

# DAIRY VETERINARY NEWSLETTER

July 2020

## Do Single Use Needles and OB Sleeves Reduce BLV Transmission?

As the authors of a recent paper state, “- - adopting - - single use needles and sleeves is a commonly suggested management change for reducing BLV [bovine leukemia virus] transmission [within dairy herds].” Therefore a field trial was conducted to evaluate this, as reported by V. Ruggiero and P. Bartlett in *Bovine Practitioner*, Summer 2019. Three commercial dairy herds where multiple use needles and sleeves had been used were studied. All were freestall housed, with 220, 350 and 320 lactating cows, and were studied for 1, 2, and 2 years respectively. Two herds were in Michigan and one was in Wisconsin.

Milk ELISA was used to diagnose BLV in individual cows. Beginning within - herd prevalences of BLV according to the ELISA were 25%, 74% and 54%, respectively. I thought that these approximately 25% intervals of the proportion of the herds BLV-positive were an interesting feature of the study. The BLV-negative cows within each herd were randomly assigned to either a common sleeves and multi-use needles control group or a single-use sleeves and needles experimental group. There was one indication of possible issues with keeping the experimental cows identified; those cows were “marked by the herd manager with additional ear tags, leg bands, and/or chalk” which as written means that cows could be identified by chalk alone. I suspect this was not the case; all single-use treated cows were probably identified with tags or leg bands as well. There was one brief mention that the BLV-negative cows were “stratified on days in milk” but there was no description of days in milk ranges and the analysis and results included nothing about days in milk when the cows were enrolled or when they became positive if at all. I think this likely means that stage of lactation was not found associated with BLV infection outcome.

Cows were tested for newly positive BLV status “semiannually, as close as possible to November 1 and May 1 each year.” Milk samples - bronopol preserved - were collected by DHI and a modified BLV ELISA test was performed at the NorthStar laboratory in Michigan. Cows that became BLV-positive were no longer followed. “When possible” (why this would sometimes not be possible was not stated), BLV-negative cows identified at each herd test that were not previously enrolled in the study were enrolled and randomly assigned to either the control or experimental group. There were no records of how many times cows were palpated or otherwise had rectal sleeves used or how many times cows were injected; presumably these were approximately equal across the cows within each treatment group. There was also no general description of vaccines, hormones or other injections administered or how many times most cows would be palpated if they became pregnant within three breedings, calved during one study interval, etc. This would have been interesting to know, but again, it was apparently assumed to be similar between the two treatment groups within each herd.

Cumulative incidence for each 6 month interval for new infections (newly BLV test-positive) was compared between treatment groups. Cumulative incidence is a statistic with a confusing name; it is the proportion of individuals that become positive for a disease or condition during a finite time period, not an incidence rate. This statistic is often used for a time period of a year or less and is simply the number of newly diagnosed individuals divided by the number studied during that time. It is virtually always used when the disease is not

diagnosed multiple times in the same individual, that is when each animal is considered negative or positive with no going back and forth in disease status. Therefore it is a categorical outcome and it was evaluated using Fisher's exact test to compare the proportion newly infected within each herd and in all 3 herds combined between the control (multi-use) and experimental (single-use) groups. The paper includes a description of the methods used to adjust for the few cows that were inadvertently not sampled at one of the 6 month testing intervals, but were then newly positive at the next testing interval.

Interestingly, in two herds, there was a numerically higher cumulative incidence of new BLV-positive cows in the single-use experimental group than in the multi-use control group (38% vs. 27%, 25% vs. 24%). The third herd was actually quite lower in BLV-positive cows in both groups (7.7% vs 8.2%). However, each herd was not significantly different between treatment groups (P between 0.13 and 0.92). For all herds combined, the cumulative incidence of 23% (102/449) in the single-use experimental group and 20% (88/440) in the multi-use control group were also not significantly different (P = 0.38).

There were two "seasons" defined in the study: "summer" was May through October, "winter" was November through April. As might be expected, for all herds combined, the cumulative incidence of new BLV infections was higher in summer (23%) than winter (16%) (P = 0.04). However, this was driven only by the Wisconsin herd, where the cumulative incidence was 41% in summer, 17% in winter (P = 0.001). In the two Michigan herds, the cumulative incidences were not significantly different between seasons: 9% winter, 6% summer; 24% winter, 25% summer (P = 0.36, 0.79). The authors cite several references suggesting that blood-sucking insects can transmit BLV. The virus has been found in lymphocytes recovered from the heads of tabanids.

The paper concludes with an interesting discussion about BLV and the results. Despite the lack of significance or even numerical evidence supporting use of single-use needles and sleeves, the authors conclude, "The cost of each needle and sleeve has decreased to less than US \$0.10 each, so implementing single-use needles and sleeves is an affordable practice. Adopting single-use needles and exam sleeves should be recommended as part of most comprehensive disease control programs regardless of the impact on BLV transmission, which still requires further investigation to determine if the results reported here are repeatable."

## Utah State University and UDAF Continuing Education Online Event August 13, 2020

It has come to our attention that veterinarians are finding it harder to obtain Continuing Education credits and find convenient updates in the present pandemic situation. Reluctance to travel by air and the cancellation of so many CE events are the primary reasons. Some of us in the USU School of Veterinary Medicine and Utah Department of Agriculture wanted to provide a reasonably short, convenient update on some timely subjects in an online format. There will be 1.5 hours of CE credit available through the UVMA. Details are below:

### **Veterinary Update Thursday, August 13, 2020 6:00 - 7:30 pm MT**

Best practices for feeding discard milk, Utah agritourism, and trichomoniasis

#### **Pasteurization and Safe Feeding of Discard Milk to Calves and Seasonal Temperature Effects**

Dr. David Wilson (Dairy Extension Veterinarian, USU)

Feeding discard milk to calves increased this spring on many dairy farms as a result of decreased total milk consumption during the pandemic. This presentation will include some details on pasteurization method and bacteria counts in raw and post-pasteurized milk. Seasonal temperature variation and resultant differences in

the time following pasteurization until milk can no longer be fed safely will be covered. Different pasteurizer designs and the importance of cleaning the equipment will be discussed.

### **Zoonotic Disease Control Practices of Utah Agritourism Operations**

Dr. Kerry Rood (Extension Veterinarian, USU)

Agritourism operations are associated with over \$560 million spent in the U.S. Animals are commonly used as part of agritourism, and zoonotic disease outbreaks occur despite developed best practices for preventing human exposure to disease. Following an increase in reported human cases of *Escherichia coli* diarrhea associated with exposure to animals at Utah agritourism operations, the attitudes, species of animals and birds exhibited, animal contact allowed, food service, sanitation practices, and current knowledge of Utah agritourism operations were assessed by electronic survey. Respondents reported attracting 250,000 visitors each year to their operations in Utah. Results will be discussed with an emphasis placed on zoonotic disease prevention gaps on Utah agritourism operations and the potential role that practicing veterinarians have in recommending best practices.

### **Modifications to the Trichomoniasis Regulations Following the 2020 Utah Outbreak**

Dr. Dean Taylor (State Veterinarian of Utah)

An outbreak of trichomoniasis in Utah during the spring of 2020 exposed some weakness in state regulations and the safeguards that were thought to be in place. Additionally there was some confusion on the part of the producers regarding how the rule was applied in Utah. These issues prompted reevaluation of the regulations and undertaking the task of making them uniform, clear and effective in protecting our cattle industry. The conversation will center on the outbreak and the steps taken to assure the best response in the future.

**Registration is no-charge via EventBrite:** <https://veterinaryupdate2020.eventbrite.com>

We will probably record the presentations, but the only way to obtain CE credit through UVMA is to register for the conference.

## **More Event Cancellations or Modifications**

### **World Dairy Expo Cancelled**

For the first time in its 53-year history, World Dairy Expo® has been cancelled as a result of the COVID-19 situation. It had been scheduled for September 29 through October 3, 2020. The Expo welcomed more than 62,000 attendees from nearly 100 countries in 2019.

### **American Association of Bovine Practitioners Conference Update**

The conference will be a combination of in-person and online formats. According to the AABP website, many pre-conference seminars are cancelled. The conference schedule shows some events that emails have suggested are cancelled. I contacted the AABP office asking for clarification but there was none at this time; of course a lot of things are in flux now regarding the pandemic. However, this is a realistic and important statement from AABP president Dr. Calvin Booker: “None of us know with certainty what the future will look like as it pertains to the COVID-19 pandemic come September, but we will abide by whatever federal, state, city, hotel or convention center regulations and procedures are put into place, which could include cancellation of the in-person component due to public health concerns.” The website also says, “If a session room is at capacity, attendees will be asked to watch the live-streamed conference in a nearby room. Masks are recommended, but not required.”

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Thanks again to our readers for all that you continue to do to safeguard animal health, welfare and food safety during these challenging times.

Please let us know your comments and suggestions for future topics. I can be reached at (435) 760-3731 (Cell), or [David.Wilson@usu.edu](mailto:David.Wilson@usu.edu).

A handwritten signature in blue ink that reads "David J. Wilson". The signature is written in a cursive style with a horizontal line underneath the name.

David Wilson, DVM, Extension Veterinarian

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