

# Investigation an Survival of Dietary Probiotics in Broiler Gut

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## ABSTRACT

The objective of this study was to investigate the survival of dietary probiotics in gut of broiler. Forty-two day-old commercial broilers were used in this experiment randomly divided into three group with 14 broilers for each group. The broilers were fed for eight weeks. The broilers for Groups A and B were fed the basal diet supplemented with 3% and 5% fermented milk containing *Lactobacillus acidophilus*, *Lact. bulgaricus*, *Streptococcus thermophilus* and *Bifidobacterium longum*, respectively, and the broilers for group C were fed the basal diet only as the control. The Group A and B were fed the supplemented diets for four weeks and then changed to the basal diet. Feed and water were provided ad libitum. The results showed that there were no significant differences in growth performance among the broilers for three groups ( dietary probiotics fed broilers and the control ) . The two media, LAMVAB and BIM-25 , were used for the selecting culture of *Lactobacillus* and *Bifidobacterium* in the samples from the contents of the broilers ileum, caecum and colon and the broiler excreta. Group A and B showed that the numbers of *Lactobacillus* and *Bifidobacterium* presented in the contents of the guts were higher than control group ( $P < 0.05$ ). In caecum, the *Lactobacillus* and *Bifidobacterium* counts were significantly higher than ileum and colon ( $P < 0.05$ ). *Lactobacillus* counts of the broilers excreta on 5th week were significantly higher than on the other weeks in all the groups ( $P < 0.05$ ). Then, *Bifidobacteria* counts of the broilers excreta on 4th week was significantly higher on the other weeks in all the groups ( $P < 0.05$ ). In addition, the probiotics colonies were further cultured to extract genomic DNA. The PCR methods was applied for detection the specific probiotics in the broiler intestine or excreta. This result showed that the intestine content or excreta of broilers fed with fermented milk was detected. In addition, the SEM also showed probiotics in the broiler caecum. In conclusion, it was suggested that dietary probiotics might reside in the intestinal tract .

Keywords : probiotics, broilers, intestine

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