

CALVING EASE

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Beware of Averages

I recall the joke, “A man has his head in the oven and his feet in the freezer. On the average, he is very comfortable.” It points out that just knowing the average of anything does not capture the whole story.

During this past year I have listened to many calf raisers quoting averages. “Our average calf mortality rate for the past five years is less than 5 percent.” “On the average, we treat about 15 percent of our heifers for respiratory illness.” “Our average daily gains this summer were lower than in the spring.” “The average age of weaning this year is down a week compared to last year.” Of course these sound familiar to you. We talk this way nearly every day.

Averages can be good information

When monitored monthly, quarterly or even yearly, averages give us a quantitative measure of how the whole calf enterprise is performing. Average values tell us where we are as a heifer enterprise. How well are we doing for the entire population of calves? Average mortality of twenty percent is a whole lot worse than five percent. Average daily gains of 1.5 pounds per day are much better than 0.5 pound per day.

Averages can overlook important information

Remember how an average is calculated. Add up all the values. Divide that sum by the number of cases. For example, take number of respiratory cases treated on Farm 1 per week. Weeks 1-5 were 5, 15, 20, 25, and 35. Sum is 100 cases in 5 weeks. Average = $100/5$ or 20 cases per week.

On Farm 2, over the same five weeks their treatment rate was 20, 20, 20, 20, and 20. Sum is 100 cases in 5 weeks. Average = $100/5$ or 20. The average treatment rates are identical. Do the farms have the same challenge?

I will venture to guess that Farm 1 may have a growing protocol compliance problem. The colostrum management program may be falling apart and getting worse week-by-week leaving the calves increasingly unprotected from pathogens. Increasingly frequent equipment sanitation failures may be allowing biofilm buildup to grow week-by-week, thus dosing the calves with increasing numbers of pathogens. In addition, if it is cold weather, this farm may not be feeding enough to maintain sufficient immune resources among calves. As calves get progressively thinner and weaker, they get sicker more often. Challenges? Are colostrum management and sanitation protocols written? How can training be improved so workers find it easy to follow approved

procedures? How can the monitoring program be improved? With an increase in respiratory treatment rate from 5 to 35 cases in five weeks, is anyone looking at preweaned calf nutrition?

Let me guess about Farm 2. Things are not changing here as evidenced by the constant treatment rate. The colostrum management is not excellent but it's not bad. The sanitation program is not sloppy but it is not really good either. The preweaned calf nutrition program is okay but not excellent. And, Farm 2 may not define a twenty percent treatment rate as abnormal. Challenges? The first one is defining the situation as a problem – is a twenty percent treatment rate undesirable? And, is it possible on this farm to do anything to reduce it? Other challenges include finding the holes in the various management systems and plugging them.

Let us shift attention to growth figures. Note in the table below, that the average daily gain (ADG) for these farms is the same, 1.8 pounds. Farm A has many heifers clustered near the average.

Table 1. Selected values for Heifers, Farms A and B

	Farm A	Farm B
Average Daily Gain (pounds per day)	1.8	1.8
Percent of Heifers above 2.2# ADG (High)	10	10
Percent of Heifers between 1.6-2.0# ADG (Close to Average)	65	45
Percent of Heifers below 1.0# ADG (Low – Poor Doers)	5	20

Even more important to note, Farm B has a much higher percentage of heifers with quite poor ADG, under 1.0 pound ADG than Farm A. If we were looking at four-month old heifers on Farm A, we would be seeing a lot of pretty uniform sized animals. Here and there, maybe a poor doer. They still have some challenges in terms of more uniform colostrum management, reducing respiratory infections and coccidiosis control.

In contrast on Farm B, even though the average ADG is identical to Farm A, we would see a lot of substantial variation in size in every pen. While ten percent of the heifers are doing very well (above 2.2#/day), one out of five heifers (20 percent) would be a “poor doer.” This suggests some major problems in getting consistent, uniform colostrum management and equipment sanitation. Diagnosis and treatment of all illnesses may not be timely for every calf. The higher proportion of heifers in the “poor doer” category calls for prompt action. Unfortunately, these low-end heifers do not come to our attention when only “average” figures are used to evaluate heifer raising.

The Golden Rule? Use averages to know how your enterprise is going as a whole. Look beyond the average values. Looking at the number of sick or low growth rate heifers is a good way to spot holes in the management system. Left open, these holes drain off a lot of your profits.

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