

Assessment of work shift transition of calving personnel on stillbirth in Holstein dairy cows

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Introduction

Calving-related losses, such as stillbirth, affect the bottom line of dairy operations, and the underlying causes should be investigated to develop preventive procedures that consider both animal welfare and profitability. Comprehensive training on calving management practices for dairy personnel is a top priority, especially to reduce the prevalence of stillbirth in dairy herds. Risk factors affecting stillbirth vary from farm to farm, and blanket recommendations often fail when applied to a variety of different herds. Therefore, the objective of this study was to assess the effect of time of birth during the 1-hour period before and after the work shift transition of calving personnel (n=3) on 1 commercial dairy on the prevalence of stillbirth in Holstein cows.

Materials and Methods

Prepartum dairy cows (primiparous [PRIM], n=1,403; multiparous [MULT], n=2,467) from 1 commercial dairy herd that were housed in the close-up pen were monitored for imminent signs of birth (appearance of amniotic sac [AS] outside the vulva) and moved to a contiguous maternity pen until birth. Data regarding calving ease (scale, 1 to 4), time of birth, single or multiple calves, calf sex, calf presentations (forward or backward), time spent in labor, and stillbirth (born dead or died within 24 hours after birth) were recorded. In accordance with farm protocol, assistance was provided to cows that had not made calving progress 80 minutes after AS appearance or earlier (e.g., to correct calf mal-

position) when necessary. The effect of time of birth around the work shift transition of calving personnel on stillbirth was estimated by means of GLIMMIX in SAS.

Results

Of the 3,870 cows evaluated, 96%, 4%, and 1% gave birth to a calf with a forward, backward, or breech presentation, respectively. The prevalence of stillbirths was 8%. Overall, the proportion of stillbirths was significantly ($P<0.05$) greater in PRIM cows (11%) compared with that in MULT cows (6%). Likewise, during the period around shift change, the proportion of stillbirths was significantly ($P<0.05$) greater for PRIM cows (11.4%) compared with that in MULT cows (5%). The proportion of stillbirth was significantly ($P<0.05$) and positively associated with each of the following variables: cows having dystocia, calves born in a backward presentation, and the time around the shift change of personnel.

Significance

Dairymen, consultants, and veterinarians often troubleshoot high prevalence of stillbirth in dairy herds, and this process requires constant monitoring and comprehensive assessment of several events. Proactive communication practices among calving personnel, especially around the work shift transition, should be recommended to reduce the risk of stillbirth under field conditions.