

Calf losses leave lots of money on the table

by A. F. Kertz

WHAT area may be the source of the largest genetic and financial losses on many dairies? This may be somewhat debatable, but calf losses would have to be considered. What do we know about those losses?

The most recent 2002 National Animal Health Monitoring System (NAHMS) survey has some data, mainly calf death losses of calves born alive. There are two figures given, namely 8.7 percent and 10.5 percent. The first number included all operations that reported any calves that died. The second included only operations that reported the cause of death. (Operations that reported no deaths were inadvertently removed from the denominator.) This also was true for weaned heifer deaths . . . namely 1.9 versus 2.8 percent. I would use the larger number in both cases for it is more likely that calf deaths would be underreported, depending on availability of accurate records, and it is human nature to not want to report more negative results.

The NAHMS reports also indicate that the main cause of death before weaning was scours while after weaning it was respiratory. So, if we use the higher death loss figures, that accounts for 13.3 percent death losses. And that number has changed little from previous surveys in 1991 and 1996.

Now, if scours and respiratory are the main death causes before and after weaning, would you suppose that those are the main health problems even for those calves that survive? I would think so. But how do we put that into a loss equation?

Well, there would be treatments (labor and medication) for those heifers and loss of performance while recovering. But we cannot assume that calves will completely recover. Epidemiological data show that calves that scour have longer-term performance effects. And calves that have significant respiratory problems are impaired for life.

Three key periods . . .

What can be done to minimize these death losses? The answer lies in dealing with the three critical time periods in a calf's life. They are the conditions at calving, the first 2 weeks of life, and the weaning/transition period which includes two weeks before and two weeks after weaning.

The conditions at calving lead to a series of questions. How dry, clean, ventilated, and spacious is the calving area? Is the cow checked for Johnes, and is only colostrum from the dam used for her calf? Is the colostrum milked into clean equipment and fed quickly or promptly refrigerated? Is the colostrum checked for quality, and are 4

quarts fed within the first 4 hours after birth? Is the calf promptly put into a dry, clean stall or hutch? If a holding or warming pen right after calving is used, how often and how well is it cleaned and disinfected?

While these are not exhaustive questions, they deal with critical main points. They determine whether the calf is set up to do well during its important first 2 weeks of life . . . along with the housing and feeding during that time.

The weaning transition period is more critical than often recognized. Why? Because the calf needs to make a conversion from being a monogastric animal fed by milk or milk replacer to a ruminant able to ferment and digest dry feed. This requires a palatable, well-formulated, and well-manufactured starter to stimulate rumen development. If starter intake is not adequate, there will be a slump after weaning which will contribute greatly to the likelihood that the calf will have a respiratory problem and be impaired for life.

The NAHMS survey showed that the most common age at weaning is 8 weeks. Why? I think it is because that is the most convenient time. At that age you wean, move calves, change diets, and vaccinate or provide other treatments. You also have now created so much stress that the calf's immunity will drop, and she breaks out in a respiratory problem.

Here's a plan . . .

What is the solution? Keep calves in the stall or hutch a full two weeks after being fully weaned. Then have the first group be smaller at 6 to 10 calves. Keep the starter in the first group along with a minimum amount of forage at 1/2 to 1 pound per day, and minimize other changes at the same time.

Can't afford this extra time and effort? Can you afford the loss in performance, labor and treatments, and the impairment to calves for life from a respiratory problem? The most cost effective way to wean calves is to wean at 6 weeks. No matter what milk or milk replacer feeding program you are on, you should practice the following pattern during the weaning transition period.

- During Week 5, calves should average 1 pound daily starter intake at least by the end of that week.

- During Week 6, eliminate one of two daily feedings of milk or milk replacer. Starter intake should double to 2 pounds daily.

- At the end of Week 6, fully wean. Starter intake should double to 4 pounds during the seventh week.

- Keeping calves housed individually during the 8th week will boost starter intake to around the 6-

pound daily range. Now these calves will have a higher level of intake and be more vigorous to handle the change of smaller first grouping.

Addressing stillbirths . . .

So far, we have failed to address the most overlooked area of calf death loss . . . stillbirths. The 2002 NAHMS survey does not address this subject area. So what do we know about stillbirths? First, the official definition is a calf that dies not just prior to but during or within 24 to 48 hours of parturition. A large-scale study was published in the 2001 Journal of Dairy Science using Mid-States Dairy Records Processing Center data with the cooperation of the National Association of Animal Breeders. All data were from 1985 to 1996 and from sires of North American artificial inseminations. Dystocia was scored and length of pregnancy recorded. A total of 666,341 birth records were available after all edits. Key findings were:

- Stillbirths averaged 11.1 percent for first-calf heifers but only 5.7 percent for older cows.

- First-calf heifers had nearly three times the incidence of dystocia than older cows . . . 28.7 versus 10.7 percent.

- During the time of the survey, there was a progressive rise in stillbirths in first-calf heifers from 9.5 to 13.2 percent with slight or no increase in dystocia scores. This increase in rate was nearly twice that of older cows.


- Odds of stillbirth were greater during summer than during winter and for first-calf heifers versus older cows.

- Female calves had 7 percent lower odds of being stillborn than male calves from first-calf heifers, but 12 percent higher odds of being stillborn than male calves among older cows.

- For all levels of dystocia, the probability of stillbirth in first-calf heifers and older cows went up between 1985 and 1996. This rise over time was greatest when assistance was needed at birth and lowest with unassisted births. When assistance was needed, dystocia affected the calves of older cows more than the calves of first-calf heifers.

In 2005, a large-scale field study with three herds in California reported calving difficulty was lower in cows delivering females than males, and cows delivering single calves had lower calving difficulty than those with twins. Incidence of stillborn calves was lower (13.5 percent) for first-calf heifers averaging 24.6 months of age or older compared with heifers (16.1 percent) averaging 23 months of age or younger and heifers (19.8 percent) averaging between 23 and 24.5 months of age.

Since it was not possible in this study to measure all heifers for weight and height, this disparity with age may have had more to do with younger heifers not being properly developed than with age, as such. Overall, in these three herds, stillbirths ranged from 10 to 20 percent which compares to other studies which show about 10 to 12 percent stillbirths. A 2006 Journal of Dairy Science study found the incidence of stillbirths went up 0.25 and 0.20 percent for male and female calves per 1 percent increase in inbreeding for first-calf heifers.

Overall, there may be 13 percent death loss of calves and heifers born alive and another 10 to 20 percent deaths from stillbirths. So from one-fourth to one-third of calves may be lost in U.S. herds. And this does not even consider the health costs and loss of performance of calves and heifers that are affected but do not die. What do your records show? How do your calf and heifer programs stack up? 

The author is the principal in Andhill, LLC, a St. Louis-based consulting firm.