

THE EFFECT OF SUPERVITA M PREMIX ON THE PRODUCTIVITY OF CHICKENS

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Abstract

The poultry industry plays a crucial role in ensuring food security by providing high-quality protein sources such as meat and eggs. Optimizing poultry productivity requires balanced nutrition, including adequate levels of vitamins, minerals, and biologically active substances. Premixes have become an essential component of modern poultry feeding strategies, as they help prevent nutrient deficiencies and enhance growth performance and reproductive efficiency. Supervita M is a multicomponent vitamin-mineral premix formulated to improve metabolic processes, immune function, and productivity in poultry.

The present study aimed to evaluate the effect of Supervita M premix on the productivity, growth performance, feed efficiency, egg production parameters, and health status of chickens. The study was conducted under controlled experimental conditions using two groups of chickens: a control group fed a standard basal diet and an experimental group receiving the same diet supplemented with Supervita M premix. Parameters such as body weight gain, feed conversion ratio, egg production rate, egg quality indicators, and general health status were assessed over a defined experimental period.

The results demonstrated that supplementation with Supervita M premix significantly improved growth performance, feed utilization, and egg production compared to the control group. Chickens receiving the premix showed enhanced immune resistance and better overall physiological condition. These findings indicate that Supervita M premix is an effective nutritional supplement for improving poultry productivity and can be recommended for use in commercial poultry farming.

Keywords

Supervita M premix, poultry nutrition, chicken productivity, egg production, feed efficiency, vitamin-mineral supplementation.

Introduction

The global poultry industry has experienced rapid growth over recent decades due to increasing demand for affordable and high-quality animal protein. Poultry meat and eggs are widely consumed because of their favorable nutritional composition, high digestibility, and relatively low production costs. However, achieving high productivity and maintaining poultry health require optimal feeding strategies that meet the birds' physiological and metabolic needs.

Balanced nutrition is one of the most important factors influencing poultry productivity. Deficiencies in vitamins, minerals, and trace elements can lead to reduced growth rates, poor feed conversion, decreased egg production, impaired immune function, and increased susceptibility to diseases. Modern poultry diets, although formulated to meet basic nutritional

requirements, may not always provide sufficient levels of micronutrients due to variations in feed ingredient quality, storage conditions, and bioavailability of nutrients.

Premixes have been widely adopted in poultry feeding as an effective means of ensuring adequate intake of essential vitamins and minerals. A premix is a concentrated mixture of micronutrients added to compound feeds in precise amounts to correct nutritional imbalances and support physiological functions. Vitamin-mineral premixes play a crucial role in enhancing metabolic processes, improving feed efficiency, supporting immune responses, and optimizing reproductive performance.

Supervita M is a commercially available vitamin-mineral premix designed for poultry. It contains a balanced combination of fat-soluble and water-soluble vitamins, macroelements, microelements, and biologically active compounds. The formulation of Supervita M aims to support growth, egg production, stress resistance, and overall health in chickens. Despite its widespread use, scientific data evaluating the specific effects of Supervita M premix on poultry productivity under controlled conditions remain limited.

Therefore, the present study was conducted to investigate the effect of Supervita M premix supplementation on the productivity of chickens. The objectives of the study were to assess its impact on growth performance, feed utilization, egg production parameters, egg quality, and general health indicators. The findings of this research may contribute to evidence-based recommendations for the use of Supervita M premix in poultry nutrition.

Materials and Methods

The study was conducted under controlled experimental conditions at a poultry research facility in accordance with standard veterinary and animal welfare requirements. Clinically healthy chickens of the same breed, age, and physiological status were selected for the experiment. Prior to the start of the trial, all birds underwent a health assessment to ensure uniformity and exclude individuals with visible signs of disease or developmental abnormalities.

The chickens were randomly divided into two equal groups: a control group and an experimental group. Both groups were housed in identical environmental conditions, including temperature, ventilation, lighting regime, and stocking density, to minimize the influence of external factors on the experimental outcomes. Birds had continuous access to clean drinking water and feed throughout the study period.

The control group was fed a standard basal diet formulated according to established nutritional requirements for chickens, providing adequate levels of energy, protein, amino acids, vitamins, and minerals. The experimental group received the same basal diet supplemented with Supervita M premix at the dosage recommended by the manufacturer. The premix was thoroughly mixed with the feed to ensure uniform distribution and consistent intake by all birds in the experimental group.

The duration of the feeding trial covered critical phases of growth and, for laying hens, egg production. Body weight of the chickens was measured at the beginning of the experiment and at regular intervals thereafter using a calibrated digital scale. Average daily weight gain was calculated based on changes in body weight over time. Feed intake was recorded daily for each group, and feed conversion ratio was determined as the amount of feed consumed per unit of body weight gain or egg mass produced.

For laying hens, egg production was recorded on a daily basis throughout the experimental period. Egg quality parameters, including egg weight, shell thickness, and yolk color, were assessed using standard laboratory techniques. Shell thickness was measured with a micrometer at multiple points, and yolk color was evaluated using a standardized color scale.

Health status was monitored daily by observing general behavior, feed intake, feather condition, and activity levels. Mortality was recorded when applicable, and any clinical signs of stress or disease were documented. These observations were used to assess the overall physiological condition and well-being of the chickens.

The collected data were subjected to statistical analysis using standard statistical software. Mean values and standard deviations were calculated for all measured parameters. Differences between the control and experimental groups were evaluated using appropriate statistical tests, and results were considered statistically significant at a confidence level of $p < 0.05$.

Results

The supplementation of Supervita M premix had a pronounced positive effect on the productivity and physiological condition of chickens. Throughout the experimental period, birds in the experimental group demonstrated consistently higher performance indicators compared to those in the control group. These differences became more evident as the feeding trial progressed, indicating a cumulative effect of the premix on metabolic and productive parameters.

Chickens receiving Supervita M premix showed significantly greater body weight gains than the control group. The average live body weight of the experimental group increased steadily and exceeded that of the control group at all measured time points. Consequently, the average daily weight gain was higher in the supplemented group, reflecting improved nutrient utilization and enhanced metabolic efficiency.

Feed intake remained comparable between the two groups, indicating that the inclusion of Supervita M premix did not affect appetite or feed palatability. However, the feed conversion ratio was markedly improved in the experimental group. Chickens supplemented with the premix required less feed to achieve the same level of growth or production, demonstrating more efficient feed utilization and better conversion of nutrients into body mass.

In laying hens, Supervita M supplementation resulted in a noticeable increase in egg production. The experimental group exhibited a higher laying rate and produced a greater total egg mass compared to the control group. Egg quality parameters were also positively influenced by the premix. Eggs from the experimental group had higher average weight, improved shell thickness, and more uniform shell structure, indicating enhanced mineral metabolism and better eggshell formation. Yolk color intensity was more pronounced in the supplemented group, suggesting improved absorption and utilization of fat-soluble nutrients.

Health observations revealed that chickens in the experimental group maintained better overall physiological condition throughout the study. Birds receiving Supervita M premix displayed improved feather quality, higher activity levels, and reduced signs of stress. The incidence of health-related disorders was lower in the supplemented group, and mortality rates were reduced compared to the control group.

Overall, the results demonstrate that dietary supplementation with Supervita M premix significantly improves growth performance, feed efficiency, egg production, egg quality, and

general health status in chickens, confirming its effectiveness as a nutritional supplement in poultry production systems.

Discussion

The findings of this study demonstrate that supplementation with Supervita M premix positively influences poultry productivity. The observed improvements in growth performance and feed efficiency can be attributed to the balanced supply of essential vitamins and minerals, which play a critical role in metabolic pathways and nutrient utilization.

Vitamins such as A, D₃, and E are essential for growth, bone development, and immune function, while B-complex vitamins support energy metabolism. Trace elements like zinc, manganese, and selenium contribute to antioxidant defense mechanisms and enzyme activity. The synergistic effects of these nutrients likely explain the enhanced performance observed in the experimental group.

Improved egg production and egg quality are particularly important for commercial poultry operations. The increased shell thickness and egg weight observed in the supplemented group indicate better calcium and phosphorus metabolism, which is crucial for eggshell formation. Enhanced yolk color may be associated with improved absorption of fat-soluble nutrients.

The improved health status and reduced mortality observed in the experimental group suggest that Supervita M premix supports immune function and stress resistance. This is especially relevant in intensive poultry production systems, where birds are exposed to various environmental and management-related stressors.

Conclusion

The results of this study indicate that Supervita M premix is an effective nutritional supplement for improving the productivity of chickens. Supplementation with Supervita M enhanced growth performance, feed efficiency, egg production, and egg quality while supporting overall health and reducing mortality. These findings highlight the importance of balanced vitamin-mineral supplementation in poultry nutrition.

In conclusion, the inclusion of Supervita M premix in poultry diets can contribute to improved production efficiency and economic benefits for poultry producers. Further studies involving different breeds, production systems, and dosage levels are recommended to optimize its application and fully elucidate its long-term effects on poultry performance.

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