

C626350 : MAJOR INDUSTRIAL MICROBIOLOGY

KEY WORD: PROBIOTIC/LAB/CHICKEN FEED/*Lactobacillus* spp., *Streptococcus* spp.

TITIPONG THANARUTTIKANNONT : USE OF LACTIC ACID BACTERIA AS PROBIOTIC SUPPLEMENT IN CHICKEN REED. THESIS ADVISOR : ASSIST. PROF. SIRIRAT RENGPIPAT, Ph.D. 122 pp. ISBN 974-633-054-3

Twenty eight Lactic Acid Bacterial strains were isolated from 54 samples of healthy chicken intestinal tracts collected from markets in Bangkok. The bacteria were then tested for antibiotic properties against *Bordetella avium*, *Listeria monocytogenes*, *Pasteurella multocida*, *Proteus vulgaris*, *Pseudomonas aeruginosa*, *Salmonella enteritidis*, *Salmonella typhimurium* and *Staphylococcus aureus*. The results showed that supernatant of 6 Lactic Acid Bacterial strains produced zones of inhibition on solid media. All 6 strains were taxonomically classified as 2 *Lactobacillus acidophilus* strains, 1 *Lactobacillus bulgaricus* strain, 1 *Lactobacillus fermentum* strain, 1 *Lactobacillus casei* Subsp. *tolerans* strain, and 1 *Lactobacillus jensenii* strain. When mixed culture of these *Lactobacillus* spp. were supplemented to chickens as probiotic, *Lactobacillus fermentum* was the only strain that could not survive in chicken's intestine. In addition, the efficiency test of probiotic was conducted and showed that tested chickens, in which mixed probiotics were supplemented, had larger body weights than the control with statistical significance ($P < 0.05$) and Feed Conversion Ratio was not significantly different. When conducting a challenging test with *Salmonella typhimurium*, it revealed that mixed culture *Lactobacillus* spp. could decrease the infection of certain *Salmonella* spp.

The results from this thesis could be concluded that using mixed of *Lactobacillus* spp. as probiotics in increasing chicken production was beneficial as the same as the use of other growth promotants and could be used as alternatives for antibiotics.

ภาควิชา.....จุลชีววิทยา

สาขาวิชา.....จุลชีววิทยาทางอุตสาหกรรม

ปีการศึกษา.....2538

ลายมือชื่อนิสิต.....จิราพร อรรถวิวัฒน์

ลายมือชื่ออาจารย์ที่ปรึกษา.....ดร.ศิริพร เริงพิพัฑ

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....-