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## **EFFECT OF AQUEOUS NEEM LEAF (AZADIRACHTA INDICA) EXTRACT ON PERFORMANCE, CARCASS QUALITY AND PHYSIOLOGICAL STATUS OF BROILERS**

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### **Abstract**

This study was carried out to evaluate the effects of aqueous neem leaf extract (ANLE) on the performance, carcass characteristics, blood and serum biochemistry of broiler birds. One hundred and sixty, day-day old broiler chicks were randomly assigned to four treatments which contained 0, 20, 40 and 60ml ANLE per litre of water in a Completely Randomized Design experiment. Each treatment was replicated four times with ten birds in each replicate. Feed and water were provided ad libitum. There was significant ( $P < 0.05$ ) difference in weight gain and feed intake in favour of birds in the control, and feed conversion was better in birds placed on 20ml/L ANLE. Significant ( $P < 0.05$ ) effect was observed in the survival of birds treated with ANLE with 20 and 40ml/L ANLE having 15 and 10% mortality rate respectively. There was no significant ( $P > 0.05$ ) difference in Hemoglobin, packed cell volume, white blood cell neutrophil and monocyte. Significant ( $P < 0.05$ ) effect was observed in creatinine, AST and ALT. In conclusion, results of this study indicate that aqueous ANLE could therefore, be used in broiler chicks production without any deleterious effect on the performance, carcass characteristics and health status of the birds at the inclusion level used in this study.

**Keywords:** neem, hemoglobin, broiler, growth, WBC, serum

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## References

- Adam, C. 2005. Nutrition-based health. *Feed International*, 2:25-28
- Bonsu, F. R. K., Kagya-Agyemang, J. K., Kwenin, W. K. J. & Zanu, H. K. 2012. Medicinal response of broiler chickens to diets containing Neem (*Azadirachta indica*) leaf meal, haematology and meat sensory analysis *World Appl. Sci. J.* 19(6):800-805.
- Del Campo, J., Amiot, M. J. and Nguyen-The, C. 2000. Antimicrobial effect of rosemary extracts. *Journal of Food Protection*, 63:1359-1368.
- Dibner, J. 2004. Organic Acids: Can they replace antibiotic growth promoters? *Feed International*, 12:14-17
- Dijk, A. V. T. 2004. Testing acidifiers and other AGP alternatives. *Feed International*, 5:10-12
- Esonu, B., Opara, M.N., Okoli, I.C., Obikaonu, H.O., Udedibie, C. & Iheshiulor, O.O.M. 2007, "Physiological Response of Laying Bird to Neem (*Azadirachta Indica*) Leaf Meal-based Diets: Body Weight Organ Characteristics and Haematology". *Life Science Journal* 4(2), 37-41.
- Ghazalah A.A., and Ali, A.M. 2008. Rosemary leaves as dietary supplement for growth in broilers. *International Journal of Poultry Science*, 7(3): 234-239.
- Hsiesh, P. C., Mau, J. C. and S. H. 2001. Antimicrobial effects of various combinations of plant extracts. *Food Microbiol.* 18: 35-43
- Hussian, J., Satyanarayana-Raddy, P.V.V. and Reddy, V.R. 1991. Utilization of *Leucanea* leaf meal by broilers. *Br. Poult. Sci.*, 32:131-137.
- Jain, N.C. 1986. Schalm's veterinary haematology 4<sup>th</sup> edn. Lea and Febiger Philadelphia Pp81 – 88
- Makeri, H. K., Maikai V. A., Nok, J. A. 2007. Effect of tropical application of neem seed (*Azadirachta indica*) extract on sheep infested with *Amblyomma variegatum*. *Afr. J. Biotechnol.* 6(20):2324-2327
- Nte, I. J., Oleforuh-Okoleh, V.U. and Nwiidae, B. S. 2016. Effect of Scent Leaf (*Ocimum Gratissimum*) Administration on Growth Performance and Carcass Traits of Broiler Chicks
- Ogbuewu, I. P., Odoemenam, V.U., Obikaonu, H.O., Opara, M.N., Emenalom, O.O., Uchegbu, M.C., Okoli I.C. Esonu, B.O. & Iloje, M.U. 2011, "The Growing Importance of Neem (*Azadirachta indica* A. Juss) in Agriculture, Industry, Medicine and Environment: A Review". *Research Journal of Medicinal Plants* 5(3), 230–245.
- Ogle, M. 2013. Riots, Range Resistance: A brief history of how antibiotics arrived in the farm. *Scientific American*.
- Oleforuh-Okoleh, V. U., Olorunleke, S. O. and Nte, I. J. 2015. Comparative Response of Bitter Leaf (*Vernonia amygdalina*) Infusion Administration on Performance, Haematology and Serum Biochemistry of Broiler Chicks. *Asian Journ. of Anim. Sci.* 9: 217-224.

- SAS 2000. SAS Guide for Personal Computers version 6<sup>th</sup> Edition, Cary, N.C. SAS Institute, USA
- Schmutterer, H. 1990. Future tasks of neem research in relation to agricultural neems worldwide. In: J.C. Locke and R.H. Lawson, (eds): Proceedings of a workshop on Neem's potential in pest management programs. USDA -ARS, Beltsville, MD. ARS-86:15-22
- Yang, R.Y., Chang, L.C., Hsu, J.C., Weng, B.B.C., Palada, M.C., Chadha, M.L. and Lavasseur, V. 2007. Nutritional and functional properties of *Moringa oleifera* leaves from Germ plasm to plant, to health in Moringa Leaves: Strategies, standards and market for better impacts on nutrition in Africa. AVRDC – The World Vegetable Centre.