Straight to the Bottom Line – 6/1/11
By: Steve Martin

"It all depends on the denominator"

I have a question for you… What is the easiest way to have fewer fresh cow problems? Answer: Have fewer fresh cows! This may sound a bit simplistic, but it demonstrates the need to always know the denominator. At times, we may feel we have made progress in the area of fresh cow health for instance, only to find out the real change has been a reduction of numbers of new fresh cows.

It is really kind of like 5th grade math. We need to always know what the population is to truly gauge our success in any measure. The result of these 5th grade problems are a set of industry standard frequencies of various events on a dairy. Among these are death loss, culling rate, pregnancy rate, etc. In each, we must know the size of the population from which we are tracking a particular event. For example, we might want to see how our dairy measures up to the industry standard on fresh cow loss up through 30 days in milk. To do this, divide the number of cows that were sold or died less than 30 DIM by the total number of freshening during that month. A simple fraction equation for sure, but are you certain? This one is a little tricky. What fresh cows do you put in the denominator? If you are trying to measure the fresh cow loss during April, and you know you lost 7 cows less than 30 DIM, what do you divide that number by? Or in other words, "what is the denominator"? Is it the cows that calved in April? That sounds like a logical answer, but no. A cow that calved on April 30th really has to be tracked all the way to June 30th to see if she makes it or not and a cow that freshened on March 30th could have been sold in April! Seems like a long time to wait for data. To do it right, you must wait. However, a quick and dirty method that will suffice is to average the number of fresh cows from March and April, assuming that the average should be close to the average population of cows less than 30 DIM at any given time during the month of April. Not perfect, but pretty close!

I used that example because it is a tricky one. Death loss and cull rates are a little more straight forward. These numbers are usually calculated by using the total mature herd as the denominator. I think this is the way most in

the industry calculate these two but I am not real sure that is really the truest way to consider the actual percent of cows leaving the dairy. Should the denominator not be the total number of different cows that lived on that dairy during the year? In that case, you would have to add the sold and dead cows to the denominator. Thinking of a 10 cow herd makes this a little clearer. If you have a 10 cow herd with a 20% cull rate, you will actually have 12 different cows on that dairy during the calendar year. So, is the denominator 10 or 12? It's just 2 cows difference in the example 10 cow herd but it is 600 cows in a 3000 cow herd. If that is hard to get your head wrapped around, go back to the 10 cow dairy. In such a small herd, it is likely that every cow would have a name. To make the point, if you wanted to have every cow have a unique name, you would need to have 12 different names, not 10, by the year's end. The result is your true cull rate, using this logic, is really 16.7% not 20%.

I am not suggesting we change the way we calculate cull rates, but illustrating the importance of knowing the correct denominator to accurately express the frequency. At the end of the day , it is still 5th grade math. However, the more accurately we track data and express performance in our operations, the better management decisions we can make.