

WPSA Spring Conference 2023 (29th March – 30th March 2023)



Guidelines for the Preparation and Submission of Abstracts

A **one-page summary** allows the reviewers to referee your proposed paper for scientific content, ethics, presentation and relevance. It will be published in the series British Poultry Abstracts and must be suitable for use as a scientific reference. If the paper is not presented at the conference it will not be included in the edition of BPA. Previews or literature reviews will not be accepted. Only papers based on original research will be considered. Summaries should be complete in themselves and may contain graphs/tables, which will complement the text. Please ensure all authors are in agreement with being identified as being associated with the paper. The summary should be discussed with any co-authors and read critically by a colleague who has not been closely involved. Authors will be asked to rewrite substandard summaries or the summary may be rejected. Changes and corrections in titles and authors after submission, other than those requested, are to be avoided.

The abstract submission should not be longer than one A4 page with all page margins set to 1.5cm. Please read the submission instructions carefully. Submissions which don't comply with the specified format will be returned to authors for amendment or the submission may be rejected.

ALL ABSTRACT SUBMISSIONS SHOULD BE SUMMITTED ON THE WEBSITE -
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SUMMARY SUBMISSION DEADLINE – 3rd December 2022

SUBMISSION TITLE The title should be descriptive, specific, and concise. It should also state the animal species concerned. The title should be a maximum of two lines (Times New Roman, Size 12, lower case, Bold font) and **not** have a full stop (period) at the end. No abbreviations please.

AUTHORSHIP All the authors of a paper should include their initials and last name (Times New Roman, Size 10, all UPPER case). One author should be identified as the corresponding author with an asterisk (*). The affiliations of all named co-authors should be the affiliation where the research was conducted. If any of the named co-authors moves affiliation during the peer review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after the article is accepted.

MAIN TEXT Please use Times New Roman, Size 10. Please avoid non-standard abbreviations where possible.

Please ensure that British - UK English spelling is used.

Different sections application, introduction, material and methods, etc.) should be separated by one clear line; section headings should be in bold and capitalised text should begin on the same line as the heading (see example summary).

APPLICATION should be a maximum of two lines of text and should explain the expected importance or commercial, economic, environmental and or social impact of the work.

INTRODUCTION should state the background and objectives of the work.

MATERIAL AND METHODS should describe clearly the methods used, including numbers and types of animals. A statement regarding verification that a committee on animal care in research has approved the experimental design and procedures involved. It should also describe all statistical analyses conducted. Authors must adhere to SI units. Units are not italicised. The experimental design and statistical methods must be clear: vague statements such as “the data were analysed using Minitab” are not acceptable. Experiments where treatments and pens (or groups) of animals are confounded are not acceptable.

RESULTS obtained, together with relevant statistical analysis, should be presented in sufficient detail to support the conclusions drawn. Treatment means should be presented with appropriate standard errors of means or differences. The minimum number of decimal places required to demonstrate statistically significant differences should be used. Probability values must be presented to support conclusions. Probability levels of $P > 0.05$ are NOT statistically significant.

The use of percentages should be avoided wherever possible; concentrations or compositions should be expressed as mass per unit mass or mass per unit volume; decimal proportions should be used for common ratios such as, for example, diet digestibility coefficients.

The results of surveys will be accepted if the work is original research, rigorously designed, executed and statistically analysed.

CONCLUSION should reflect the original objective(s) of the work and clearly state the author's view of the implications of the results to scientific understanding and practical use. Vague sentences are not acceptable. A discussion is not required.

ACKNOWLEDGEMENTS Please ensure that funders of the work are acknowledged.

REFERENCES

Studies cited in the body of the summary should refer to the Author(s) and the year of the study (e.g. Smith *et al.*, 2005). The list of references presented at the end of the summary should include: Author(s) surname and initials, year, full title of the journal volume, pages.

e.g.

Livesey, C., Harrington, T., Johnston, A. M., May, S. A. and Metcalf, J. A. (1998). *Animal Science*. 67, 9-16.

The title of a Journal article or abstract should **not** be included

References should be listed alphabetically by first author surname. No more than 5 references should be given.

TABLES Should be numbered sequentially with a caption

FIGURES All coloured images/figures should be saved as a flat JPEG file with no layers. High resolution (minimum 300dpi).

COMMERCIAL PRODUCTS

Where results on commercial products are being presented, authors should ensure, before submitting their summary that both their organisation and the commercial company involved give permission to publish. Any product names should only be used once in the text.

Before submitting a summary please refer to the check list below

- ✓ Is British English used throughout the summary?
- ✓ Do the tables conform to guidelines?
- ✓ Do the graphs/images conform to guidelines
 - Borders: The graph/image should not be framed with a border
 - Colour: Graphs/images are presented as a single flat jpeg file with no layers. High resolution (minimum 300dpi).
- ✓ Do the results comply with the statistical conventions used for Animal?
- ✓ Have the funding organisations that supported the work been acknowledged?
- ✓ Have all authors (and relevant funding bodies and/or commercial) agreed to the submission and publication of this summary in its current form?

Effect of turmeric supplementation on heat stress on broiler chickens

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APPLICATION

Livestock farmers can make use of turmeric rhizome powder to ameliorate the effect of heat stress on broiler chickens.

INTRODUCTION

Tropical climates is a harsh environment for broiler production as a result of high ambient temperatures and relative humidity (Farooq *et al.*, 2005) but dietary manipulation such as addition of antioxidants may ameliorate this in some months in the year (Flachowsky, 2002). The phenolic compound, turmeric (*Curcuma longa*), has known antioxidant properties (Ammon *et al.*, 1993) so this study investigated the influence of turmeric rhizome powder on physiological responses and performance under a tropical climate.

MATERIAL AND METHODS

Two hundred and forty Marshall day-old broiler chicks, having been granted permission by the College ethical committee, were randomly assigned to four dietary treatments having 4 replicates of fifteen birds each in a complete randomized design. Broiler birds were fed maize-soybeans based basal diets and supplemented with 0, 4, 8 and 12g of turmeric powder/Kg of diet (CT, TG, FT and SG, respectively) for 8 weeks. Mash diets were formulated to meet NRC (1994) nutrient recommendations for the starter phase (0-4 weeks) and the finisher (4-8 weeks) feeding phase of the birds. Data were collected on feed intake and body weights weekly. Blood samples were collected from 8 birds per treatment at week 6 for the determination of haematochemical parameters.

RESULTS

The results generally showed that turmeric at the dose of 8g/kg was optimum for broiler birds under hot humid conditions. This is in agreement with the findings of Isroli *et al.* (2017) who indicated that turmeric improved stress responses in chickens.

Table 1. Effect of different levels of turmeric rhizome powder on haematochemical parameters of broiler chickens

Treatment	Turmeric doses (g/Kg diet)				SEM	P-Value
	0	4	8	12		
Packed cell volume, %	30.67 ^b	28.33 ^c	33.00 ^a	29.67 ^b	0.54	<0.001
Haemoglobin, g/dl	8.70 ^b	8.30 ^c	9.23 ^a	8.70 ^b	0.10	<0.001
Red blood cell (x10 ¹² /l)	2.33 ^b	1.80 ^c	3.00 ^a	2.37 ^b	0.13	<0.001
White blood cell(X10 ⁹ /L)	10.47 ^c	12.63 ^a	12.83 ^a	11.90 ^b	0.03	<0.001
Heterophil.	31.67	30.33	29.33	30.00	0.38	0.153
Lymphocyte	68.67 ^a	66.67 ^b	70.00 ^a	69.33 ^a	68.67	0.017
Eosinophil	0.00	0.67	0.67	0.00	0.14	0.119
Basophil	0.00 ^b	0.67 ^a	0.00 ^b	0.10 ^a	0.01	0.006
Total protein	4.83 ^a	4.17 ^c	4.37 ^b	4.33 ^{bc}	0.09	<0.001
Albumin	2.77 ^a	2.00 ^c	2.93 ^a	2.30 ^b	0.11	<0.001
Globulin	2.17 ^a	2.10 ^a	1.40 ^b	2.07 ^a	0.10	<0.001
Glucose	153.67 ^a	131.67 ^b	124.33 ^c	136.00 ^b	3.32	<0.001
Triglyceride	94.33 ^a	75.67 ^c	84.33 ^b	68.67 ^d	2.97	<0.001
AST	62.67 ^a	62.67 ^a	45.00 ^c	54.33 ^b	2.32	<0.001
ALT	23.67 ^b	25 ^{ab}	27.33 ^a	19.33 ^c	0.94	0.001
FCR	2.35 ^a	2.05 ^b	1.79 ^c	1.85 ^c	0.061	<0.001

^{abc}: means in the same row having different superscripts differ significantly (P <0.05)

CONCLUSION

Turmeric rhizome powder improved the physiological response of broiler chicken under hot humid tropical climate in a dose-dependent characteristic and the optimum supplementation rate of 8g/kg of diet was recorded.

REFERENCES

- Ammon, H. P., Safayhi, H., Mack, T. and Sabieraj, J. (1993). *Journal of Ethnopharmacology*. 38(2-3), 113-9.
Isroli, I., Yudiarti, T., Widiastuti, E. and Sugiharto, S. (2017). *Journal of the Indonesian Tropical Animal Agriculture*, 42, 263-269

Effect of in-feed larvacides on the health and welfare of broiler chickens

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APPLICATION

In-feed larvacide is not recommended for use in poultry production practice due to its negative effect on animals and public health.

INTRODUCTION

Larvacides are commonly used in poultry feed to alter the moulting stage of Houseflies (*Musca domestica*) which hatch on droppings, hence reducing the population of flies and smell nuisance in poultry houses. Cyromazine an active ingredient in larvacides has melamine as a metabolite which became a public health concern after the death of 9 infants and hospitalisation of 294,000 others after taking melamine tainted infant formula (WHO, 2008). However, cyromazine is widely used to reduce smell from poultry litter and to increase nitrogen content which usually translates to higher weight gains in broilers without the knowledge of its toxic effect on organs of animals. In this study, toxic effect of in-feed larvacide in broiler organs was investigated.

MATERIALS AND METHODS

All protocols used in this study were approved by the Animal Care and Use Review Committee guidelines of Centre of Excellence in Agricultural Development and Sustainable Environment, Federal University of Agriculture, Abeokuta, Nigeria. One-hundred and sixty d-old Arbor Acre broilers of approximately 40g body weight were used in the study. Four diets were formulated to contain cyromazine at 0, 0.25, 0.50 and 0.75g/kg and were assigned to 4 dietary groups consisting of 4 replicates per treatment of 10 birds each. At the end of the 42-d feeding trial, one bird per replicate (4 birds/treatment) was sacrificed, the liver and kidney were harvested and stored in sample bottles containing 10% formalin. The tissues were dehydrated in 70% absolute ethanol for 2 h and in another 95% absolute ethanol for 2 h. Impregnation of tissue was done and embedded in molten paraffin wax, blocked after solidification and sectioned on microtome at four-micrometer thickness. The sections were stained with haematoxylin and eosine and then mounted on permanent slides which was observed under high power (X400) microscope lens.

RESULTS

The liver of birds fed diets containing cyromazine was characterised by a focal area of lymphoid aggregates with disseminated necrosis of the hepatocytes and inflammatory cells (Figure 1B1-D1). Additionally, when cyromazine was added to the diet, the kidney was characterised by an interstitial infiltration of cells with tubular necrosis and desquamation (Figure 1B2-D2), which could cause increased renal pressure and subsequent failure. However, this was not observed in the kidney of control birds (Figure 1A2).

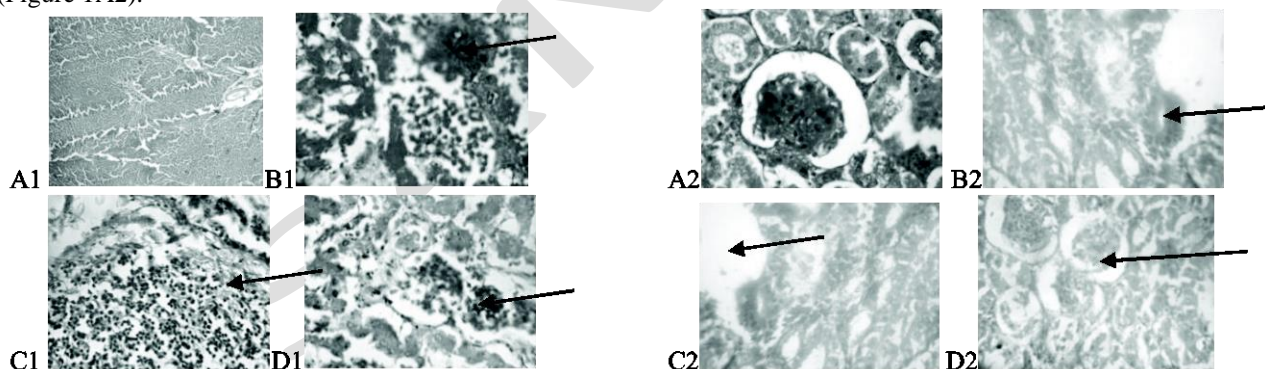


Figure 1. A histopathological view of liver (1) and kidney (2) tissues taken from broilers fed diets containing (A) 0g/kg cyromazine, (B) 0.25g/kg cyromazine, (C) 0.50g/kg cyromazine and (D) 0.75g/kg cyromazine. Arrows indicate necrosis of hepatocyte of the liver (A1-D1) and tubular necrosis and desquamation of kidney (A2-D2). Magnification 400X.

CONCLUSION

It was concluded that in-feed larvacide dosed at 0.25 to 0.75g/kg resulted in a toxic effect on liver and kidney of broiler chickens. Therefore, the potential risk to both animal and human health should be considered and controlled when using larvacides.

ACKNOWLEDGEMENTS

World Bank Centre for Excellence in Agricultural Development and Sustainable Environment in Nigeria are acknowledged for their financial support.

REFERENCES

World Health Organization. (2008). Available: http://www.who.int/foodsafety/fs_management/Exec_Summary_elamine.pdf.