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Yeast-Fermented Curcuma longa as a Natural Alternative to Antibiotics for Enhancing Broiler Chicken Performance

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Abstract. This study evaluated the effects of dietary supplementation with yeast-fermented *Curcuma longa* on growth performance and mortality in broiler chickens, comparing it with conventional antibiotic treatment. A total of 160 Ross 308 broilers were divided into four groups: T1 (control), T2 (tetracycline antibiotics), T3 (1% yeast-fermented *Curcuma longa*), and T4 (2% yeast-fermented *Curcuma longa*). From day 21 to 35, growth rates were lowest in the control group (T1), while the T4 group showed the highest growth rate (1783.58 g) by day 35. Feed Conversion Ratio (FCR) analysis indicated that 2% yeast-fermented *Curcuma longa* provided superior feed efficiency, particularly from days 28 to 35, outperforming both the control and antibiotic groups. Notably, both 1% and 2% yeast-fermented *Curcuma longa* eliminated mortality, unlike the control and antibiotic-treated groups, which had higher mortality rates. These results suggest that yeast-fermented *Curcuma longa*, especially at 2%, significantly improves growth and feed efficiency in broiler chickens, offering a promising natural alternative to antibiotics. This could help reduce antibiotic use, mitigate antimicrobial resistance, and support sustainable poultry farming practices.

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