

The Relationship Between Bulk Tank Somatic Cell Counts and Udder Infection Levels

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Bulk tank milk from each dairy producer is sampled at least once a month and checked for its somatic cell count. Regulatory agencies use the data to check that the milk being shipped contains less than the maximum legal limit of 750,000 cells/ml. Milk coops and handlers use the information to determine if quality milk premium payments should be paid the producer. And dairy producers should use the information to help them monitor on a herd basis the udder health status of their cows. (Individual cow udder health information can be obtained by receiving monthly somatic cell information through the DHIA program.) The emphasis that each of these groups place on somatic cell information is directed at producing a high quality milk product for human consumption.

By using bulk tank milk somatic cell count (BTMSCC) information, producers can get an estimation of the percentage of both cows and quarters in the herd that have udder infections. This information can be helpful in making management decisions. Dr. Larry Smith from The Ohio State University discussed these relationships in his presentation at a milk quality conference held earlier this year in Wisconsin.

He reported that there is a linear relationship between the BTMSCC and the percentage of quarters infected in a herd. That relationship reveals that with somatic cell count (SCC) values of 200,000, 400,000, 750,000 and 1,000,000 cells/ml, there are approximately 6.2, 12.8, 24.3, and 32.6 percent of the quarters infected in the herd, respectively. The majority of dairy herds have SCC values in the 200,000 to 400,000 range most of the year. With scores in that range it means that there are approximately 6 to about 13 percent of the quarters in those herds that are infected. While producers often think that having a SCC value of about 200,000 is very good, and it is, it should be remembered that there still are a significant percentage of the cows in the herd that are infected.

Dr. Smith further reported that research has also shown a relationship between BTMSCC values and the percent cows infected in a herd. That relationship reveals that with a BTMSCC value of 200,000 cells/ml, up to 15% of the cows in the herd will be infected in one or more quarters. Each additional increase in BTMSCC of 100,000 cells/ml indicates that an additional 8 to 10 percent of the cows are infected. Thus, the percent of cows infected in herds with BTMSCC values of 200,000, 300,000, 400,000, 500,000, 600,000, 700,000, and 750,000 cells/ml, would be approximately 15%, 25%, 35%, 45%, 55%, 65%, and 75%, respectively. So, the majority of herds with BTMSCC values in the 200,000 to 400,000 range have from about 15 to 35% of the cows with udder infections. This is a significant health problem that producers need to continually address and strive to reduce.

Information about the relationship of BTMSCC values and the percentages of quarters and cows in a herd that have udder infections can be helpful to producers and their veterinarians as they develop management strategies for improving the udder health of the cows in each herd. Producers should discuss this information with their veterinarians.