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BIOMARKERS OF SUBCLINICAL MASTITIS IN THE MAMMARY GLAND OF COWS

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The aim of the study was to create an algorithm for controlling subclinical forms of mastitis of cows on the basis of determining the activity of lactate dehydrogenase and the number of somatic cells in milk. Milk samples were taken from conditionally positive cows according to the results of the California test; the activity of lactate dehydrogenase was determined and compared with the content of somatic cells in milk.

According to the results of the analyzes, 2 out of 20 milk samples had low values of lactate dehydrogenase activity, an increased number of somatic cells (more than 250 000 in 1 ml) and negative results of bacteriological examination, which may indicate on the absence of intra-infection and a physiological increase in the number of secreted somatic cells. With increased lactate dehydrogenase activity and a somatic cell level of no more than 250 000 in 1 ml, *Streptococcus agalactiae* or *Staphylococcus aureus* bacteria were isolated, indicating on a mono-infection. At the level of somatic cells from 250 000 to 500 000 in 1 ml (4 of 20 milk samples) bacteria *Streptococcus agalactiae* and *Staphylococcus aureus* were isolated, indicative on of mix infections.

Thus, the determination of lactate dehydrogenase activity makes it possible to more accurately determine the presence of inflammatory processes in the udder, since the number of somatic cells can also increase with physiological changes (e. g., stress, etc.). The results obtained can be used to determine the subclinical forms of mastitis in the infected herd. Recommendations developed on the basis of this study were implemented in practice in the economy of the Chernihiv region.

**Key words:** subclinical mastitis, lactate dehydrogenase, the mammary gland of cow.


