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Use of *Lactobacilli* consortium for biological protection of food from pathogens

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It is known that for Kazakhstan, as well as the majority of the countries of the world meat, grain and products of their processing are the main source of food for the person. The problem of preservation of food from infection by pathogens is global as it is about preservation of person's health. We created the universal consortium of lactic acid bacteria *Lactobacillus pontis* 67, *Lb. casei* 22, *Lb. paracasei* 104 allocated from grain and the active antagonists to *B. subtilis*, fungi of the genus *Aspergillus*, *Mucor*, *Penicillium*, *E. coli*, *S. aureus*, *S. reading*, *S. typhimurium*. Antimicrobial properties of consortium are caused by acidity, enzymatic activity and synthesis of thermostable low-molecular peptides with a molecular mass 2,4-4,5 kDa. Use of this consortium is the cornerstone of biological way of grain, flour and bread protection from "potato illness" and a mold which takes root at the baking enterprises in various regions of Kazakhstan. The preserving action of this lactobacilli consortium concerning post spirit grain stillage, feed additives and the combined forages for the agricultural animals, birds and fishes is shown. The probiotic preparation on the basis of this consortium can be used in a veterinary medicine as preventive and a remedy for salmonellosis, colibacteriosis, dysbacteriosis and other gastrointestinal diseases of young growth of farm animals, birds and fishes. Introduction of the preparation to a diet of lambs, calves, whitebaits of valuable breeds of fishes contributes to normalization of intestinal microflora's structure and increases colonization resistance of owner organism, considerably reduces death among young growth, improves digestibility them forages, promotes increase of additional weights and efficiency.

Biography

Anna Chizhayeva has completed her Doctoral degree in Al-Farabi Kazakh National University. Presently she is a leading Researcher of Laboratory of Biotechnology, Quality and Food Safety of the Kazakh Research Institute of the Overworking and Food Safety. In 2015, she was awarded the rank of Professor of the Russian Academy of Natural Sciences. She has more than 80 papers published to her credit. Her areas of scientific interests are biology of lactic acid bacteria, their metabolic features, bacteriocins, probiotics, safety of food and food biotechnology.

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