

IMPORTANCE TO PREDICT THE ONSET OF CALVING TO DECREASE STILLBIRTH AND STRESS RELATED UTERINE DISEASES

O. Szenci^{1,2}, *L. F. Kézér*^{2,3}, *Z. Szelényi*^{1,2}, *L. Kovács*^{2,3}
szenci.otto@univet.hu

¹MTA-SZIE Large Animal Clinical Research Group, Üllő, Hungary

²Szent István University of Veterinary Medicine, Budapest, Hungary

³Szent István University of Veterinary Medicine, Faculty of Agricultural and Environmental Science, Institute of Animal Husbandry, Budapest, Hungary

Successful genetic selection for higher milk production has caused a dramatic decline in the reproductive performance of dairy cows all over the world. Achievement of optimum herd reproductive performance requires concentrated management activities especially during calving and during the first 100 DIM. The following management activities are needed to pursue during early postparturient (p.p.) period to reach or approach the optimal reproductive performance such as careful surveillance and assistance at calving, prevention of pp metabolic diseases, early diagnosis and treatment of p.p. uterine diseases, accurate detection of oestrus, correct timing of insemination, reducing the effect of heat stress and early pregnancy diagnosis. Among these main activities only careful surveillance and assistance at calving and their effects on milk production, reproductive performance as well as on newborn calves will be discussed.

Due to the fact that the cause of stillbirth with a non-infectious aetiology is likely to be multifactorial and difficult calving may explain only about half of them therefore it is very important to examine the risk factors of stillbirth especially in large-scale dairy farms. While it is not possible to eliminate dystocia, adequate management of growing heifers and close observation during calving are essential for reducing stillbirth rate. Since in many cases there are no visible clinical signs of the onset of calving, therefore especially in large dairy farm it is difficult to recognize it. The aim of our study was to evaluate an intelligent control system and test its effectiveness in predicting calving.

Two hundred fifty-seven Holstein-Friesian dairy cows were monitored by inserting a vaginal thermometer into the vagina (*Vel'Phone*, *Medria*, Châteaugiron, France) from day 5 before expected calving while 116 cows served as control. Once the thermometer has been placed into the vagina, the *Vel'Phone* was going to inform via SMS about the imminence of calving, and breaking of the allantoic sac.

Our results indicate the effectiveness of such instrument to control the onset of parturition in dairy cows because in case of heifer calvings the stillbirth rate was 1.7 % in the monitored group vs. 10.5 % in the control group, while in case of cow calvings it was 2.5 % (monitored group) vs. 10.3 % (control group), respectively. The differences in both groups were statistically significant ($P=0.029$ and $P=0.003$ respectively).

According to Heinrichs & Radostits (2001) the target prevalence rate of perinatal mortality would be 1 to 3 %, and it seems that it can be reached in large dairy farms by using *Vel'Phone* to predict the onset of calving. On the other hand it has been recently confirmed by our group that inappropriately timed obstetrical assistance can significantly increase the prevalence of stillbirth, the injuries of the soft birth canal, retained fetal membranes and clinical metritis.

Keywords: DAIRY COW, MONITORING CALVING, STILLBIRTH, VAGINAL THERMOMETER