



A Bibliometric Analysis of Probiotic Lactic Acid Bacteria in Mitigating *Escherichia coli* and Enhancing Poultry Growth Performance (2015–2025)

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Abstract

As an antibiotic replacement, probiotics, especially lactic acid bacteria (LAB) are becoming very popular to improve the growth of poultry. They fight pathogenic *Escherichia coli* which adversely influences the health of the gut and the absorption of food. To understand how probiotics could be used to improve animal development performance one needs to understand the dynamics between LAB and *E. coli*. The purpose of the study was to conduct bibliometric analysis of the studies that used probiotic bacteria to inhibit the growth of *E. coli* and to enhance the growth performance of animals, which identified significant topics of research, influencers, main contributors, intellectual structures and potential solutions. The data retrieved by the Web of Science (WoSCC) database were used to retrieve the information regarding the years 2015-2025. A systematic search strategy was employed using keywords, such as, probiotic bacteria OR LAB and *E. coli* and growth performance. VOSviewer and the bibliometrix package in R tools were used to conduct bibliometric analyses. was then employed to examine the acquired metadata, such as co-authored nations, citation trends, and keywords. The findings indicated that the production of research had increased exponentially over the last decade with China, Iran and Malaysia leading in terms of the volume of research production, number of citations and international collaboration. The author who was cited the most was Zhang. As three topic clusters, the role of probiotics and synbiotics to improve gut health. Probiotic feed additives, antibacterial and growth-promoting were identified. Growth performance, probiotics, broiler, supplementation and microbiota have become more and more frequently used words. Future studies should concentrate on worldwide monitoring strategies, innovative antimicrobial alternatives, and interdisciplinary cooperation.

Keywords: probiotics; lactic acid bacteria; *Escherichia coli*; growth performance; poultry; bibliometric

