Review of: "Heritability and Genetic Correlations of Growth Traits Among Inbred Population of Nigerian Chickens"

Hugo Montaldo[1]

1 Universidad Nacional Autónoma de México

Potential competing interests: No potential competing interests to declare.

Given the importance of designing efficient local genetic improvement programs for chicken, the estimation of genetic parameters is a very interesting subject; however I have several comments:

1) Use of the term inbred in the title and in the paper is confusing. It is possibly confounded with improved or selected.

2) The introduction should be shortened and better structured, including more precise and better supported ideas with appropriate references. Some conceptual issues are also present about genetic terminology and concepts. Please use references from texts on quantitative genetics / genetic improvement to support these issues.

3) The objective and justification could be improved. How the estimation of these parameters will help in the improvement of the local chicken populations?

4) Studied traits and abbreviations should be clearly defined.

5) Key aspects of data and family structure are missing (number of animals measured, sires, dams). That can help decide which statistical model is to be used.

6) Key aspects of the statistical analysis are missing, including statistical models used, and correct formulas for all parameter estimates. While a sire model was used (apparently), an animal model is described. No statistical method is described either. No description on how multi-trait models were used.

7) In Table 2, estimates of heritabilities (h2) appear with a plus-minus figure that is not described, nor how it was calculated. If it is the SE of h2, their values are too high. The implications should be discussed. No SE for any correlation is provided. Possibly an overly high SE indicates that the results are not reliable and more data from several generations should be obtained before publicating results.

8) Perhaps a more specific genetic analysis software could be used. For example the authors could use the following free software: Wombat: The REML WOMBAT Homepage (une.edu.au) Echidna: Echidna Mixed Models Software (echidnamms.org) or BLUPF90 start [BLUPF90] (uga.edu)

8) The discussion could be improved using more cited literature from other populations.

9) More detailed comments can be found in the attached Word document based on the original paper submission.

Please see more detailed comments on the attached Word file.