

## **Early life care pays off long term**

If you want profitable replacement heifers to populate your milking herd, you may want to look at the care they receive very early in life as a down payment on a future asset. Here are five important investments that can really pay off in the long-term health and productivity of your replacements:

1) **Calving care** -- The fate of a future milk cow may be determined within moments of her birth. Calves that do not become sternal (sitting upright) within 15 minutes of birth have been shown to have poor vitality in 84% of cases.<sup>1</sup> Attention during calving can help ensure a smooth transition to life outside the uterus. For newborn calves that are struggling, University of Wisconsin professor of Veterinary Medicine Sheila McGuirk recommends placing them on a low platform, cart or table and administering stimulation techniques. Those procedures include:

- Place the calf's head over the edge of the platform for 10 to 15 seconds to drain lung fluid through the mouth and nose.
- Vigorously rub the calf's entire body with a clean, dry towel.
- Use the towel to stimulate the calf's ears, eyelids and nose.
- Pour ice water onto the head and/or into the ear to stimulate breathing.<sup>2</sup>
- Tickle inside the nose with a clean piece of straw to help stimulate a big breath.

Some dairies even are equipping their maternity areas with supplemental oxygen to assist newborn calves.

- 2) **Colostrum** – We've learned a great deal about the importance of delivering colostrum, at a dose of no less than 10% of the calf's bodyweight, within the first few hours of life. The biggest challenge in accomplishing this is to harvest the colostrum quickly and deliver it to the calf with low bacteria. That requires vigilance in keeping everything that touches colostrum clean, including the cow's udder, milking equipment, transfer pails, pasteurization equipment, holding vessels, feeding equipment, and the human handler's clothing and hands. If this cannot be accomplished in the short time window of 2 to 4 hours after birth, a high-quality, commercial colostrum replacer may be the best investment in the long run.
- 3) **Nutrition** – Your feeding program should be developed in collaboration with your nutritionist and veterinarian, and based on your goals for growth and health. But it is safe to say that calves need more than maintenance levels of nutrition to grow and thrive. That always means more than 1 pound (four quarts) of milk or milk replacer solids per day, especially in extreme weather conditions. Providing clean, fresh water within 20 minutes of feeding (before the calf lies down) is critical to healthy digestion and rumen development. Fresh, high-quality starter grain also should be offered starting in the first few days of life. Finally, provide dedicated pails or bottles for milk, water and a separate pail for starter grain to avoid cross-contamination.
- 4) **Sanitation** – Feeding equipment for calves should be cleaned and sanitized with the same effort, procedures and products used to wash and sanitize the herd's milking equipment. Most bacteria need water to grow and survive, so drying equipment is critical. If your equipment storage area is wet and humid, use a clean, dry towel to speed up the drying process. Stay ahead of biofilm build-up by physically scrubbing all accessible equipment surfaces. This should be checked periodically by an outside advisor using an adenosine triphosphate (ATP) swabber.
- 5) **Environment** – You can't control the weather, but you can control calves' environment so they always have a clean, dry, comfortable place to rest. Excellent air quality is critical to protect calves' lungs. Recent research has shown that pneumonia in calves – particularly multiple incidences of three or four cases – can have long-term, negative consequences for replacement heifers, even if they appear to recover clinically. Those outcomes include lower survival rate to adulthood, delay in age at first calving, and greater odds of not completing their first lactation.<sup>3</sup>

Investing heavily in calf nutrition, labor and facilities does create higher up-front expenses. But the long-term dividends of strong, healthy, productive cows should ultimately offset those costs and more.

#### References:

- 1 – Schuijt, G. and M. A. Taverne. 1994. The interval between birth and sternal recumbency as an objective measure of the vitality of newborn calves. *Veterinary Record*. 135:111-115.
- 2 – McGuirk, S. M. 2015. Calf management in the first 60 days: opportunities to improve health and performance. *Proceedings of the 2015 Virginia State Feed Association and Nutritional Management "Cow" Challenge*.
- 3 -- Bach, A. 2011a. Associations between several aspects of heifer development and dairy cow survivability to second lactation. *Journal of Dairy Science*. 94:1052-1057.

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