

**Project Title:** Development, Standardization and Evaluation of Probiotics in Poultry

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**Funding Agency** PAKISTAN SCIENCE FOUNDATION

The beneficial microorganisms *Lactobacillus acidophilus*, *Streptococcus thermophilus* and *Aspergillus oryzae* were isolated from intestinal contents of healthy birds as well as from yogurt samples. *Lactobacillus acidophilus* was isolated from intestinal contents of poultry after cultivation on deMan Rogosa and Sharpe (MRS) agar, *Streptococcus thermophilus* was isolated from the yogurt after cultivation on M-17 agar and *Aspergillus oryzae* was isolated from poultry gut after cultivation on potato dextrose agar. The pathogenicity of all isolated microorganisms was tested by inoculation of undiluted overnight broth culture in broiler chicks. These microorganisms were evaluated as probiotics in experimental broiler chicken. The experimental group which was given mixture of *Lactobacillus acidophilus* and *Streptococcus thermophilus* showed significantly better results by attaining higher post- vaccinal antibody titres against ND and IBD vaccines. This group also showed significantly higher live body weight, lower feed intake, decreased feed conversion ratio and lower mortality percentage.

It was concluded that these locally isolated lactic acid bacteria species had better effect as probiotics in broiler chicken. It is recommended that these locally isolated lactobacilli may be used as probiotics after strain identification through molecular methods, screening for probiotic properties and extensive field trials.