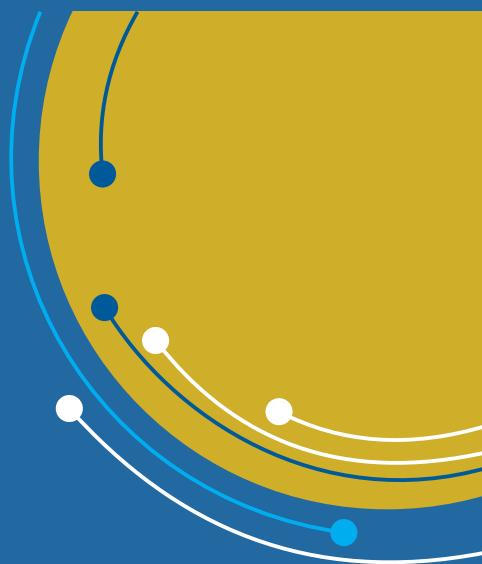
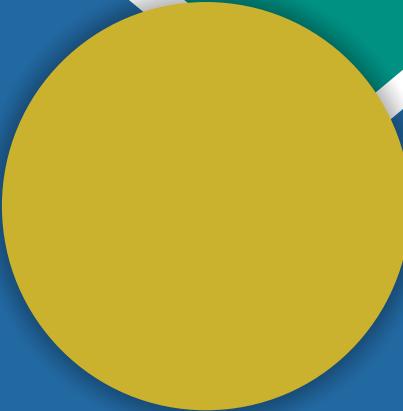


# Development of Pro-lac for Better Growth and Health in Poultry



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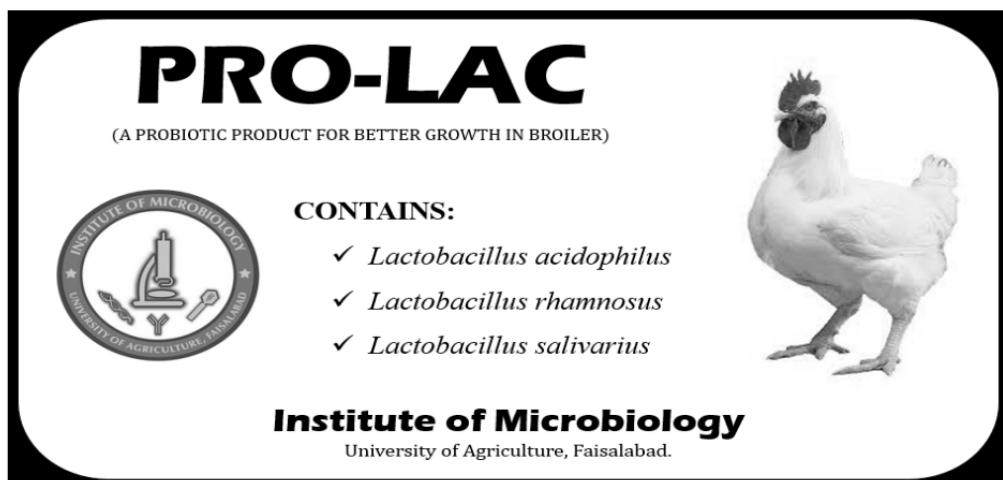
In Pakistan, human population is increasing along with the food demand and there is need to explore new technologies to fulfil the requirement of food. The poultry industry has emerged up as a good substitute of beef and mutton. Various infectious diseases are threat for poultry production. That is why the antibiotics are used in poultry industry, as prophylactics, therapeutics and growth promoters.. These antibiotics causing not only serious problems in poultry but also leaving behind harmful residual effects in meat and eggs. The lavish

use of antibiotic growth promoters in poultry medicine has caused a large pressure on the microflora and as a result such bacterial strains have developed which are more resistant to antibiotics and cause diseases in humans or animals. This has spurred the use of probiotics in the place of antibiotics.

These are cultures of live microorganisms, which may be mono or mixed cultures. When these cultures are given to animal or man in sufficient quantity, they have a health benefit on the host. The proposed mechanism of action is attributed to the lowered pH, production of other primary and secondary antimicrobial metabolites (fatty acids, bacteriocins), competition for nutrients and colonization on the epithelial tissues of intestine.

The application of probiotics in poultry has gained considerable interest for the last few years. Many types of microorganisms have been used as probiotics. Lactic acid bacteria are the part of microbiota of human and animal origin. In recent years, lactic acid bacteria have attained major attention for probiotic activity because they are generally regarded as safe (GRAS). Among Lactic acid bacteria, *Lactobacilli* are the most important bacteria gaining more consideration in the area of probiotics. The role of *Lactobacillus* is a multifactor process after entering the intestinal tract, live microorganisms or biologically active substances produced by them may activate specific and non-specific host immune systems for the prevention and control of various infectious diseases.

Many *Lactobacillus* strains, isolated from various sources, are being used as probiotic agents and it is unlikely that all functional characters of a probiotic are present in each species/strain. It needs thorough study and documentation. Generally recognized beneficial properties are the origin of the strain being used, the surviving ability within the GI tract, nonpathogenic activities and the modulation ability in immune responses. As a result of focused studies conducted in Institute of Microbiology, the *Lactobacillus acidophilus* 3, *Lactobacillus rhamnosus* and *Lactobacillus salivarius* were isolated and selected for evaluation under controlled experimental conditions. The *Lactobacilli* (PRO-LAC) product was formulated in liquid fermentation medium and named as chicken specific *Lactobacilli*.



On the whole, the group, which was administered @ 1x10<sup>8</sup>/kg body weight CFU through drinking water, showed significantly better results by attaining 48.5 and 55.7 GMT against ND and IBD vaccines, respectively. This group also showed significantly higher live body weight(1808.4±1 g), lower feed intake (3755.80 ±5.04 g) and decreased feed conversion ratio(2.09±0.04). It was concluded that these locally isolated *Lactobacillus* species had better effect as probiotics in broiler chicken. These are as good as imported brands of Probiotics. It is recommended that these locally formulated *Lactobacilli* rich probiotics (PRO-LAC) be utilized for best growth and immunity in broiler birds.