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TEST RESULTS OF MILKING LINER WITH BACTERIOSTATIC PROPERTIES

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The main reasons for lowering milk quality is the bacterial contamination of the milking equipment and its liners, hoses and other dairy products. Also during operation the teatcup liner is subjected to repetitive (60 pulses / min) alternating loads in accordance with the cycle of the milking machine, which leads to the appearance on its surface a large number of microcracks, which accumulates pathogenic microorganisms, which is maintained even with proper washing milking equipment. Also during milking the teatcup liner can serve as a transmitter of pathogenic bacteria, such as mastitis udder quarters of patients, since direct contact with the teat of the animal. Therefore, in some designs of automated milking systems and milking robots used disinfecting teat cups. There is also a way to boost the protection of the udder of the animal from bacterial infections adding to the rubber mixture that made the teat rubber, silver nanoparticles, which act on the colonies of microorganisms, slowing their development.

The purpose of research - the study of milking machines with liners having bacteriostatic properties.

Materials and methods of research. When modifying drug rubber Realm-1 slows down the growth of bacterial colonies of Staphylococcus aureus and Escherichia coli.

On the basis of the research results it was made by injection molding pilot batch liners modified powder germicide Realm-1.

Research on the liner surfaces bactericidal conducted in the laboratory of the GNU All-Russian Research Institute of Veterinary Sanitation, Hygiene and Ecology of the procedure adopted.

The results of research. The number of living S. aureus bacteria on surfaces of liners in contact for 17-18 hours at room temperature decreased compared to the unmodified surfaces sample averaged 79.2%, and the E. coli - 76.4%.

It is found that the modification of rubber preparation Realm 1 at about 3,6-4 times slow the growth of colonies of Staphylococcus aureus P209 and Esherichia coli 1257.

Production testing of liners produced by "Zhivmashkom" were performed on typical farm of "Agroferma" Podolsky District.

It was staffed by several milking machines modified liner and two control unit unmodified liners manufactured by injection molding of rubber compound "6-1a".

The water used for the preparation of the udder and washing system had the following characteristics: the temperature - 40-45 ° C, total hardness of 6.4 mol / m3, total contamination 40-54 CFU / cm3.

A detergent - liquid "Nanofleks" disinfectant - "Sterilayn M-2." Liquid temperature at which the process of cleaning and disinfection of the longitudinal device - 65 ° C.

In terms of health assessment revealed that the purity of the inner surface of modified and unmodified liners meets the requirements of Sanitary Rules for the care of milking machines and dairy dishes, monitoring their health status and sanitary quality of the milk. As bacterial contamination of swabs value of the index modified liners about 2.4 times less than the unmodified.

Conclusions

Animal health assessment leads to the following conclusion: the teat rubber modified germicide Realm-1 does not cause irritation of the breast.

Zootechnical evaluation of longitudinal units modified liner shows that there is a complete milking animals, they are not observed infection mastitis, lobed cups well washed.