

## **The Dynamics of Indigenous Probiotics Lactic Acid Bacteria on Growth Performance, Total Adherence Bacteria, and Short-Chain Fatty Acids Production in the Ileum of Male Quail**

**Sri Harimurti, Sri Sudaryati and Bambang Ariyadi**

Faculty of Animal Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia  
Corresponding email: b\_ari2005@yahoo.com

**ABSTRACT :** The aim of this study was to evaluate the dynamics of indigenous probiotics lactic acid bacteria in connection with growth performance, total adherence bacteria in the ileum, and their short-chain fatty acids production of male quails raised for 42 days. The probiotics consisted of three indigenous lactic acid bacteria strains, namely *Lactobacillus murinus* (Ar3), *Streptococcus thermophilus* (Kp2) and *Pediococcus acidilactiti* (Kd6). A total of 192 day old male quails were randomly divided into four treatment groups: T0, T1, T2 and T3. The treatment of T0 was unsupplemented probiotics, while T1, T2 and T3 were orally supplemented multi strain probiotics contained  $10^7$ ,  $10^8$ ,  $10^9$  CFU/ml/bird/day, respectively. The layer quail diet was formulated to meet the National Research Council recommendation, without antibiotic and coccidiostat. Feed and drinking water were provided ad libitum. The data were analyzed by one way anova of Completely Randomized design (CRD) followed by Duncan New Multiple Range Test (DMRT). The result showed that supplementation of probiotics improved growth performance of male laying quails, increased ileal short-chain fatty acids production consisted of acetic, propionic and butyric acid ( $P < 0.05$ ). The count of ileal lactic acid bacteria increased according to the level of probiotics supplementation. The adherent of lactic acid bacteria count in the ileum was 2 log cycle greater than the control one.

**Keywords:** Quails, Probiotics, Growth performance, Short-chain fatty acid production, Lactic acid bacteria count.