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Metabolomics for quality assessment of poultry meat and eggs

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Abstract

The poultry industry is experiencing rapid growth worldwide. This accelerated growth has led to multiple food fraud incidents across the food supply chain, which consequently created a demand for precise determination of quality poultry production. This increase in demand for precise poultry production quality has necessitated advanced solutions. Metabolomics has emerged as a viable solution by offering detailed differentiation of biochemical indicators throughout the poultry supply chain. Additionally, this study provides a means to address risk factors affecting the poultry industry without compromising animal welfare, which is a critical concern. This review focuses on important issues related to poultry product quality assessment. Food adulteration has escalated in recent years as it is driven by the increasing focus on consuming high-quality and nutritious food. However, there is no specific guideline for such determinations, especially when appearance, texture, and taste can be manipulated by substituting for food components. Metabolomics can pave the way for a deeper understanding of existing and novel biochemical indicators responsible for determining the quality of poultry meat and eggs. This approach holds the potential to enhance the overall quality of poultry meat and egg products while also preventing food fraud. © The Author(s) 2024.

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