

Occurrence of mastitis pathogens in goat colostrum

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Introduction

Intramammary infections are common in dairy small ruminants. The etiologic agents are diverse; however, mastitides of bacterial origin occur more frequently. Asymptomatic mastitis is the most common form of mastitis in dairy goat herds in Brazil, and the predominant etiological agent in this type of mastitis is coagulase negative *Staphylococcus* (CNS).

Materials and Methods

Lacteal secretions from 89 udder halves of Alpine and Saanen goats in the puerperal phase were examined. The animals were obtained from a dairy farm in the city of São José do Rio Preto, São Paulo, Brazil. Before the kid gained access to the udder, the first 3 squirts of colostrum were evaluated for macroscopic characteristics. In addition, approximately 3 mL of colostrum were collected after teat antisepsis and submitted to microbiological isolation. Routine techniques were used for isolation.

Results

From the 89 samples examined, 56 (63%) did not have macroscopic changes or positive bacterial cultures;

20 (23%) presented macroscopic changes and negative bacterial isolation; 10 (11%) did not present visible changes in the milk, but had positive cultures; and 3 (3%) showed changes in the milk and had positive microbial isolation. Among the isolated agents, CNS was the most common (12 samples), whereas *Bacillus* sp was isolated only in 1 sample.

Significance

From the data obtained, it can be concluded that asymptomatic mastitis was the most frequent form of mastitis. In addition, the samples with macroscopic changes were observed and no bacterial isolation suggest that other pathogenic agents may be involved, or that these changes were due to the aseptic inflammatory process of the mammary gland. The study emphasizes the importance of CNS in goat mastitis, which is usually present without any clinical signs. Nevertheless, it can cause persistent infections which result in higher somatic cell counts and lower quantity and quality of milk.

Lying behavior as an early predictor of ketosis in early lactation dairy goats

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Introduction

Goats frequently have multiple fetuses, a known risk factor for negative energy balance prior to kidding

(Brozos et al, *Vet Clin North Am Food Anim Pract*, 2011). This state, coupled with increased energy demands of milk production, also increases the risk of ketosis after kidding. Ketosis is a serious metabolic condition that

when left untreated can be fatal. Regardless of severity, ketosis has been shown to negatively affect milk production in dairy cows (Rajala-Schultz et al, *J Dairy Sci*, 1999). Unfortunately, in goats, this disease is typically only identified when does show clinical signs, and prognosis is poor. At subclinical levels, which frequently go undetected, reduced milk production likely leads to early culling. Clinical symptoms of ketosis include loss of appetite, ataxia, and general lack of mobility, including increased lying behavior (Andrews et al, *Small Ruminant Res*, 1996). In dairy cows, changes in lying behavior have been shown to be useful as early indicators of compromised health status (Weary et al, *J Anim Sci*, 2009). Therefore, the aim of this study was to examine whether lying behavior could be used as an early predictor of ketosis after kidding in dairy goats.

Materials and Methods

Ten commercial farms in southern Ontario, Canada (40 ± 19 does per farm) were enrolled. Each doe was affixed with a data logger on her rear leg, which allowed for the collection of lying behavior data at 1 minute intervals. Data collection began approximately 3 weeks before kidding and ended approximately 1 week after kidding. During this time period, blood samples were also collected at least once before kidding and at least once following kidding to determine β -hydroxybutyrate (BHBA) levels using a Precision Xtra meter. A total of 62 does (8 ± 6 does per farm) were identified as having either subclinical (BHBA 1.7 to 3.0 mmol/l) or clinical

ketosis (BHBA > 3.0 mmol/l) after kidding. The lying behavior collected for each goat was then paired with the data from a healthy goat (BHBA < 0.8) on the same farm; does were paired according to the same blood sampling date, the same number of fetuses born, and similar kidding dates.

Data logger data is currently being processed to determine daily lying time, daily lying bouts and average daily lying bout duration. Behavior data will be compiled for the 2 week period before diagnosis of ketosis. Mixed models will be used to compare the lying behavior of clinically and subclinically ketotic goats to that of healthy goats.

Results

Based on the established clinical sign of decreased mobility, the prediction is that ketotic does will spend more time lying down, will have fewer lying bouts, and will have overall longer bout duration when compared to healthy does; the difference will be less pronounced in subclinical does. These lying behavior changes will be evident in the weeks prior to diagnosis of ketosis via blood BHBA levels.

Significance

This work will demonstrate that monitoring lying behavior in late lactation goats prior to kidding is a useful predictor of goats at-risk of developing ketosis, thereby identifying these goats for early treatment.

Alpaca growth curves

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Introduction

Evaluating animal growth characteristics is an effective monitoring tool to assess adequacy of the nutritional program. Growth will be directly influenced post-weaning by the amount and quality of the diet consumed. Early growth is indirectly affected by nutrition through the effect of nutrient supply on maternal milk production. Growth curves have been generated for various species, including llamas, but none exist yet for the alpaca. The objective of this project was to develop standardized growth curves for the alpaca from birth through maturity.

Materials and Methods

Body weights (BW) for 720 alpacas in the United States were retrospectively collected from participating farms covering a period of 16 years. Data were collected from 10 alpaca farms in New York, Maryland, Pennsylvania, Ohio, Colorado, and West Virginia, and information included gender, breed (huacaya or suri), date of birth, and date on which BW measurements were taken. Individual BW data were collected from birth until 36 months of age, if available. Data obtained from 2 large farms in Ohio and New York account for more than 70% of the data. Pregnancy status was unknown; therefore