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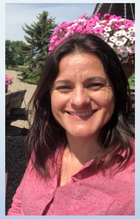
Canada

A prospective longitudinal study of the incidence and risk factors associated with footrot in feedlot lambs in Southern Alberta



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Introduction

- Lameness in sheep caused by footrot (**FR**) is a significant health, welfare, and economic concern worldwide.
- An important first step toward the reducing lameness is the identification of the cause and elucidating which animal, managerial or environmental risk factors contribute to it.
- No studies have documented the incidence of FR or associated risk factors in feedlot lambs in Alberta, CA.

Objectives

The aims of this study were to determine: 1) FR incidence and 2) animal, managerial, and environmental risk factors associated with FR in one large (>30,000 head capacity) lamb feedlot.

Figure 1. Image of a footrot affected hoof (left) and a healthy hoof (right)

Materials and Methods

- **Animals:** 73,150 lambs were assessed biweekly (average of 10 pens per visit) between October 2017 and March 2019.
- **Locomotion score:** 1 = mild (n = 7), 2 = moderate (n = 46), or 3 = severe (n = 53) lameness.
- Lame lambs were physically examined by 2 experienced observers to diagnose the causes of lameness.
- **Risk factors:** Gender, days on feed (**DOF**), diet composition, and season.
- **Statistics:** Generalized linear models (SAS PROC GLIMMIX) were used to determine significant risk factors.

Results

- **FR incidence**

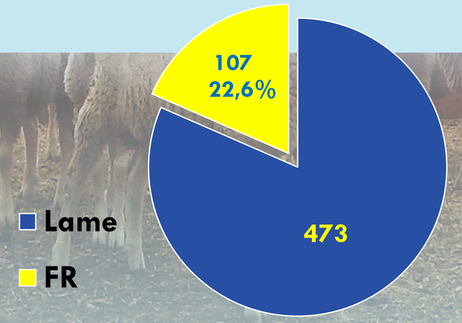

Figure 2. Incidence of footrot lesions (%) at a lamb feedlot in Alberta, CA.

Results

- **Locomotion score:** FR affected lambs had greater locomotion scores (≥ 2; p < .0001) than all other lame diagnoses.
- **Gender:** FR was 4.40 and 0.10 times more likely (p < .0001) in female and wether than ram lambs.
- **Season:** FR was 0.60 and 0.23 times more likely (p < .0001) in fall and summer than winter and spring.
- **Diet: -** Odds of FR increased (p < 0.05) with each additional DOF and each kg increase of barley in the diet;
  - Odds of FR decreased (p < 0.05) for each additional kg of supplement and forage in the diet.

Conclusion

- Footrot is a economically significant health and welfare issue in feedlot lambs in Alberta. Further studies assessing additional risk factors and multiple feedlots are necessary to fully understand these associations so that FR mitigation strategies can be developed.

Acknowledgements

VRP FARMS | Alberta Lamb Producers | Alberta Beef Health Solutions | Agriculture and Agri-Food Canada