

SCRAPIE SUSCEPTIBILITY TESTING



Prion, the agent responsible for transmissible spongiform encephalopathies such as scrapie, BSE, and CWD, is an abnormal form of a normal cellular protein. The scrapie prion is thought to be spread most commonly from the ewe to her offspring and to other lambs through contact with the placenta and placental fluids. Signs or effects of the disease usually appear 2 to 5 years after the animal is infected.

The Rocky Mountain Regional Animal Health Laboratory (RMRAHL) is USDA certified to perform scrapie susceptibility testing at codons 171 and 136 through real-time PCR technology. These genotyping services will help interested producers decrease scrapie susceptible genotypes in their flocks. Over the long term, breeding based on genotyping will increase the resistance of the national sheep flock and promote the eradication of scrapie.

GENETIC SUSCEPTIBILITY

The genetic makeup of a sheep affects their susceptibility to scrapie. The following is the USDA list of susceptible and resistant genotypes.

Nearly Completely Resistant	AA	RR
Rarely Susceptible	AA	RQ
Somewhat Susceptible	AV	RQ
Susceptible	AA,AV,VV	QQ,QQ,QQ

RMRAHL accepts samples Monday-Friday and performs genotyping Monday-Thursday. Results will be available in 3-7 days.

It is critical that each sample is collected with a new needle to prevent cross-contamination. Samples must be collected in purple top EDTA tubes (preferably plastic) and mixed immediately by inversion. Plastic purple top tubes and needles from Sarstedt, that can be used as a syringe or vacuum, may be purchased from the RMRAHL.

The laboratory can provide a protocol for submitting scrapie samples. RMRAHL airbills for overnight delivery are available for shipping samples to RMRAHL at a reduced cost.

Colorado Department of Agriculture Division of Animal Industry



Rocky
Mountain
Regional
Animal
Health
Laboratory

2331 West 31st Avenue Denver, CO 80211

Phone: 303.477.0049 Fax: 303.458.7857

Email: RMRAHL@ag.state.co.us

www.RMRAHL.org