

Stillbirths a largely unrecognized problem on dairy operations

I THINK stillbirths or calves that die within 24-48 hours after birth, are like the proverbial elephant in the room that no one acknowledges exists.

The 2007 “National Animal Health Monitoring Survey” (NAHMS) took the first survey of stillbirths and found the rate to be 6.5%. That decreased to 5.6% in the 2014 NAHMS report (*Feedstuffs*, Sept. 5, 2016).

I think this is an area to which many dairy farms do not pay much attention, so it is likely underreported in the NAHMS reports. Consequently, this article will delve more into other studies and data on this subject.

In a 2007 report, Lombard et al. established general causes of stillbirths as being due to a fetal/maternal size mismatch, fetal mal-presentation or maternal-related causes. The latter established the need for increased calving pen observations and appropriate intervention, because severe dystocia leads to great trauma and asphyxia, resulting in a host of issues.

Dystocia-related events account for about 50% of all calf deaths. This means that there is a need to educate employees on how to minimize dystocia with proper intervention and to optimize care for compromised calves. Lombard et al. indicated that it must be assumed that every dystocia calf is compromised.

Part of the education process is providing an understanding of the three stages of labor (Navarre, 2007). Stage 1 involves cervical relaxation and uterine contractions to bring the fetus into the birth canal and dilate the cervix, which usually lasts two to six hours but can be longer, especially in heifers. Stage 2 involves actual expulsion of the fetus and generally takes about 30-60 minutes but can take two to three hours in heifers. (Since dairy cattle are used to human contact, assisting delivery is often recommended, even if the delivery is normal.) Stage 3 involves expulsion of the placenta, which usually takes place within a few hours but can take up to a few days.

Several studies have revealed a range of stillbirth incidences.

A study by Meyer et al. (2000) accessed 666,341 birth records during 1985-96 from what was then the Mid-States Dairy Records Processing Center. Stillbirths ac-

Bottom Line

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counted for 11.1% in first-calf heifers but only 5.7% for older cows. Dystocia rates were 28.7% for first-calf heifers but only 10.7% for cows. The number of calves born dead increased with delivery assistance and from year to year. This indicates improper time or process in assisting delivery. Stillbirths increased in summer versus winter and for bull versus heifer calves. Twins were not included in this study, but they would typically result in more calves born dead.

In a 2004 study by Ettema and Santos, three California herds had stillbirth rates of 10-20%.

A genetic component was extracted in a study by Adamec et al. (2006) that found that stillbirths increased 0.25% and 0.20% for bull and heifer calves for each 1% increase in inbreeding coefficient for first-calf heifers. Sire selection for stillbirths has been available since 2005 (Cassells, 2006).

The extensive Lombard et al. study cited earlier used three 1,000- to 5,000-cow herds in Colorado with 3,544 calves born between October 2001 and November 2002. Calving assistance was higher (50%) for first-calf heifers, for bull calves and for twins. Calves born with dystocia scores of two and three were 2.3 and 15.4 times more likely, respectively, to be stillborn than calves born unassisted and had more respiratory, digestive and other health problems.

Overall, stillbirth incidence was 6.3% for heifers and 10% for bull calves. Stillbirths were 12.6% for first-calf heifers versus 6.1% for older cows. This is the sound basis for why many dairies dread bull and twin calvings, especially for first-calf heifers.

In a key comment, Lombard et al. said, “Education of farm personnel should be targeted at minimizing dystocia impacts with appropriate delivery methods, identifying compromised calves, administering fluids and oxygen to calves with acidosis, warming chilled calves and delivering high-quality colostrum immediately after birth. Standard operating procedures on dairies should be to treat every calf that was exposed to dystocia as a compromised calf.”

This comment about calves with acidosis is the basis for why several veterinarians

have told me they think feeding cows low dietary anion-cation difference diets before calving may predispose those calves to metabolic acidosis and stillbirth.

A major part of education is to understand and to be able to recognize the three stages of labor, because pulling calves in early stage 1 creates problems.

This issue recalls a situation I encountered more than 10 years ago, when a calf rancher asked me to visit two clients who had similar dairy operations and happened to be brothers too. Calves from one dairy did not do well in his calf ranch operation. I was able to visit only one dairy — the good operation. Near the end of the visit, I asked the calf manager if she knew why the other dairy’s calves did not do well. She replied that it was because they pulled most of the calves.

That leads to another comment I often have heard when people say they are very experienced at pulling calves, but the real question is when to, when not to and how best to pull calves.

In a March 10, 2013, *Hoards Dairyman* article, Jeff Stevenson advocated using a simple five-point scoring system for calving difficulty, where 1 = no problem, 2 = slight difficulty, 3 = needed assistance, 4 = considerable force and 5 = extreme difficulty. Calving records should include such a score, which then can be another source of information to better understand when stillbirths may occur and why.

A study by Bicalho et al. (2007) evaluated 13,608 calves over a year from six dairies in New York and one in the Midwest. Average stillbirth incidence was 6.6%, with a rate of 11% for first-calf heifers and 4% for older cows. The negative effect of stillbirths on the cow was most noticeable in that the conception interval increased by 88 days. These dams had a 24% lower pregnancy rate, but the impact on milk production was not indicated. However, in this study, stillbirth incidence was *independent* of calving difficulty.

How does one reconcile the lower NAHMS-found stillbirths and greater percentages seen in most of these studies? I think too many dairies do not accurately and consistently record the number of calves born dead. Perhaps it simply is not much of a priority on many dairies to do so.

Maybe with sexed semen and so many heifer calves around, calves born dead are not as much of an issue — unless it happened to be a calf really desired for her genetics.

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The Bottom Line

NAHMS 2014 data show only 5.6% of calves born dead/stillborn on U.S. dairy farms. Various other published studies found rates ranging from 7% to 20%. Stillbirths are greater for first-calf heifers, for male versus female calves and for twins and can be related to dystocia.

Employee training and education can minimize stillbirths, and more encompassing records can better identify the magnitude and reasons for this issue on dairy farms. This issue negatively affects the stillborn calf and also the cow in that

lactation.

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