

EFFECT OF NUTRIENT SUPPLY ON THE MORTALITY RATE OF CALVES

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The main products of each dairy company are the calves which are able to determine the future production and income. However, these young and sensitive animals are usually affected by multiple diseases. The mortality of the calves can be caused by several reasons, in turn, the environment, followed by the animal health status, and labour or technological problems. According to most of the breeders in practice, gastrointestinal diseases are the main causes of the calf- mortality. Due to this fact, there is a growing need for the milk replacing and digestion-supplementing products worldwide. The milk replacers can be able to provide cost-efficient and good health status. Owing it most of farmers use milk replacer in Central-Europe. Each company add a different recommendation to the use of this kind of products, however, the amount of the supplement can easily vary depending on the needs of the animal. Some new products are able to intend the increase the growing intensity, on the other hand, farmers still afraid of innovations and scientific results. The aim of the study was to try two of these milk replacing products and studying the effects of mortality and production traits. The data collection took place on one of the best-equipped Hungarian dairy farms in 2016 and 2017; between 1st of April and 30th of November each year. The total number of cows was 1750. The health status of the examined calves was similar, and they were kept with the same technological conditions. The total number of calves born alive were 919 in 2016 and 937 in 2017. In the first year, the calves drank milk replacer „A” which contained 21,5% crudeprotein and 17,5% fat with 145g/l dilution ratio. The fed quantities of the product changed four times until weaning according to the growth of the animals. In the second year product „B” was used, 27% crudeprotein and 18% fat with 160g/l dilution ratio and changed the fed proportions with growth as the same as in the first year but different amounts and intensity. Altogether 55970g of product „A” and 61920g from product „B” was used per calf. Mortalities were calculated monthly and the percentage of calves born alive in the given month was added to the calculation for a better comparison. There was no significant difference ($P>0.05$) between the two technological periods for all of the mortality. In group „A” the calf loss was 37 (4.03%), while in the group „B” it was 32 (3.42%). After the experiment, the

mortality reasons could be easily determined. Thus, they were separated into four main groups according to their origin: calving and vitality problems, abdominal and umbilical inflammations, respiratory illnesses and digestive disorders. However the main causes of the mortality were examined, it was observed that the amount of the mortality from the digestive disorders was quite different. 1.3% in group "A" and 0.21% in group "B", resulting in the positive effect of the higher protein and fat content of the diet on calves vitality ($P < 0.05$). Thus, improved nutritional supply reduces the number of deaths from digestive diseases ($P < 0.05$). On this farm always measured the weight of calves after birth and at the time of weaning. Owing to these parameters we could calculate easy the daily weight gain. The method of calves nutritional supply contribute to the health of digestive system. That calves, whose were fed with milkreplacer "A" gained less, than the group "B" ($P < 0.01$) (635 ± 37 g/day vs. 688 ± 39 g/day). Due to improve the quality, the losses can be reduce and increase the efficiency.