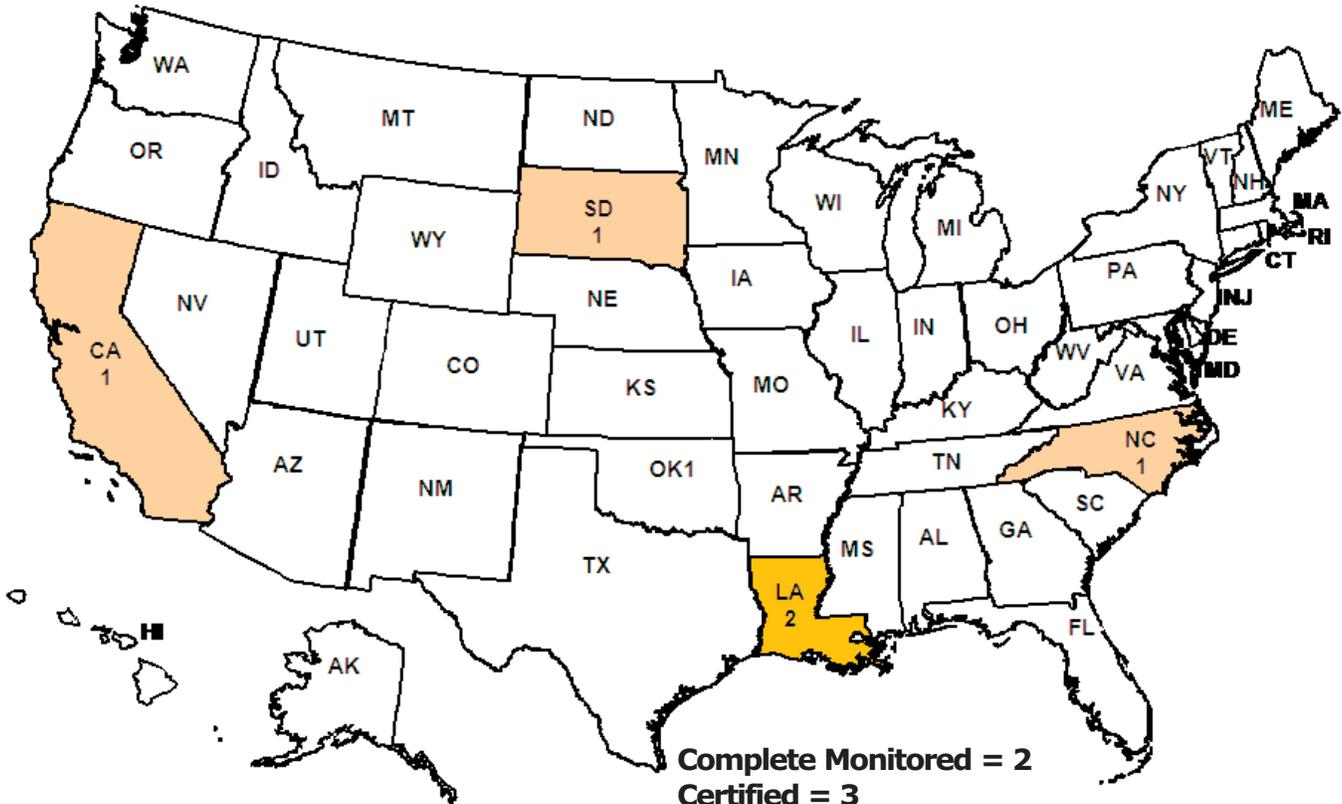
Scrapie Flock Certification Program Participating Flocks

As of February 28, 2011



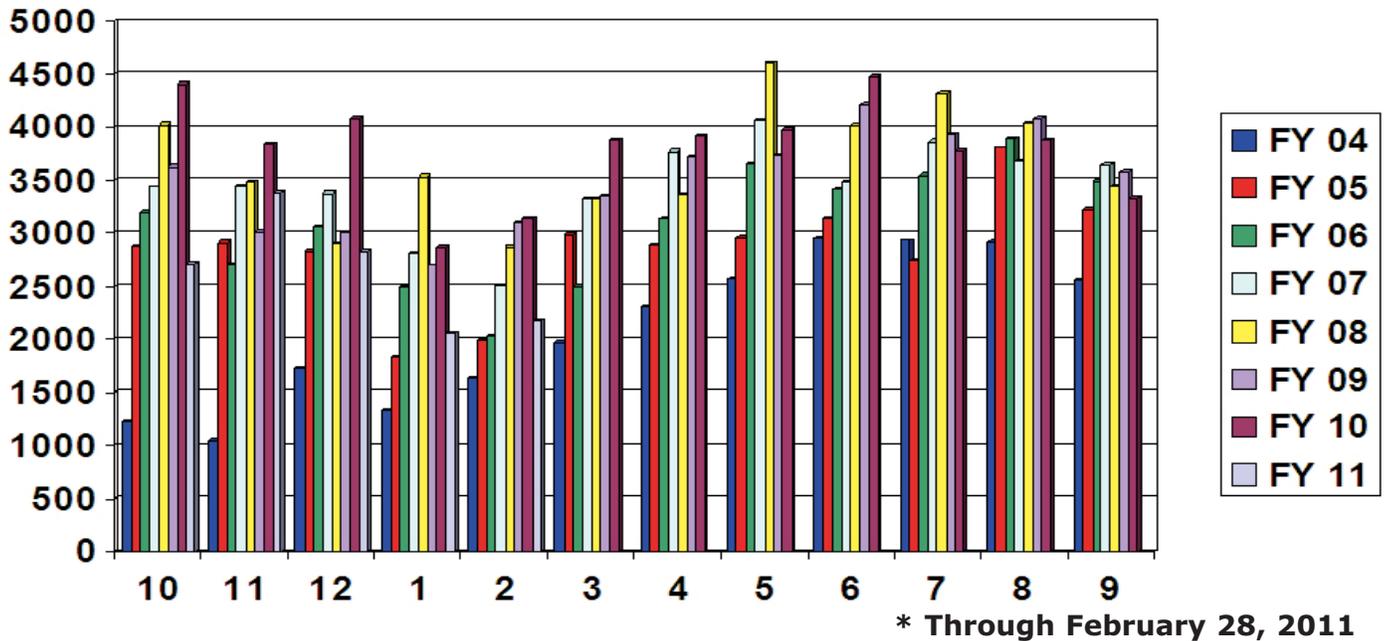
Total Enrolled Flocks = 1,577
Complete Monitored = 901
Certified = 617
Export Monitored = 53
Export Certified = 2
Selective Monitored = 4

SFCP Flocks Enrolled and Certified in February 2011



Complete Monitored = 2
Certified = 3

Slaughter Surveillance Samples Collected by Month, FY 2004 to FY 2011*



The Animal and Plant Health Inspection Service's goal is to collect 44,000 slaughter surveillance samples each year from throughout the United States.

Regulatory Scrapie Slaughter Surveillance (RSSS) Statistics through February 28, 2011

Since April 1, 2003:	In FY2011:
289,868 samples collected 451 NVSL* confirmed positives	13,146 samples collected 11 NVSL confirmed positives (classical); 1 (Nor98-like)

*National Veterinary Services Laboratories

Web Sites Dedicated to the Eradication of Scrapie

Animal and Plant Health Inspection Service
http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/

Maryland Small Ruminant Page
www.sheepandgoat.com/scrapie.html

National Institute of Animal Agriculture
<http://www.animalagriculture.org/scrapie/Scrapie.htm>

Scrapie QuickPlace
<https://qp01.aphis.usda.gov/QuickPlace/scrapie/Main.nsf?OpenDatabase>
State and federal employees can access this password-protected site by e-mailing Earl.T.Thorpe@APHIS.USDA.gov to receive a password.



American Sheep Industry Association
www.sheepusa.org