

## STUDY OF ANTIBIOTIC RESISTANCE OF CULTURES ISOLATED FROM MILK

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**Introduction.** The animal husbandry industry plays a key role in ensuring the demand of consumers with safe dairy products of appropriate quality, and the basis for their production is raw milk that meets the requirements of current standards. Mastitis in cows is an inflammation of the mammary gland under the action of a complex etiological factor with a significant role of microbial agents; accordingly, antibacterial agents are used for the treatment and prevention of mastitis. In addition to economic losses, mastitis carries risks to people's health: both in the individual aspect – due to the possible consumption of dairy products contaminated with zoonotic microorganisms with a high pathogenic potential, and public health – due to the spread of antibiotic residues and antibiotic-resistant microorganisms with milk, the formation of which is caused by the indiscriminate use of antibiotics for the treatment of mastitis, which are critically important for humans.

**The aim** of the work was to study the signs of resistance to antibiotics in microorganisms isolated from cows with subclinical mastitis.

**Material and methods.** The diagnosis of subclinical mastitis was made based on the results of milk studies on the farm using the California mastitis test. For microbiological research, udder secretion samples were taken from sick cows. Bacteriological studies of mammary gland secretion samples were carried out by sowing the sediment on an agarized nutrient medium (with 5% ram erythrocytes and 0.05% esculin), which ensures the vegetation of most microorganisms that cause the development of mastitis. The isolated microorganisms were subjected to further differentiation according to cultural-morphological, tinctorial signs and the ability of bacteria to metabolize substrates. Antimicrobial susceptibility testing was performed using the disk diffusion method.

**Results.** This paper presents the results of the study of selected cultures of zoonotic microorganisms from milk samples obtained from cows with signs of subclinical mastitis. As a result of the study isolated 19 cultures of *Staphylococcus* spp., 8 cultures of *Enterococcus* spp. and 11 cultures of *Escherichia coli*. The analysis of the results made it possible to assign the study of the culture to the category of MDR: 31.6% of cultures *Staphylococcus* spp. were resistant to five groups of antibiotic groups; 54.5% of cultures *E. coli*, were resistant to five groups of antibiotics; 37.5% of cultures the group of *Enterococcus* spp. were resistant to three groups of antibiotics.

**Conclusions.** Milk from cows with subclinical mastitis is a risk factor for the spread of antibiotic-resistant bacterial clones.