

PROBIOTICS – THEIR INFLUENCE ON HEALTH AND BREEDING TRAITS IN LIVESTOCK

MARTA TRZECIAK, AGNIESZKA WOLNA-MARUWKA, DONATA KOSICKA

*Department of General and Environmental Microbiology, Poznań University of Life Sciences, 50 Szydlowska, 60-656 Poznań, E-mail: mt.marta.trzeciak@gmail.com, amaruwka@up.poznan.pl, dkosicka@gmail.com*

Summary

Probiotic preparations stimulate the immune system. For this reason they are used in preventing and curing infections of the digestive and genitourinary systems. The wide array of probiotic preparations includes lactic bacteria classified as the *Lactobacillales* genus. The bacteria are Gram-positive, rod-shaped, do not produce endospores and are incapable of movement. Their name comes from lactic acid, which they produce in the process of anaerobic fermentation of carbohydrates. *Bifidobacterium* sp. and *Lactobacillus* sp. are the best-known groups of lactic acid-producing bacteria. These probiotic microorganisms are antagonistic to animal pathogens. They have various mechanisms of this interaction. All microorganisms living in the digestive tract have to compete for food and space needed for growth. The bacteria discussed in this article produce bacteriocins and secondary metabolites in the process of fermentation. These substances are toxic to other microorganisms. The type and strain of bacteria are crucial, as they determine the effect exerted on pathogens. As we can conclude from various publications, probiotic bacteria inhibit the proliferation of *Salmonella* sp., *Shigella* sp., *Clostridium difficile* and enteropathogenic strains of *E. coli*. Currently we can observe the excessive use of antibiotics in animal breeding. They are used as both antimicrobial agents and growth stimulants. This results not only in impairment of animals' natural immune system, but also, more importantly, it creates the risk of bacteria developing antibiotic resistance. Therefore, probiotics seem to be the right alternative to antibiotics as they not only prevent diseases, but also enhance growth. It has been proved that the use of lactic bacteria in livestock decreases the incidence of diseases of the digestive system and increases the productivity of animals.