

CHANGES IN COW ACTIVITY, MILK YIELD, AND MILK CONDUCTIVITY BEFORE CLINICAL DIAGNOSIS OF KETOSIS, AND ACIDOSIS

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Abstract. The objective of the research: to assess changes in milk yield, animal activity, and milk conductivity before clinical diagnosis of ketosis, and acidosis. For the purpose of the present research, in total 90 fresh dairy cows were selected (up to 60 days-in-milk). They were grouped according to the disease as follows: cows with ketosis (n = 30), acidosis (n = 30), and control group, i.e., healthy cows (n = 30). The parameters recorded by the herd management software were analyzed for 12 days before clinical diagnosis of the disease and during its course.

In cows sick with ketosis the milk yield showed a tendency of most significant decrease 8 days before clinical symptoms. On the day of disease detection, the activity was found to increase by 21.5 %, when compared to the day 12 before emergence of clinical symptoms of the disease ($p < 0.0001$), however this increase was most pronounced 2 days before the detection of the disease (3.1–3.7 %; $p < 0.001$). The major increase in milk conductivity was observed 2 days before the emergence of clinical symptoms (3.1–3.7 %; $p < 0.001$).

In cows sick with acidosis the milk yield tended to decrease most significantly 6 days ($p < 0.01$) before the emergence of clinical symptoms. The variation of animal activity in the period under research was diverse. Its significant increase was observed 2 days before the emergence of clinical symptoms of the disease ($y = 2.9x + 20.667$; $R^2 = 0.839$). Starting with days 6–7 before the detection of disorders under consideration, a gradual increase in milk conductivity was observed. Indicators recorded by the herd management software and assessed during the period of investigation are considered to serve as the diagnostic algorithm for ketosis and acidosis.

Keywords: acidosis, ketosis, milk yield, activity, conductivity