Mastitis treatment discussed at DelMar Milking School

BY MARTHA J. GEHRINGER

GLASGOW, DE — Treating the individual quarters of an udder and using teat dip are two effective strategies in the war on mastitis. These two key elements of a good mastitis program were discussed at the Del Mar milker school held recently at the Pencader Grange Hall.

"Most new infections occur within two weeks following drying a cow off," said Dr. Robert Corbett, a veterinarian from El Paso, Texas. Therefore treating all four quarters when drying a cow off is very effective in preventing new cases of mastitis, Corbett continued.

When this cow freshens, Corbett also advises against letting a calf nurse. The nursing action forces milk that is in the teat back to the cistern. This milk is contaminated and infects the udder, Corbett added.

Seven days after freshening, 20 percent of new clinical mastitis cases develop, Corbett explained.

By not milking out an udder on the first milking, many farmers are leaving a breeding ground for mastitis organisms, Corbett stated. "This first milking needs to be bone dry," he explained. He also suggested using oxytocin to get all of the milk out of the udder and reduce udder edema.

Contrary to popular belief, milk fever is not the result of a complete milk out, rather it is a nutritional problem, Corbett explained. This metabolic disorder is also easier to treat and causes less permanent damage than mastitis, he added.

In examining the milking procedure, Corbett recommended using disposable towels and just enough water to wash the teats. Excess water on the udder drips into the milker and causes coliform mastitis, he noted.

At the end of milking, he suggests stripping the last milk out of the teat to remove the possible breeding ground for bacteria.

Corbett pointed out that a good mastitis program will net returns of five to one. Also fewer cows will be needed due to the increased milk production.

Subclinical cases of mastitis can reduce milk production by 70 percent, Corbett said. This lost production comes from the atrophy and scarring of subclinical glands, with no visible signs that the udder has been destroyed, he added.

The best information available for treating mastitis comes from the quarter California Mastitis Test (CMT), Corbett explained. By doing one milking per month and recording the results, a true picture of a herd's subclinical profile can be achieved, Corbett said.

This can then be used as a baseline for treating the quarters of an udder after a treatment level is decided. Monthly testing also permits treatment of infection quickly, as the farmer then knows which quarters have been infected in the last 30 days, Corbett added.

These quarters can then be treated and recultured 14 days later to determine if treatment was successful, he explained. The herd can also be segregated based on these results to prevent uninfected cows from becoming infected, Corbett continued.

A goal of 300,000 SCC can be achieved on every farm with a little effort, Corbett said.

Dr. J. Woody Pankey from the University of Vermont, added that when the SCC count reaches 200,000, mastitis is under control. The most profitable level is 100,000 to 150,000, he noted.

The prerequisite to any control program is a clean and dry environment, Pankey said. Sources of microorganisms that invade the udder are found in areas that are not clean and dry such as soil, bedding, mud, milking equipment, and hands. Basically anything that touches the udder is a possible source of contamination, Pankey explained.

Strep Ag organisms can be found on dirty rags that are used to wash the udder, Pankey related. "Machine factors are less important with excellent hygiene," he pointed out.

Contagious infections can be reduced by more than 50 percent with teat dipping, Pankey said. The depth of dipping is unimportant, and the best dip is one that runs off the teat, providing good coverage of the teat canal, Pankey stated.

Dipping can also be done prior to milking. Predipping with good udder preparation reduced mastitis 51 percent in four herds in a study Pankey recently conducted. This is due to the reduction of environmental pathogens, Pankey explained.

When management can't be modified and many environmental problems exist, such as a mudhole, Pankey suggested using the predipping method. He cautioned that only teat dip containing iodine be used. No legal limits exist for other chemicals found in teat dips. If these are found it could result in a lost load of milk, Pankey added.

There are two types of losses which can occur, subclinical and clinical. Subclinical cases occur 15 or 40 times more often than clinical cases of mastitis, Pankey noted. This level of mastitiis is determined by the rate and duration of infection, Pankey explained.

The condition of the teat end is also important when considering possible source of contamination. The quarter with a bad teat end can have ten more times clinical cases of mastitis than healthy end, Pankey said. Also a teat end that has sores on it is impossible to get sterile and provides another area for contamination, Pankey added.

Studies have been done on the depth a syringe goes into the teat and the rate of new infections. Full insertation can cause up to 17 percent new infections, Pankey stated.

This syringe becomes a carrier for pathogens, especially if good hygiene is not maintained, Pankey noted. The keratin plug, the first line of defense in a teat, is destroyed when the syringe is inserted too far, Pankey continued, and allows more the organisms easier access to the udder.

Once this infection occurs, prompt treatment is important to prevent further damage, Corbett suggested. Delaying treatment can cause the therapy program to fail, Corbett noted.

A therapy program to check mastitis could have several reasons for failing, Corbett added. Deep seated infections, resistance of an organism to the antibiotic, improper selection of drugs and dose level, and stopping treatment too soon were other reasons why a therapy program would be ineffective, Corbett commented.

Quarters that have subclinical stages of mastitis result in clinical cases of mastitis 80 percent of the time if untreated, Corbett added.

If the milk ducts are blocked for more than four days with mastitis, the milk producing ability of the quarter is lost until that cow freshens again, Corbett said. Antibiotics cannot enter the udder to fight infection if the ducts are blocked, Corbett stated.

He suggested using oxytocin until the clinical signs are gone to insure maximum milk out of the udder. Another measure to attain maximum milk out is milking the quarter every hour. This removes the pathogens causing the infection, Corbett explained.

"Intramuscular therapy is almost totally worthless unless the right drug is used in connection with a intramammary therapy," Corbett continued. The drugs in the muscles do not have the ability to get directly to the source of the infection, Corbett added.

Corticosteriods should never be used in the udder and are for parenternal therapy only, Corbett said. This treatment should also be accompanied by antibiotic coverage, he noted. If cortisone is used, the limit is one time or a significant decrease in white bloood cells occur, Corbett added.

An ideal milking system can reduce some cases of mastitis, but should never be blamed for all of the cases in a herd, Corbett noted.

Silicon inflations are Corbett's preference in a milking system since they have a smoother surface. This surface then provides fewer crevices for organisms to adhere to and consequently fewer are passed onto the next cow, he continued.

This inflation also is triangular in shape and does not collapse directly on to the teat end causing less stress and restriction on the teat, Corbett stated. He also prefers the inflation to be of the thin walled, narrow bore, stretch type.

When on the teat the inflation should be down .5 to .75 inches from the top of the teat to provide proper milk out and place less stress on the teat, Corbett commented.

Dr. Robert B. Corbett

Dr. J. Woody Pankey

Other items suggested to decrease stress on the udder and mastitis levels were a pulsation rest ratio of 60 to 40, a provision in the system to prevent over milking, a stable vacuum, sanitizing the machine between cows and milk flow by gravity to a weigh jar or a low line.

By treating clinical and subclinical cases of mastitis promptly, using dry cow therapy, teat dipping, proper maintenance of milking equipment and culling chronic cows, a farmer can have an effective mastitis control program that will pay financial rewards, Corbett concluded.

Pankey put the finishing touches on the day when he related a story he heard in the south. There was a gentleman who was walking with his daughter in the park one day when they passed a thin and unattractive lady. The gentleman was overheard to remark to his daughter, "See what happens when you don't drink your milk."