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Moringa oleifera and allium sativum used in chicken nutrition for nigeria's poultry business**Oluwafemi A Agbetuyi**

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Statement of Problem: Birds' gastrointestinal tracts (GITs) are home to pathogenic microorganisms that compete with their hosts for nutrition and can lead to subclinical infections that lower production. Researchers observed that using synthetic products in combating these challenges has led to an increase in bacteria drug resistance, drug residue, and alteration of the natural GIT microbes in chickens. Research into the ability of *Moringa oleifera* and *Allium sativum* to inhibit these harmful bacteria in the chicken gut for improved productivity, since they both include phytochemicals that have the power to increase both the amount and quality of poultry output, has been made. The purpose of this study was to ascertain the effects of using *Moringa oleifera* leaf powder (MLP) and *Allium sativum* bulb powder (ABP) on the health and performance of broiler and laying birds.

Methodology: A total of n=240, 8-day old (Cobb 500) broiler chickens, and n=300 ISA brown laying birds were randomly allotted into 5 dietary treatments in a completely randomized design. Data collected were subjected to analysis of variance using the General Linear Model Procedure of SAS (2020). The treatment's means were distinguished using Tukey's Honestly Significant Difference (HSD) at 5% level of probability.

Findings: Results in this study revealed the significant impact ($p < 0.05$) of phytochemicals and antioxidant activities in *Moringa oleifera* and *Allium sativum* on broiler and laying bird performance. The GIT microbial populations were steadily ($p < 0.05$) reduced to those that were beneficial. Conclusion: By maintaining a healthy microbial environment, the phytochemicals and antioxidant contents of *Moringa oleifera* and *Allium sativum* aid to slow down the colonization of GIT by pathogenic bacteria. Through improved feed consumption and increased chicken performance, they consistently improved nutrient and mineral absorption. Therefore, it is advised that the diet composition for chickens include MLP and ABP as feed additives.

Biography

Oluwafemi A Agbetuyi is a researcher based in Oye Local Government, Nigeria, with a focus on poultry nutrition and sustainable agricultural practices. His research explores the use of natural phytochemicals, particularly *Moringa oleifera* leaf powder (MLP) and *Allium sativum* bulb powder (ABP), as feed additives to enhance the health and performance of broiler and laying chickens. By investigating their antioxidant properties and effects on gastrointestinal microbial populations, Oluwafemi's work contributes to addressing challenges such as bacterial drug resistance and improving poultry productivity. His findings support the inclusion of MLP and ABP in chicken diets for healthier and more efficient poultry farming.