DETECTION AND PREVENTION OF FOOTROT OUTBREAKS IN GOAT AND SHEEP FLOCKS

SARE PROJECT LNC14-363

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ABSTRACT

This study developed procedures for the early detection of footrot and bacterial pathogen identification to prevent or reduce footrot outbreaks in small ruminants. Over the course of this project, footrot preventive education and control and management workshops were organized for producers, Extension professionals, researchers and students at Crowder College's farm (Neosho, Missouri) and at Lincoln University's Alan T. Busby Farm (Jefferson City, Missouri). The Project Director, local veterinarian and participant farmers presented a series of lectures and workshops. Field demonstrations and hands-on training activities (e.g., hoof trimming and foot bathing) were conducted on each site. Following the developed project protocols, workshop participants performed animal foot inspection, foot health scoring, hoof trimming and foot bathing. Seasonal footrot preventive protocols were developed and demonstrated with the goat (n = 75) flock at Crowder College and sheep (n = 110) flock at Lincoln University. At both locations, footrot outbreaks were effectively prevented using a frequent, preventive foot-bathing schedule. In conclusion, the project enhanced producers' knowledge and skills for the detection and prevention of footrot outbreaks in goat and sheep flocks.

INTRODUCTION

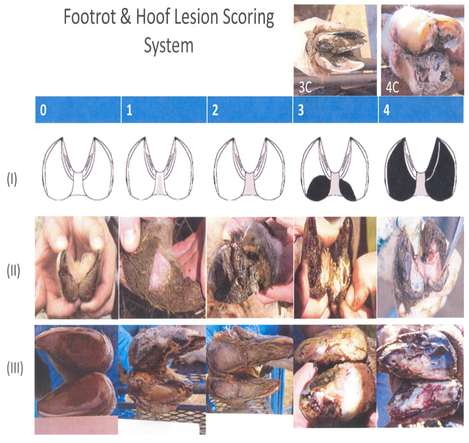
Small ruminants have become a major diversification and sustainable operation on small farms and ranches in Missouri. However, frequent footrot outbreaks in goat and sheep flocks have reduced profitability and sustainability in disease-prevalent regions. Although footrot disease is contagious and costly to treat, early detection, prevention and management should decrease frequent large-scale outbreaks and livestock losses. Our plan is to develop an early detection, prevention and training field demonstration for averting footrot outbreaks. Application of new techniques on small ruminant ranches could prevent potential outbreaks while improving producers' profits.

OBJECTIVES

- **Develop early detection, diagnosis and monitoring techniques for footrot outbreaks in small ruminants.**
- **Organize farmers' and producers' training workshops for small ruminant animal welfare, foot and hoof care and on-farm biosecurity.**
- **Demonstrate footrot prevention, treatment and management practices.**

ACTION & ACTIVITIES

- Conducting footrot diagnosis; collecting foot and hoof lesion swab samples.
- Culturing bacteria and identifying pathogens by Biolog, Biotyper or DNA sequencing tests.
- Monitoring for potential footrot outbreaks by regular sample surveys on signature bacterial species.
- Evaluating footrot infection and hoof lesions using a footrot scoring chart.
- Promoting footrot preventive practice by demonstrating a foot bathing regimen during footrot-prevalent seasons.
- Organizing workshops and field days for producers, educators and students.
- Advocating for a better animal care, welfare and on-farm biosecurity



RESULTS

- Organized two educational seminars (eight lecture topics).
- Provided six training workshops (footrot diagnosis, hoof trimming, foot bathing, fecal egg accounting, FAMACHA© scoring, and body condition scoring).
- Conducted and demonstrated foot bathing at Crowder Farm twice a week for six weeks during the footrot outbreak-prevalent season in 2015/2016.
- Conducted and demonstrated foot bathing at Busby Farm once weekly for six weeks in the summer and fall of 2016/2017.
- Gave workshops, field days or farm site visitations for over 300 farmer participants.
- Provided timely consultations online (via website) and by emails, texts or phone calls.

CONCLUSION

- **Reduced or prevented potential footrot outbreaks in small ruminants.**
- **Enhanced producers' knowledge and skills about on-farm detection, diagnosis and prevention of footrot outbreaks.**
- **Enhanced producers' awareness of animal welfare and footrot disease biosecurity.**

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Workshop presentation & field day activity (Crowder Farm)

Workshop presentation & field day activity (Busby Farm)

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