

EFFICIENT DIAGNOSTICS AND TREATMENT OF BOVINE MASTITIS ACCORDING TO HERD MANAGEMENT PARAMETERS

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Abstract. The objective of the work was to investigate the possibility of early diagnostics of sub-clinical and clinical bovine mastitis according to a set of parameters recorded by a herd management system (production and electrical conductivity of milk and milking time,) taking into account the efficiency of treatment. In the beginning of investigation, three groups of cows were formed (3.5 ± 0.12 and 2.8 ± 0.13 lactation month on average). Cows of the first group ($n=20$) were diagnosed sub-clinical and cows of the second group ($n=20$) clinical mastitis; whereas cows of the third group (control) were clinically healthy ($n=20$). Cows of the first group were treated with udder creams (Karbsept®) and injections of Vitamin E and the preparation containing selenium (Se). Cows of the second group were treated with antibiotics of penicillin group on the basis of data of bacteriological test.

Investigations revealed that in the case of clinical mastitis the milking time ($p < 0.05$) before the diagnosis of the disease and after it was longer. Three days before the clinical manifestation of the disease, milk production decreased ($p < 0.05$) whereas electrical conductivity of milk increased ($p < 0.05$). SCC increased ($p < 0.05$) on a day of clinical diagnosis of the disease. The signs for early diagnostics of sub-clinical mastitis might be: decreased production of milk ($p < 0.05$), prolonged milking time ($p < 0.05$), increased electrical conductivity of milk ($p < 0.05$), and increased SCC ($p < 0.05$) evidencing on the day of manifestation of clinical symptoms. After the introduction of treatment of sub-clinical mastitis, milk production and SCC recovered in 30 days, electrical conductivity of milk recovered in 1 day, and milking time recovered in 3 days ($p < 0.05$). After the treatment of clinical mastitis, the records showed increased milk production ($y = 0.3536x + 21.893$; $R^2 = 0.5845$), decreased electrical conductivity of milk ($y = -0.0426x + 10.974$; $R^2 = 0.3441$), and decreased milking time (after 3 days) ($p < 0.05$).

Keywords: mastitis, electrical conductivity of milk, milk production, milking time