pen was avoided during late morning hours due to sun exposure, and another section displayed a clustering of cows during the late afternoon hours.

Time-lapse video equipment proved beneficial in observing cow behavior over extended periods of time. Factors such as temperature, time elapsed since milking, and time elapsed since feeding all impacted the proportion of cows observed lying. Recognizing and addressing cow behavioral patterns should lead to better facility design and improved cow comfort.

Milk-flow Disorders: Diagnosis of 133 Cases Using Theloscopy

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Abstract

This study reviewed 133 cases of milk flow disorders in dairy cows that were diagnosed by using teat endoscopy (theloscopy). Theloscopy was performed via teat canal (axial theloscopy) or via the lateral teat wall (lateral theloscopy). Study subjects were predominantly young Brown Swiss cows housed in tie-stall facilities. Most subjects were presented to the Veterinary Clinic Babenhausen/Germany during the first month in milk, and most were pre-treated. Hind teats most frequently were acutely affected by milk-flow disorders. Reasons for milk-flow disorders included ruptures in the area of the teat canal (with or without inversion of tissue into the teat canal), as well as foreign bodies and septa in the teat cistern. Theloscopy is a useful means for diagnosis of milk-flow disorders in dairy cows.

Evaluation of the California Mastitis Test for Screening Dairy Cows for Intramammary Infection at Calving

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Introduction

Udder health management programs at dry-off and during the dry period are essential to control and prevention of mastitis in dairy cattle. Knowledge of the prevalence of subclinical intramammary infection status at calving, and the specific pathogens involved, allows producers to evaluate effectiveness of these udder health programs. However, milk sampling and culturing all cows at the time of calving can be expensive and time consuming, and has not been widely adopted by the industry. California mastitis test (CMT) has not

been recommended for use in recently fresh cows. This study examined the use of the CMT for selecting quarters in fresh cows for further bacteriological examination to identify the presence of intramammary infection. Cut-points for defining a positive CMT test and length of time post-calving were evaluated.

Materials and Methods

The study group consisted of 81 cows calving at the Kansas State University research dairy herd, and 50 cows calving at the University of Guelph dairy research herds. Quarter-milk samples were collected for standard bacteriological culture on days 1 and 3 post-calving. A positive quarter was defined as one with a bacterial mastitis pathogen present at either day 1 or day 3 post-calving. CMTs were performed cow side on each quarter at the morning milking on days 1 through 10 post-calving. Quarters were scored as negative, 1, 2, or 3, per manufacturer's recommendations. The sensitivities (specificities) of CMT for identifying positive (negative) quarters were calculated for different CMT cut-points and on different days post-calving.

Results and Conclusions

Intramammary infections were present in 36% of quarters. Quarters with intramammary infection had a higher mean CMT score throughout the first 10 days post-calving. The sensitivity of CMT for identifying positive quarters was highest when a positive CMT was defined as a score of 1 or greater. Using this criterion, a maximum sensitivity of 56.5% was found when CMT testing was performed on the third day post-calving (specificity = 56.1%). However, on day 3 post-calving the sensitivity of CMT for identifying major pathogens was 73.5% and specificity was 54.2%. Sensitivities of the CMT on day 3 post-calving for identifying quarters infected with certain pathogens were: *Escherichia coli* – 50%, *Klebsiella*-80%, *Staphylococcus aureus* – 60%, and environmental *Streptococci* – 84%. Thus, CMT used on the third day post-calving can be a useful aid for selecting quarters for milk bacteriological testing, and should be considered as one component of a fresh cow monitoring program.

Use of Eosin Methylene Blue Agar to Differentiate *Escherichia coli* from other Gram-negative Mastitis Pathogens

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Introduction

Mastitis is a continuous concern for dairy producers in the US because of its economic consequences. Coliform mastitis accounts for 20% to 80% of acute clinical mastitis cases and includes gram-negative pathogens *Escherichia coli*, *Klebsiella* and *Enterobacter* species. Rapid identification of the causative organism is essential to implement a prudent treatment plan. *Escherichia coli* can be rapidly identified with eosin methylene blue (EMB) agar based on the occurrence of a green-metallic sheen that appears on the surface of the bacterial colonies. The primary goal of this study was to evaluate EMB agar for differentiation of *E. coli* from other gram-negative mastitis pathogens. The secondary goal was to determine the time to first visible sheen.

Materials and Methods

Frozen milk samples from which gram-negative bacteria had been isolated, and gram-negative bacterial isolates from milk samples, were received from eight states. Samples were grown on 5% sheep's blood agar. Isolated colonies were then plated on EMB agar. Time