## REPORT OF THE COMMITTEE ON SCRAPIE

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Vice Chair: Charles Palmer, Redding, CA

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The Committee met on October 23, 2007, from 12:30 until 5:30 p.m. at John Ascuaga's Nugget Hotel, Reno, Nevada. The meeting was called to order by Jim Logan, Chair, with Vice Chair Chuck Palmer attending. There were 57 people in attendance, including 19 Committee members. Committee members were welcomed and each introduced themselves.

Diane Sutton, Veterinary Services (VS), Animal and Plant Health Inspection Service, Veterinary Services (APHIS), United States Department of Agriculture (USDA) presented the general Scrapie Program Update, including Nor98-like Scrapie. This report in its entirety is included in these proceedings.

Drs. Diane Norden, Center for Epidemiology and Animal Health (CEAH), VS-APHIS-USDA and Chuck Gaiser, VS-APHIS-USDA, presented the Epidemiology Update. This information appears in full at the end of this report.

A report entitled The Rectal Biopsy as a Diagnostic Aid for Scrapie was given by Marie Bulgin, Caine Veterinary Teaching Center. It is summarized as follows: The scrapie prion usually accumulates in lymphoid tissue (the nictitating membrane) prior to accumulating in brain tissue and prior to the onset of clinical signs. Third eyelid biopsies using scrapie specific immunohistochemistry (IHC) stain have been validated as a live animal test for scrapie. Specificity of this test is excellent, but sensitivity is poor.

A viable alternative to the third eyelid biopsy is biopsy of rectal lymphoid tissue. This test is relatively simple (sample collection), and apparently relatively painless to the animal. Two hundred ten (210) animals from a naturally infected experimental flock were tested finding 83 positive animals.

The rectal lymphoid biopsy test appears to be slightly superior to the 3$^{rd}$ eyelid biopsy. Utilization of both rectal and 3$^{rd}$ eyelid biopsy sites (as opposed to only the rectal biopsy) increased the number of positive diagnoses by 28%. Lack of adequate lymphoid follicles is a limiting factor for both sampling methods, and lymphatic tissue availability appears to decrease as an animal ages."

Bruce Thomsen, VS-APHIS-USDA, presented Evaluation of Ovine Rectal Biopsy Tissue for use in the IHC Prion Protein Test Protocol. Preliminary results of this presentation is as follows: This study was designed to evaluate the feasibility of a new live animal scrapie test using rectal mucosal biopsies collected under field conditions and tested by IHC. The rectal biopsy test results were compared to a gold standard IHC test results from obex, lymph node and tonsil in parallel and to the existing live animal test biopsy of the third eyelid. Additional objectives in the study included determining the biopsy site complication rate, optimal biopsy site location, how much lymphoid tissue is required for an appropriate sample, and other minor objectives. The study began in November 2006 and will conclude November 2007. Animals selected for this study were at high risk for having scrapie and most frequently came from infected or exposed flocks. Rectal and third eyelid biopsies were sampled live and post-mortem, with a total of 13 different tissue samples collected from each animal. Seventy-seven percent of the sheep had at least one rectal biopsy collected ante-mortem. There have been 729 sheep, from 103 flocks, in 22 different states, enrolled in the study thus far. One hundred ten of the sheep have been scrapie positive. The test sensitivity (95% CI) of biopsies by site location, as compared to the gold standard of obex, lymph

node and tonsil test results in parallel, are: rectal biopsy from the right ventral rectum 0.87 (0.79, 0.94), rectal biopsy from the left ventral rectum 0.85 (0.77, 0.92), left and right third eyelid biopsies in parallel 0.82 (0.73, 0.92). There were no statistically significant differences in test sensitivity between a single rectal biopsy sample and both left and right third eyelid samples combined. Samples with inadequate lymphoid tissue varied by biopsy site, ranging from 15 percent to 32 percent for the three rectal biopsy sites and 25 percent to 48 percent for the two eyelid biopsy samples.

Katherine Marshall, VS-APHIS-USDA, presented the Goat Scrapie Prevalence Study (CSPS) Update. It is summarized as follows: The CSPS study began in May 2007, and will continue into early 2008 with the goal of sampling 3000 goats. The objective of this study is to determine whether the prevalence of scrapie in goats is <.1 percent. Goats slaughtered in plants targeted for sampling are randomly selected regardless of whether they are clinical or tagged (unlike those sampled as part of the Regulatory Scrapie Slaughter Surveillance). To date, 1938 goats between the ages of 2-5 have been sampled at state, federal and custom slaughter plants in the United States. All have been negative.

Drs. Emi Saito and Alecia Naugle, VS-APHIS-USDA, presented the Scrapie Surveillance Plan Update. Currently, efforts are underway to enhance the nationwide scrapie surveillance system and integrate it with the overall VS surveillance plan. The National Surveillance Unit (NSU), State and VS national, regional, and field staff are collaborating to develop a comprehensive, written scrapie surveillance plan. This presentation highlighted recent enhancements to scrapie surveillance which includes revisions to the sampling criteria for ongoing Regulatory Scrapie Slaughter Surveillance (RSSS), efforts to expand RSSS to additional collection sites, and the initiation of a prevalence study in the U.S. goat population. Additionally, the approach to developing and the factors influencing the comprehensive scrapie surveillance plan were discussed.

Katherine O'Rourke, Agricultural Research Services (ARS), USDA, presented an ARS research update. The report from ARS, Animal Disease Research Unit (ADRU) Pullman is summarized as follows: ADRU reported on their research on the minor scrapie forms, in particular Nor98 in sheep and classical scrapie in goats. Nor98 affects sheep of all genotypes; the etiology and transmissibility of Nor98 is unknown. Experimental infection of sheep highly resistant to classical scrapie (RR171) with a brain homogenate from an RR171 sheep with Nor98 is underway; blood, peripheral lymphoid tissues, and placenta will be monitored to determine whether an infectious agent is present outside the central nervous system. Sheep with the 141FL genotype appear to be especially predisposed to Nor98. ADRU would like to acquire aged 141FL sheep from flocks without classical scrapie but that work will depend on clarification of the regulatory status of Nor98 sheep. Experimental and natural scrapie in goats is being addressed through assay of blood, placenta, and peripheral nodes to gather data on incubation time, optimal age for diagnosis, and role of prion genotype. The 2 goat genotypes reported to be associated with low susceptibility in European studies are of particular interest. The scrapie-free goat herd maintained at Washington State University will be diversified to include dairy and meat goats of those genotypes to produce kids for experimental studies. ADRU will request live goats exposed to sheep or goat scrapie for DNA analysis, live animal testing, and incubation time determination. In addition, ADRU will request tissues from goats collected in regulatory and slaughter surveillance and DNA from goats sampled in the upcoming goat NAHMS study. Requests for DNA from healthy herds will be made to the various dairy and meat goat industry groups.

Linda Detwiler, presented information on new scrapie research, titled Scrapie: An Update on the Science. Information regarding scrapie has increased significantly over the years. While additional knowledge is always helpful, many of the new findings have actually increased the number of questions about the disease.

It is well documented that the agent which causes classical scrapie is shed via the placenta. New research has confirmed the finding of $PrP^{Sc}$ in salivary gland and kidneys. Limited research has not definitively identified infectivity or $PrP^{Sc}$ in saliva or urine of sheep with scrapie. Yet we should ask ourselves why shedding couldn't occur through these types of secretions and excretions given the distribution of the agent. In late 2006, Foster and colleagues published a paper which demonstrated lateral transmission of scrapie in an infected flock devoid of lambing. A case control study done in France, found that the feeding of concentrates and certain milk replacers to be strongly correlated with the

occurrence of scrapie. Additionally there have been recent papers re-examining and re-enforcing the lengthy persistence of the agent in the environment. These current studies should be taken into consideration when developing or adjusting policies for the control of classical scrapie.

Genetics have been a powerful tool in reducing the level of scrapie in the US. There is emerging information that indicates no genotype is completely resistant to scrapie. Scientists in Germany have reported two confirmed cases of classical scrapie in ARR/ARR sheep. In addition, numerous cases of atypical scrapie have been identified in European sheep heterozygous or homozygous for ARR.

Nor 98, which is classified as an atypical form of scrapie, was first identified in 1998 and published in 2003. Since this time, over 500 cases of atypical scrapie have been identified in many countries of Europe. There have been a few additional cases detected in the Falkland Islands and the United States. Over the last three years more cases are being detected in Europe but this does not necessarily indicate that the disease is increasing. Diagnostic techniques have improved, surveillance rates have increased and a specific classification scheme has been developed.

In Europe, atypical scrapie has primarily been found in sheep presented for normal slaughter and those classified as fallen stock. Clinical signs are described as progressive ataxia, behavioral changes, and tremor. It appears that these sheep do not demonstrate pruritis. Lesions and deposition of $PrP^{sc}$ are absent or limited in the brainstem. Cerebellum and cerebrum seem to be the primary target areas however it must be pointed out that there is variation between these locations. To date, atypical scrapie has been shown to be transmissible but only by experimental routes. There is ongoing research to examine the possibility of lateral transmission. At present most flocks infected with atypical scrapie have had only a single case. A limited number of countries have reported a few flocks with two to three cases. This has lead to speculation that atypical scrapie may be a spontaneous disease.

The detection of atypical scrapie is a recent occurrence. Data about the disease is extremely limited. Research needs to be done to determine the origin, agent distribution in the sheep, modes of natural transmission (if any), and susceptibility of other species, etc.

Penny Greenwood, Canadian Food Inspection Agency (CFIA), presented the Canadian Scrapie Eradication Program Report. It is included, in its entirety in these proceedings at the end of this Committee Report.

The business portion of the meeting consisted primarily of discussion of the scrapie uniform methods and rules (UM&R). No action was taken.

This committee also considered 5 Resolutions. Four Resolutions were approved by the Committee and forwarded to the Committee on Nominations and Resolutions.

**Status Report-Fiscal Year 2007: Cooperative State-Federal Scrapie Eradication Program**

Diane Sutton
National Center for Animal Health Programs

In Fiscal Year 2007 the Scrapie Eradication Program focused on: (1) cleaning up infected and source flocks utilizing a genetic based approach; (2) tracing and testing exposed animals and animals in exposed flocks; (3) expansion of regulatory slaughter surveillance (RSSS); (4) conducting consistent state reviews, (5) producer education and identification compliance; (6) evaluation of Nor98-like scrapie cases, (7) development of a comprehensive scrapie surveillance plan, (8) evaluation of the rectal biopsy test for ante-mortem scrapie testing, (9) initiation of the Caprine Scrapie Prevalence Study and (10) upgrading of the Scrapie National Database to allow electronic transmission of test charts and results using data collected electronically in the field or entered through a web application.

**Consistent State Reviews**

States must meet the consistent state requirements in 9 CFR 79.6 in order to move sheep and goats in interstate commerce with minimal restrictions. All states have been reviewed by United States Department of Agriculture (USDA) and have either enacted the required identification rules or have interim measures in place.

**Scrapie Flock Certification Program**

As of September 30, 2007, there were 2,042 flocks participating in the Scrapie Flock Certification Program (SFCP). Of these flocks 404 were certified flocks, 1,630 were complete monitored flocks, four were export monitored and four were selective monitored.

**Infected and Source Flocks**

As of September 30, 2007, there were 37 scrapie infected and source flocks, a decrease of 56 percent from September 30, 2006. There were a total of 72 new infected and source flocks reported for fiscal year (FY) 2007, a decrease of 38 percent from FY 2006. Chart 1 shows the number of new infected and source flocks by year. The total infected and source flock statuses that were released in FY 2007 was 83. Three hundred, thirty-one positive scrapie cases were confirmed and reported by the National Veterinary Services Laboratories (NVSL) for FY 2007. Of these, 59 were RSSS cases, collected in FY 2007, 253 positive field cases, six test validation necropsies, and 13 third eyelids tests. One of the field cases was a goat. Five cases were consistent with Nor98 scrapie (Figure 1).

Approximately 3,622 animals were indemnified comprised of 61 percent non-registered sheep, 35 percent registered sheep, 2.3 percent non-registered goats and 1.7 percent registered goats.

**Regulatory Scrapie Slaughter Surveillance (RSSS)**

RSSS was designed based on the findings of the Center for Epidemiology and Animal Health (CEAH) Scrapie: Ovine Slaughter Surveillance (SOSS) study. The results of SOSS can be found at http://www.aphis.usda.gov/vs/ceah/cahm/Sheep/sheep.htm. RSSS started April 1, 2003. It is a targeted slaughter surveillance program which is designed to identify infected flocks for clean-up. During FY 2007, collections increased by 11 percent overall and by 16 percent for black and mottled faced sheep compared to FY2006. Improvement in the overall program effectiveness and efficiency is demonstrated by the 34 percent decrease in percent positive black faced sheep compared to FY 2006 (.44 to .29 percent, based on test results posted before October 12, 2007). During FY 2007, 41,244 samples were collected (Figure 2). There have been 59 NVSL confirmed positive cases collected in FY2007. Face colors of these positives were 46 black, 11 mottled, one white and one unknown. The percent positive by face color is shown in Figure 3 below.

**Caprine Scrapie Prevalence Study (CSPS)**

CSPS was initiated in May 2007, to estimate the national prevalence of scrapie in adult goats at slaughter. If no scrapie is found we will be able to conclude that the prevalence is less than 0.1 percent. As of September 30, 2007, 1,515 goats were sampled for scrapie testing. None had tested positive for scrapie.

**Scrapie Testing**

As of September 30, 2007, 47,697 animals have been sampled for scrapie testing: 41,244 RSSS, 1,515 goats for the CSPS, 3,557 regulatory field cases, 139 necropsy validations, and 1,242 regulatory third eyelid biopsies.

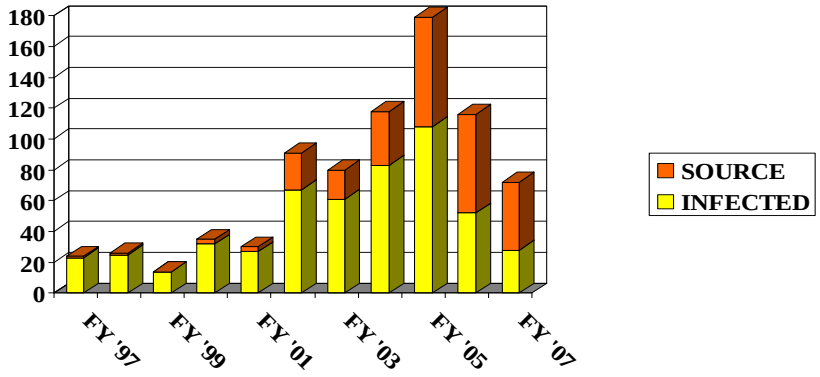
**Animal ID**

As of October 10, 134,595 sheep and goat premises had been assigned identification numbers in the Scrapie National Generic Database and 99,903 premises had received official eartags (Figure 4).

Note: report based on data available as of October 12, 2007

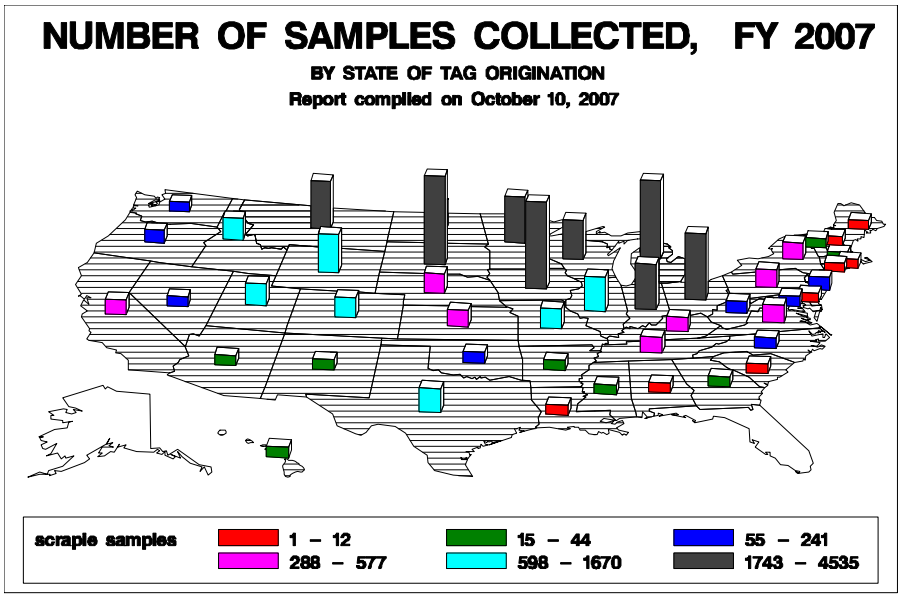
**Figure 1.**

**Infected and Source Flocks**
**New Statuses by Year**
**FY 1997 – 2007***




***through September 30, 2007**

**Figure 2.**




**NOTE: State of tag origination is where the tag was applied and may not be the state where the animal originated.**

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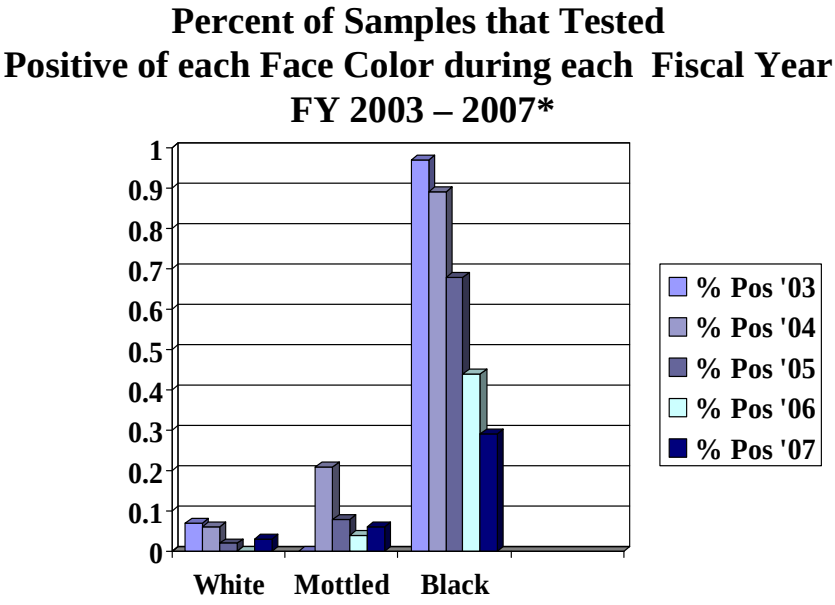
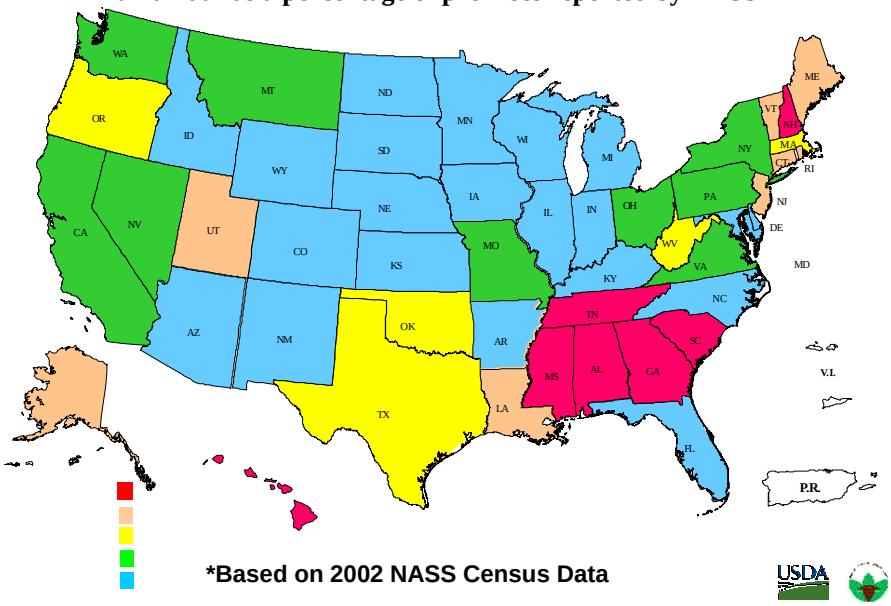
**Figure 3.**




*** Through September 30, 2007**

**Figure 4.**

**Premises that have been assigned premises numbers in SNGD as of 10-10-2007 as a percentage of premises reported by NASS***




*Based on 2002 NASS Census Data

3% to 25%
26% to 50%
51% to 75%
76% to 89%
≥90%

Epidemiology Update
Charles Gaiser and Dianne Norden
VS-APHIS

In fiscal year (FY) 2007, 679 flock investigations were initiated and closed, resulting in the identification of 58 newly discovered Infected or source flocks. In addition, another 175 flock investigations were initiated in FY '07 and are still ongoing. Of these 679 Flock Investigations: 10 were initiated to investigate scrapie-suspect or test inconclusive animals, resulting in four new Infected or source flocks; five were initiated for investigation of a positive detected from on-farm surveillance, resulting in four new Infected or source flocks; 46 were initiated for trace-back of a positive animal from slaughter, resulting in 42 new Infected or source flocks; and 443 were initiated for tracing forward high risk animals, resulting in eight new Infected or source flocks.

The 443 flock investigations initiated for tracing forward high risk animals were closed for the following reasons:

- 179 – exposed animal(s) was missing but was male or did not lamb
- 132 – traced animals were either genetically susceptible with negative test results, were not genetically susceptible and/or were male.
- 46 – missing ewe investigation conducted with negative test results
- 20 – exposed animal(s) tested with negative results
- 5 – exposed animal(s) tested with positive results – flock designated as Infected
- 3 – missing Ewe investigation conducted with positive test results.
- 3 – exposed animal(s) genetically susceptible, lid tested negative and retained
- 2 – exposed animal(s) were restricted genetically less susceptible and retained
- 1 – exposed animal(s) tested positive, but didn't lamb in the recipient flock
- 32 – closed for other reasons

There were 252 scrapie-positive sheep submitted from the field in FY '07 (through August 2007), two of which were Nor-98-like cases. Excluding the Nor-98-like positives, of the remaining 250 positives, there were 228 with genotype information available. All 228 were QQ at codon 171, 214 of which were AA at codon 136, and 14 of which were AV at codon 136. These 250 positive sheep represented 68 flocks for an average of 3.6 positive animals per flock tested. Most of these positive sheep (228) were euthanized in 58 Infected or source flocks as part of a flock clean-up plan, with an average of 3.9 positive animals identified per Infected or Source flock. The average flock size of these Infected or source flocks was 109 animals (minimum four, maximum 470).

Most (86%) of these 250 scrapie-positive sheep were necropsied because they were designated as exposed animals, and their ages varied from yearlings to 11 years, with the most frequent age reported as three years. Breeds or face color of these positive sheep included: 70 Suffolk or Suffolk Cross, 52 black-faced or black-faced Cross, 22 Hampshire or Hampshire Cross, nine mottle-faced, one Oxford, one Shopshire, one natural colored, 63 white-faced or white-faced cross, 24 Southdown, one Corredale, one Dorper, and one Targhee. There were four animals for which no breed or face color was listed. There were 248 animals for which there was both obex and lymph node test results available. Almost 70 percent of these animals were positive on both obex and lymph node, nearly 24 percent had positive lymph nodes, but negative on obex, and nearly 6 percent were positive on obex and negative on lymph node. There was one animal with inconclusive test results on obex, but positive on lymph node and one animal that was both negative on obex and lymph node, but was positive on tonsil.

One scrapie-positive goat was identified in FY '07. This goat was from a herd that is under permanent quarantine. Fifty nine scrapie-positive sheep were identified through Regulatory Scrapie Slaughter Surveillance (RSSS). Of these 53 had state tag identification, six had no tags. Face color of these 59 positives were: 46 black-faced, 11 mottle-faced, one white-faced, and one with no face color listed. Of the RSSS positives 53 were QQ at codon 171 (none were QR), 51 were AA at codon 136 and two were AV. Three are pending genotype and three genotype could not be obtained

About 63 percent of RSSS scrapie-positive animals had positive test results on both obex and lymph node, almost 12 percent were positive on lymph node, but negative on obex, and 25 percent were positive on obex, but negative on lymph node. The most frequent age reported for these RSSS positives was four years with a minimum of two years. The maximum age is difficult to determine by dentition, however 14 were reported to be five years of age or older, and six were noted as being broken mouth.

**Canadian Food Inspection Agency Scrapie Eradication Program Update**

**Penny Greenwood**
**Canadian Food Inspection Agency**

The objective of the Canadian Food Inspection Agency's (CFIA) scrapie program is to eradicate scrapie from Canada. This objective will become increasingly possible as active surveillance identifies as many sites of scrapie infection in Canada as possible, and better tools become available to distinguish animals carrying infection on infected premises and to screen flocks to determine the original source of the infection. As the goal is eradication, it is imperative to exhaust all epidemiological links. In Canada, active surveillance for scrapie started at the end of 2005 and the program continues to evolve.

Economics, normal production practices and the historical position of the Canadian rendering industry to refuse ovine/caprine deadstock make it difficult to access the high risk ovine and caprine populations that are appropriate for scrapie surveillance. However, recent changes to the infrastructure of the deadstock and rendering industry associated with the enhanced feed ban regulations and associated new specified risk material (SRM) stream may make some new sources of ovine/caprine deadstock available for testing.

While there are no tests to definitively diagnose scrapie in the live animal, there are a number of tools that can be used to evaluate the risk of scrapie present in a sheep flock. These tools have not been established in goats thus the only approach available for use in exposed goats is destruction and post-mortem testing.

In recognition that genetics play some role in the spread of scrapie, the CFIA uses genetics as a tool to triage animals for risk categorization and make decisions regarding ordering destruction of animals in all sheep flocks identified as infected with scrapie as well as trace out and trace in presmises. Goats at high risk of exposure to scrapie are still subject to complete depopulation. All infected premises are subject to ongoing CFIA requirements (surveillance or flock certification programs) once the initial disease control actions have been carried out.

**The Scrapie Flock Certification Program (SFCP)**

The SFCP National Standards were developed by the CFIA, in collaboration with the sheep industry, as the basis for Canada's on-farm, voluntary scrapie control program. It is intended to be a long-term, internationally recognized flock/herd scrapie control program for the sheep and goat industries. This program is unique as a CFIA approved disease control strategy. The CFIA only provides a guiding hand in ensuring that the program retains key requirements to meet international standards. The day-to-day management and verification is placed in the hands of industry.

Requirements for all pathways include:

- surveillance for the disease is made by submitting brain samples from all adult sheep and goats that die on-farm. If no animals die on farm during a 12-month period, a sample from at least one cull animal over 24 months must be submitted.
- producers must work with a veterinarian accredited with CFIA to deliver the SFCP.
- producers must make an annual, vet supervised inventory their flocks/herds and maintain documentation throughout the year on animals entering and leaving the premises.
  for details regarding the program rules see 'SFCP National Standards/Rules'.
  See www.scrapiecanada.ca

**Canada's Policy and Conditions for the Importation of Small Ruminants**

Canada's previous Bovine Spongiform Encephalopathy (BSE) import policy for small ruminants, which was established in 1997, prescribes conditions for commodities considered to present a risk for BSE and for which the CFIA has legislative responsibility. Those commodities included in the previous policy were: live ruminant animals, embryos from sheep and goats, edible meat and meat products derived from ruminant animals, inedible rendered protein and products containing such protein from all regulated animal species, inedible tallow, animal blood, livestock feed, products and by-products containing specified risk materials, cell lines originating from bovine tissues, and, veterinary biologics.

As the scientific understanding of the transmissible spongiform encephalopathies (TSE) have evolved, significant differences in the pathogenesis and associated risks of these diseases within the different species have been clarified. In order to appropriately address these differences, Canada's import policies, conditions and procedures pertaining to bovines, small ruminants and cervids were separated.

New policies, conditions and procedures that are meant to address TSE risks of both BSE and scrapie specifically in imports of small ruminants (sheep and goats) and associated products were developed and recently implemented.

Canada's draft revised TSE import policy for small ruminants can be summarized into 4 major categories of importations:

- importation from a country recognized free or negligible risk for TSEs in small ruminants;
- importation from a premises free from TSEs in small ruminants;
- animals that will be slaughtered prior to an age where they would pose a significant disease risk;
- products harvested from animals in the above described categories.

An additional category:

- Importation of genetically resistant breeding sheep or embryos was originally proposed but due to the recent discoveries of atypical TSE's, it has been decided that it is premature to add this category at this time.

The term small ruminant applies to sheep, goats and their exotic relatives. Following preliminary consultation with small ruminant industry associations, the following conditions have been prepared as a draft for use in a broader consultation process with both Canadians, via posting on the CFIA website, and with the international community (via a World Trade Organisation (WTO) notification. Once all comments have been received and evaluated, these conditions will be finalised and approved for use.

1. Commodities prohibited from importation into Canada

Ruminant derived meat-and-bone meal or greaves, or any commodities containing such products are specifically prohibited from importation into Canada unless a risk assessment has been undertaken and the country is classified, in accordance with the Bovine Spongiform Encephalopathy (BSE) import policy as Category 1 (negligible BSE-risk).

An exemption from this prohibition may be considered on a case-by-case basis if the materials used in the production of ruminant derived meat-and-bone meal or greaves, or any commodities containing such products have undergone a treatment or process to eliminate the BSE-agent equivalent to that applied in Canada. Details of the treatment or process deemed to be equivalent together with supporting data and references as appropriate should be provided to CFIA for approval.

2. Commodities allowed importation into Canada

Animals for immediate slaughter (will be licensed to abattoir) must:

- bear identification traceable to flock of origin;
- be licensed to abattoir in Canada; and
- be less than 12 months of age

Animals for feeding for slaughter (will be under permit) must:

- bear identification traceable to flock of origin; and
- be slaughtered by 12 months of age; confirmation of slaughter must be submitted to CFIA within one week of the date of slaughter

Live ovines imported for breeding purposes:

Males:

- must bear identification traceable to flock of origin

Females:

- must bear identification traceable to flock of origin; and
- must be imported with certification that they originate from a country recognized by the CFIA as negligible risk for TSEs in small ruminants; or
- must be imported with certification that they originate from a TSE free establishment

An establishment may be considered eligible for recognition as a TSE free establishment if:

- in the country or zone where the establishment is situated, the following conditions are fulfilled:
- the disease is compulsorily notifiable;
- affected sheep and goats are slaughtered and completely destroyed;
- the feeding to sheep and goats of meat-and-bone meal or greaves potentially contaminated with an animal TSE has been banned and effectively enforced in the whole country;
- national standards for recognition of scrapie free establishments have been developed or endorsed by the National Veterinary authority

- in the establishment the following conditions have been complied with for at least 5 years:
- sheep and goats must be permanently identified and records maintained, to enable trace back to their establishment of birth;
- records of movements of sheep and goats in and out of the establishment are established and maintained;
- introductions of females and embryos are allowed only from establishments of an equal or higher stage in the process of accreditation;
- sheep and goats of the establishment should have no direct or indirect contact with sheep or goats from establishments of a lower status;
- an Official Veterinarian inspects sheep and goats in the establishment and audits the records at least once a year;
- all animals over 18 months of age that have died or have been killed for reasons other than routine slaughter on the establishment itself must be tested (including 'fallen' stock and emergency slaughter).
- Establishments in Canada that are actively participating in a scrapie flock certification program may import breeding females from flocks/herds which have complied with these conditions for less than 5 years by importing animals from flocks/herds that are of equivalent status in an equivalent scrapie flock certification program in the exporting country.

Live ovines/caprines for temporary stay

- sexually intact female animals that do not meet the import requirements for breeding animals must be certified by ultrasound examination not be pregnant for the time that they will be in Canada.
- male animals have no conditions specific for TSEs.

Transhipment

- no conditions specific to TSE unless the animals were known to be infected.

Embryos

- embryos (ovine/caprine) have to be collected from donors eligible (could meet) import requirements for breeding animals and were collected in accordance with IETS standards.

Semen

- no conditions specific to TSE.

Meat

Not harvested from known test positive animals; or harvested from animals less than 12 months of age.