

## **Appropriate Welfare Considerations for Sheep Subject to the Recto-Anal Mucosa Associated Lymphoid Tissue (RAMALT) Biopsy for Detection of Scrapie Infection**

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**Objectives:**

1. Evaluate the accuracy of the RAMALT biopsy in sampling adequate lymphoid tissue for scrapie diagnosis;
2. Determine changes to normal sheep behaviour when the RAMALT biopsy technique is applied; and
3. Determine if different analgesic treatments prior to RAMALT sampling, affect sheep behavioural responses to the technique, as well as differences as compared to normal behaviour.

**Summary:** The recto-anal mucosal associated lymphoid tissue (RAMALT) biopsy provides a validated method for detecting pre-clinical infection with scrapie in adult sheep. The method allows rapid screening of large populations of at-risk animals, necessary if Canada is to eradicate this disease from the small ruminant population. However, this procedure is moderately invasive and may cause pain. This study will evaluate the accuracy of the procedure at obtaining a biopsy that contains sufficient lymphoid tissue, and will also assess the level of behavioural signs of pain and discomfort associated with the procedure – both without the use of analgesics and non-steroidal inflammatory agents (NSAIDS) and with their use both singly and in combination. By determining the best and most humane method of using this procedure, animal welfare is preserved in the face of promoting the wide-spread use of this procedure. Eighty adult ewes were assigned to treatment groups: no treatment (control); local anaesthetic (lidocaine gel); systemic non-steroidal anti-inflammatory (NSAID, ketoprofen); and both a local anaesthetic and NSAID. Animals were observed for a total of 5 days: 2 days prior to the biopsy; during the biopsy procedure; and for 2 ½ days after the biopsy. Behaviours before and after the procedure and comparisons between treatment groups are being analyzed for important differences to determine if pain was significantly mitigated.

**Time Frame:** Start date—May 2010; End date—April 2011.

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