

## Summer Management Practices that Affect Milk Quality

Dr. Donald E. Pritchard  
Dairy Extension Specialist, North Carolina State University

At the on-farm meetings we conducted recently on the topic stated in the title of this article, several different speakers gave comments from their perspective about what producers should be doing to produce higher quality milk, not only in just the summer but throughout the year. Brief summaries of the comments by two of the speakers follow. They offer good recommendations for all dairy producers to incorporate into their management strategies.

Dr. Warren Gilson, a dairy extension specialist from the University of Georgia, stated that while the data shows there are regional differences in the quality of milk produced as measured by somatic cell counts, there are examples of dairy producers in every region who consistently produce high quality milk. Researchers have shown that the primary factor causing increased somatic cell counts is infection of the mammary gland. Furthermore, when cows are under stress such as they are in the summer, there is a marked increase in SCCs as a response to the stress. The higher temperatures and humidity combine to challenge the cow's defenses against both clinical and subclinical udder infections. Therefore, to reduce SCCs or maintain low SCCs, and to improve the quality of the milk produced, dairy farmers should strive to provide an environment which minimizes the amount of stress to which the cows are subjected. This especially pertains to minimizing the bacteria load that the cow's udders are challenged by.

Dr. Gilson believes that producers who consistently produce high quality milk have the following characteristics: 1) they have a **positive attitude** - they always strive to do their best and do not tolerate poor quality milk; 2) they are **proactive** - they take the necessary steps to anticipate problems and prevent them from happening, rather than reacting to problems that arise; 3) they continually **monitor** milk quality - they pay attention to their milk quality reports and use them as a way of monitoring their management practices that affect milk quality; and 4) they are **innovative** - they are constantly trying new ideas and technologies that will potentially help them produce higher quality milk.

Following the recommended ten point mastitis control program of the National Mastitis Council is what Dr. Gilson suggests all dairy producers do to continually improve the quality of milk they produce. Those ten points are to establish goals, maintain a clean and comfortable environment for the cows, use proper milking procedures, properly use and maintain milking equipment, keep and use udder health and milk quality records, treat clinical mastitis during the lactation, manage dry cows properly, maintain biosecurity and market chronically infected cows, regularly monitor udder health, and periodically review your udder health control program with your veterinarian.

Dr. Jim Rogers, a veterinarian from Statesville, North Carolina who has many dairy clients, offered similar suggestions from his perspective. He discussed several factors that he thought influenced milk quality, especially in hot weather. The factors he mentioned in

order of importance are: **1) the environment** - very important because it affects bacterial growth. It should be clean, dry and comfortable. Provide shade and cooling for the cows. **2) milking procedures** - follow a recommended routine that includes pre-dipping and post-dipping, and make sure the teats are clean, clean, clean! Clip or singe the udder hair often to help keep the udders and teats clean. While SCC scores are very helpful, don't forget to use the cow-side individual quarter CMT test to help detect udder infections. **3) proper machine function and hygiene** - A given that the equipment won't operate as designed if not used and maintained properly. **4) genetics** - More attention should be given by producers to selecting bulls that sire cows with udders that are attached well above the hocks, that have an average milking speed (indicating that the teat orifice is not too loose or too tight), and that have feet and legs that will allow the cows to stand for several hours a day while they eat the required amount of feed to produce large volumes of milk. Cows with low hung udders, that leak milk, or that lay around a lot are more prone to getting udder infections and having poor quality milk. **5) nutrition** - There is only a slight effect of nutrition on milk quality and udder health, but the immune system is affected by the nutrients the cow eats. Be sure the protein, mineral and vitamin levels of the diet are adequate and balanced. **6) vaccinations** - They are usually not much good except as a general vaccination program that leads to a healthier cow. The severity of udder infections may be affected by certain vaccinations, but don't rely upon vaccinations to prevent or solve all udder infection problems. **7) treatments** - These are the least important things to consider in dealing with practices that result in high quality milk. They can help manage certain types of udder infections, but treatments are usually given as a result from a breakdown in one or more of the factors listed above.

Both Dr. Gilson and Dr. Rogers stressed the importance of paying attention to the details associated with keeping the cows clean and comfortable as the chief way of helping produce high quality milk any time of the year. Discuss the suggestions stated above with your veterinarian, coop or milk plant field man, or area dairy or county extension agent. Develop and implement a management action plan for your dairy that will result in higher quality milk and more profit for your dairy.