Determining Seroprevalence of *Brucella ovis* in U.S. Sheep Flocks

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INTRODUCTION

- *Brucella ovis* is a bacterial pathogen associated with reproductive failure.
  - Ram infertility, decreased ewe conception rates, abortion, increase numbers of premature lambs

- Historically associated with epididymitis
  - However, less than 50% of infected rams have clinical abnormalities of the epididymis
  - If serology is not used as part of breeding soundness exam, *B. ovis* infection may persist in a flock

- *B. ovis* has direct negative effects on lamb production
  - Lamb production = 35% of gross sales for Wyoming sheep producers (2012, Univ. of Wyoming Extension)

- Important to know the prevalence of *B. ovis* in U.S. sheep flocks
  - Flock health management, productivity
BACKGROUND

• Currently collecting 2015-2016 serum samples from producers around the state of Wyoming
  – Both rams and ewes
  – Identify risk factors associated with *B. ovis* seroprevalence
  – Compare NVSL-ELISA with IDEXX-ELISA

• Requested to use NAHMS sera as “historical” data for Wyoming study
OBJECTIVE

Determine the seroprevalence and risk factors associated with *B. ovis* in sheep flocks across the U.S. using the 2001 NAHMS sera

1) Determine historical seroprevalence across the U.S.

2) Identify changes in seroprevalence between 2001 and 2015 in Wyoming sheep flocks.

3) Identify risk factors associated with seroprevalence using individual sample data collected in the NAHMS 2001 study.
PROGRESS

• 2001 NAHMS sera request approved in October
  – Wyoming samples in addition to all other states

• Serum samples (~17,000) will arrive in November

• Utilize the NVSL-ELISA to detect antibodies in each sera sample (run in duplicate) over the next 6 months

• Utilize the individual data collected with the 2001 sera samples to identify risk factors
  – Age, breed, flock size, etc.
FOLLOW-UP

• Dr. Sondgeroth’s contact info on title slide

• Email any suggestions/questions

• Refer to webpage for Wyoming Sheep Brucellosis Study.