

Scrapie

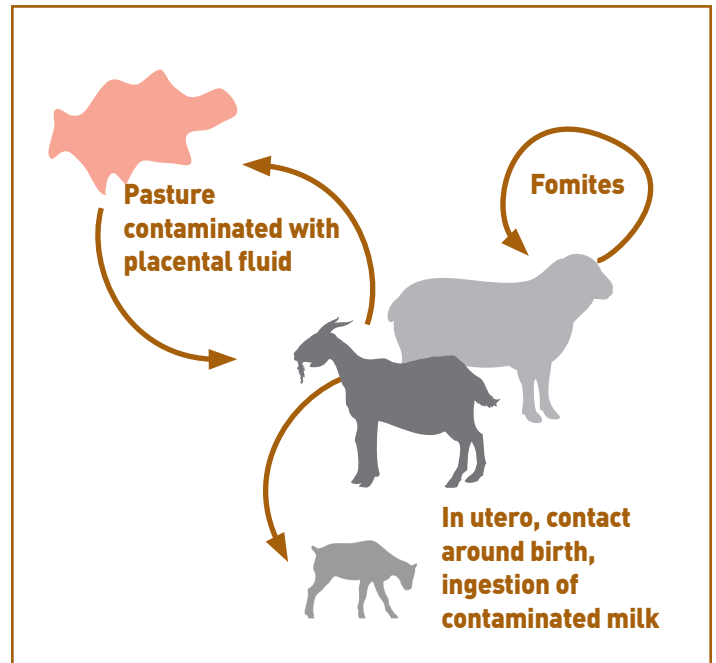
Rida, trotting disease, nibbling disease, paraplexia enzootica ovium

Progressive, fatal neurodegenerative disease that affects sheep and goats.

Epidemiology

- **Causative agent:** Prions: infectious misfolded proteins that cause host proteins of the same variant to misfold and accumulate within the central nervous system.
- **Hosts:** Sheep, occasionally goats.
- **Transmission:** Primarily from dam to lamb (in utero, at birth, or via milk), transmission can also occur via pasture contaminated with placental fluids, as the agent is very resistant in the environment.
- **Incubation period:** Months – years. Signs typically arise in 2 - 5 year olds.
- **Morbidity & mortality:** Morbidity is variable. Usually fatal within 6 months of the appearance of clinical signs.
- **Zoonotic potential:** No evidence of zoonosis.

Note that atypical scrapie occurs spontaneously in older sheep and is not considered contagious.



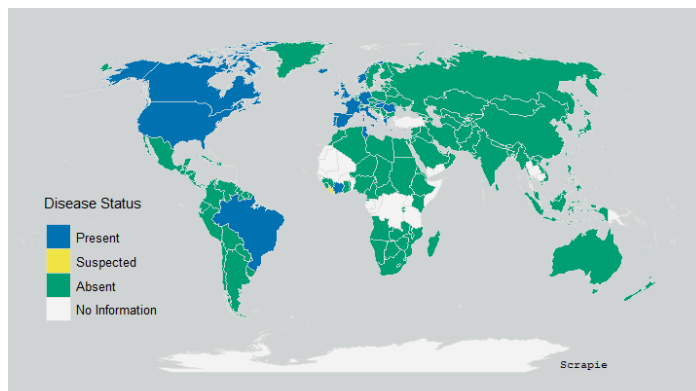
Differential Diagnoses

Endemic: Hypomagnesemia, ketosis, lice, listeriosis, mange, milk fever, toxins (e.g. mercury, lead, organophosphates, plants), viral and bacterial encephalomyelitides.

Exotic: Aujesky's disease, Maedi Visna, rabies.

Global Distribution

Present in North America and parts of Europe. The last recorded case in New Zealand was in 1954. Atypical (non-infectious) scrapie occurs sporadically in all small ruminant populations but must still be reported to MPI.



This map is only a guide on the global disease distribution of scrapie. With the kind authorisation of the World Organisation for Animal Health [OIE], maps are adapted from the latest information on the World Animal Health Information Database (OIE-WAHIS Interface: <https://wahis.oie.int/#/> home), as at April 2021.

Clinical Presentation

Intense pruritus including:

- Compulsive rubbing and nibbling
- Wool loss over hindquarters and lateral thorax

Neurological signs

- Fixed gaze, drooling, teeth grinding
- Behavioural changes (aggression, pica, etc.)
- Hyperaesthesia to sound or sudden movements
- Ataxia, fine tremors, abnormal posture
- Progressive weakness, recumbency, paralysis
- Afebrile
- Loss of body condition

There are no gross post-mortem lesions that are characteristic of scrapie.

Clinical Inspection

Note these images are only examples of how the disease may appear. Please report any suspicion of scrapie to MPI as soon as possible.



F04970, BODY AS A WHOLE ALOPECIA-SCRAPIE, submitted by WARD.



F07521, BODY AS A WHOLE ALOPECIA TRAUMATIC PRURITUS SCRAPIE POSITIVE, submitted by HARRINGTON.



Marked wool loss from scratching

F54052, Scrapie, submitted by KING.



F30251, CUTANEOUS ABRASIONS; SCRAPIE, submitted by ACLAND.

Examples of sheep affected by scrapie, with various patterns of wool loss.

Photos courtesy of the Charles Louis Davis and Samuel Wesley Thompson DVM Foundation, <http://www.cldavis.org/>, licensed for use under the Creative Commons BY-NC-SA (Attribution, Non-commercial, Share alike) license.

**Please submit samples from sheep with non-responsive chronic neurological signs to the TSE surveillance programme.
Find out more at www.biosecurity.govt.nz/tse**