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## Recent Advances in Poultry Nutrition: Utilizing Phytobiotics as Alternatives to Antibiotics

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### Abstract

In response to growing concerns over antibiotic resistance and consumer demand for antibiotic-free poultry products, recent years have witnessed significant advancements in poultry nutrition research, with a particular focus on exploring phytobiotics as viable alternatives to antibiotics. This abstract highlights the latest developments in utilizing phytobiotics to enhance poultry nutrition while addressing the challenges associated with antibiotic usage. Phytobiotics, derived from various herbs, spices, and medicinal plants, represent a diverse group of natural feed additives known for their bioactive properties. A primary area of investigation revolves around the impact of phytobiotics on gut health and microbiome management in poultry. These additives have demonstrated the ability to modulate the composition of gut microbiota, fostering the growth of beneficial bacteria while suppressing harmful pathogens. This shift in gut microbial balance contributes to improved nutrient absorption, enhanced immune responses, and a reduced incidence of gastrointestinal disorders, ultimately promoting the overall well-being of poultry flocks. By incorporating phytobiotics into poultry diets, researchers have observed a reduction in pathogenic colonization, leading to improved flock health and mitigated zoonotic risks. Beyond their antimicrobial effects, phytobiotics have been found to possess antioxidant and anti-inflammatory attributes, helping alleviate oxidative stress and support the immune system in poultry. By reducing the reliance on antibiotics, phytobiotics aid in minimizing antibiotic residues in poultry products, promoting environmentally friendly approaches to poultry nutrition. In conclusion, recent advances in poultry nutrition have demonstrated the potential of phytobiotics as effective alternatives to antibiotics. Their multifaceted benefits, including enhanced gut health, antimicrobial activity, and immune system support, contribute to improved productivity and sustainability in the poultry industry. As research continues to unveil the full potential of phytobiotics, they present a promising pathway towards safer, healthier, and antibiotic-free poultry production systems.

**Keywords:** *Phytobiotics, poultry, nutrition, alternative to antibiotics, herbs, feed additives*

