

# Lessons Learned with Milk Quality

A lesson began for a group of nearly 50 Illinois dairy producers when their milk processor changed the pay structure for their milk in the fall of 2008. The implemented change placed a heavy emphasis on preliminary incubation (PI) counts.

Many of the herds struggled to maintain a PI count low enough to earn the extra premiums that the processor offered and began seeking ways to lower their counts. For the dairies, the significance of a superior-quality pre- and post-dip product for their milking regime became apparent over the course of the past 18 months.

Upon examination by the local Dairy Herd Improvement Association (DHIA) and veterinarians, the lesson became clear. A survey was given to the top 25 percent herds for PI count, standard plate count (SPC), and somatic cell count (SCC), with the intent of discovering how the low PI count herds maintained their high-quality milk.

## What Is a PI Count?

PI count results are being determined by milk processors as an indicator of milk quality. In order to calculate the PI count, a raw milk sample is incubated at 55 degrees

Fahrenheit for 18 hours. The ideal goal should be a bacterial result of 20,000 or less per milliliter (ml). PI counts below 50,000 per ml are considered good.

The PI count is commonly affected by cold tolerant, gram-negative bacteria. These bacteria can increase due to poor udder preparation, improper cleaning and sanitization of milking equipment, slow milk cooling time, or poor milk handling.

"PI counts have become an important concern in milk quality," stated Gary Brummer, Prairie State/Select Sires sales representative. "The amount of money that producers can make with the financial premiums is an incentive for producing the highest-quality milk."

For the dairies located in central Illinois, their processor was offering PI premiums that could easily add an extra \$250 per cow per year with no additional cost to the producer. If the herd's PI count was below 15,000, a bonus of 50 cents per hundredweight would be added. If the count was over 100,000, a deduction of 50 cents per hundredweight could occur. Overall, the range in premiums was from the addition of \$1.00 per hundredweight

to a deduction of \$1.20 per hundred-weight.

## Herd Owners Seek to Lower Counts

As many of the herds struggled to maintain a PI count low enough to earn the extra premiums, they began seeking ways to lower their counts. The local veterinarians became involved in the chronically high PI count herds, where bulk tank samples and teat dip cup swabs were sent for further testing to identify the source of the high counts. While the test itself did not identify the source, the types of pathogens would give clues as to the source of the high levels.

The dip cup swabs from iodine or bleach dips grew colony-forming bacteria when incubated. Swabs taken from EfferCept®, 4XLA® and UDDERgold® 5-Star products were found to not be the source of any PI count problems.

Brummer had already become involved as his customers were dealing with this problem. As a firm believer in quality products, he referred his customers to a milking protocol that included EfferCept as pre-dip and 4XLA or UDDERgold 5-Star as the post-dip. The handful of producers already using the combination of EfferCept and 4XLA or UDDERgold 5-Star were able to control their PI count.

## Results Noted

The 49 herds were comparable in labor and milking techniques and all shipped to the same dairy processing plant. They each had only family labor working on the farm and used dip cups for pre- and post-dipping. Some of the producers were using iodine or bleach dips, while others were purchasing EfferCept, 4XLA and/or UDDERgold 5-Star from Brummer.

In January of 2009, the local DHIA sent out blind surveys to the top 25 percent of dairy producers for a round

table discussion to determine how they maintained low PI counts, SPC and SCC. All of the surveys were returned, and the results were compiled for presentation at their meeting.

The results showed that 80 percent of the top herds used the combination of EfferCept as a pre-dip and 4XLA or UDDERgold 5-Star as a post-dip, and those producers were all Brummer's customers. One of the remaining herds used EfferCept as a pre-dip.

"The herds that I have seen switch from iodine or bleach pre-dip to EfferCept have had fewer spikes and lower average PI counts," noted Brummer. "It appears that EfferCept can kill a broader spectrum of bacteria and kills the bacteria more quickly than iodine. An iodine product can take up to a full minute to kill all mastitis-causing organisms on the teat."

Pairing EfferCept as a pre-dip and 4XLA or UDDERgold 5-Star as a post-dip allows for the best coverage in udder health. EfferCept has a broad spectrum control of bacteria, spores, fungi and viruses. It can kill 99.99 percent of *Staphylococcus aureus* and 99.87 percent of *Streptococcus agalactiae*, significantly reducing intramammary infections. EfferCept can be used as a pre- and post-dip technique on its own.

4XLA can kill bacteria in 15 to 20 seconds. When used as a post-dip, 4XLA will replenish the cow's natural defense and condition the skin of the teat. It can also be used a pre-dip.

UDDERgold 5-Star, the next-generation barrier teat dip, gives dairy producers the proven performance to control a broad spectrum of bacteria, provide a barrier film, and helps moisturize teats for improved skin health.

EfferCept, 4XLA and UDDERgold 5-Star are all available from your Select Sires representative. Contact your sales representative today to learn more. ♦

