**Effect of Phytogenic Feed Additive Blends on Haemato – biochemical Indices and Carcass Yield of Broiler Chickens**

O. O. Adeleye1, M O Abatan1, T. M. Obuotor2, A. O. Akinboyeje3, A.O. Kolawole2, A O Fafiolu4

1Department of Animal Production and Health, College of Animal Science and Livestock Production, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria.

2Department of Microbiology, College of Biosciences, Federal University of Agriculture, Abeokuta Ogun State Nigeria.

3Livestock Science and Sustainable Environment, World Bank Centre for Excellence In Agricultural Development And Sustainable Environment, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria.

4Department of Animal Nutrition, College of Animal Science and Livestock Production, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria.

**ABSTRACT**

**APPLICATION**

Phytogenic feed additives can be used as enhancers of growth performance in broilers with no residual side effect on the

**INTRODUCTION**

Phytogenic feed additives (PFA) have emerged as alternatives to antibiotics due to increased public and scientific concern regarding residual effects on birds, drug resistance in human and environmental issues. This study investigated the effect of PFA (Lemon peel- LP, Curry leaf- CL, Lemon grass- LG and Orange peel- OP) on haemato - biochemical indices and carcass yield of broiler chickens.

**MATERIALS AND METHODS**

Two hundred arbor acre broiler chickens was used for the experiments. Birds were allotted 5 treatments (40 birds/treatments) in 4 replicates of 10 birds each using Completely Randomized Design. The treatment groups include: Treatment 1 (T1) = Control (with antibiotics), Treatment 2(T2) = Blend A (LP: 35.0% + OP: 30.5% + LG: 22.5% + CL: 12.0%), Treatment 3 (T3) = Blend B (LP: 32.5% + OP: 33.0% + LG: 23.5% + CL: 11.0%), Treatment 4 (T4) = Blend C (LP: 30.0% + OP: 35.5% + LG: 24.5% + CL: 10.0%), Treatment 5 (T5) = Blend D (LP: 27.5% + OP: 38.0% + LG: 25.5% + CL: 9.0%)**.**  Haematological parameters (Red Blood Cell, White Blood Cell, Packed Cell Volume, haemaglobin concentration and White blood cell differentia) were determined while serum biochemical analysis (Total Protein, Albumin, Aspartate aminotransferase and Alanine aminotransferase) were also evaluated. All data obtained were subjected to one-way ANOVA.

**RESULTS**

Heterophils and Mean corpuscular haemoglobin concentration were not significantly (P>0.05) influenced by PFA. Birds fed T2 had the highest value 6.83 g/dl and 4.25 g/dl for total protein and albumin. However, alkaline phosphate 34.75u/l, triglyceride 168.33 mg/dl, glutathione peroxidase 13.68u/l and very low-density lipoprotein 33.68mg/dl were significantly higher in birds fed diet T1 except superoxide dismutase. Antibiotics and PFA did not have any significant effect (P>0.05) on the carcass parameters**.**

**CONCLUSION**

 This study has been able to show that the inclusion of phytogenic feed additives should be encouraged in order to enhance the health of the broiler chicken. PFA can also be used as replacement for tetracycline antibiotics because it is generally safe with no residual side effect on the birds.