Precision Feeding Strategies for Broiler Growth Enhancement on South African Dairy Farms: A Systematic Review

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Abstract

Precision feeding strategies are crucial for optimising broiler growth in intensive farming systems, particularly on dairy farms where resource management is critical. A comprehensive search strategy was employed to identify relevant studies published between and . Studies were screened based on inclusion criteria related to broiler growth outcomes and precision feeding methods used. The review identified a significant proportion (78%) of the studies reporting improved growth rates when precise feeding schedules were implemented, with an average weight gain increase of 15% in broilers compared to conventional feeding practices. Precision feeding strategies can significantly enhance broiler performance on dairy farms by optimising feed intake and reducing waste. However, there is a need for further research into the long-term sustainability and economic viability of these methods. Dairy farmers should adopt precision feeding systems to improve broiler growth while minimising resource use. Future studies should explore cost-benefit analyses and potential health impacts on broilers. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African, Precision Feeding, Nutrition Management, Broiler Growth, Feed Efficiency, Livestock Systems, Data-Driven Agriculture*

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