

## **INFLUENCE OF COLOSTRUM ON CALF READING RESULTS**

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The aim of this study was to analyze recent findings on the impact of the quality, quantity and method of colostrum feeding system on growth rate, development and health of calves during their rearing, in the period from birth to completion of 6 months.

It has been proven (Zachwieja 1995) that feeding in the perinatal period affects the amount and chemical composition of colostrum. In herds with high feeding regime, with a well-balanced diets, in colostrum there was a higher content of dry matter, protein and fat. The use of feed additives, vitamins and minerals buffer (sodium carbonate), antibiotics, probiotics and vitamin A in cow nutrition before birth has a beneficial effect on the nutrient content of colostrum, mainly immunoglobulins (from 10 to 40%) (Preś 1995; Szulc, Zachwieja 1998).

Feeding calves by colostrum allows them to gain adaptive immunity, thanks to the immunoglobulins contained therein. It is assumed that the antibody content of colostrum from first milking is at least 50 g of IgG in 1 liter of colostrum. Best of all, when it exceeds 120 g/l.

Studies have shown a positive correlation between the concentration of colostrum immunoglobulins penetrating into the blood serum of calves and their health and survival in the early weeks of life. The level of colostrum resistance is assumed to be sufficient, while in the second day of life 1 liter of calf serum contains 10 g of IgG, IgM 0.8 g and 0.22 g IgA (Bilik 2008).

Studies have shown that approximately 70% of neonates receiving colostrum from the cow's udder naturally does not have a sufficient level of immunoglobulin in serum, whereas using the artificial feeding – only 20% of the calves. It was also observed that calves fed naturally by colostrum consume less than the bottle fed calves (Bilik 2008, Soszka 2009; Rokicka 2010).

The most modern calves breeding system was developed in the U.S. where is more and more frequently used. It consists of a single feeding of the calf (up to 2 hours after birth) by colostrum, the pre-selected for antibody content. Colostrum is given directly to the digestion of the probe at 2 liters. For this purpose, colostrum from cows after calving III is used, which is a high content of antibodies (Szarek 2011).

One study found that the highest daily growth rate was observed in calves fed by good quality colostrum with very high concentrations of immunoglobulins. Receiving enough colostrum in the first rearing period (lasting for 5 days) has a beneficial effect: the dimensions of the pelvis in heifers at 15 months (a positive effect on fertility), their age at first calving on milk yield and components in the first 3 lactations, the performance of life and length of use of dairy cows.