

Journal of Applied Poultry Research: **Instructions to Authors¹**

Editorial Policies and Procedures

The mission of *Journal of Applied Poultry Research* (JAPR) is to provide practical, reliable, and timely information to those whose livelihoods are derived from the commercial production of poultry and those whose research benefits this sector; address topics of near-term application based on appropriately designed studies and critical observations; encourage scientific approaches to practical problem solving; and present information comprehensible to a broad readership.

By submission of a manuscript, the authors guarantee to the journal that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, thesis, or dissertation); that it is not under consideration for publication elsewhere; and that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out. Appropriate identification of previously published preliminary reports should be provided in a title page footnote. Translations of an article into other languages for publication require approval by the editor-in-chief. Opinions or views expressed in papers published by JAPR are those of the authors and do not necessarily represent the opinion of the Poultry Science Association (PSA) or the editor-in-chief.

Before manuscripts are submitted, authors should have them read critically by others well versed in English to facilitate review; all co-authors should approve the manuscript before its submission to the journal.

Contact Information for Journal Staff

For information on the scientific content of the journal, contact the editor-in-chief, Dr. Jesse Grimes, North Carolina State University, Department of Poultry Science, Box 7608, Raleigh, NC 27695 (e-mail: jesse_grimes@ncsu.edu).

For assistance with Manuscript Central, manuscript submission and copyright forms, or page charge and offprint orders, contact the editorial assistant, Jeremy Holzner, PSA, 2441 Village Green Place, Champaign, IL 61822 (telephone: 217-356-2426 ext. 138; FAX: 217-378-4083; jeremyh@assoqh.org).

For other information or to submit a paper, contact the editorial department, PSA, 2441 Village Green Place, Champaign, IL 61822; (telephone: 217-356-7641; FAX: 217-378-4083; journals@assoqh.org).

Care and Use of Animals

Authors must make it clear that experiments were conducted in a manner that avoided unnecessary discomfort to the animals by the use of proper management and laboratory techniques. Experiments shall be conducted in accordance with the principles and specific guidelines presented in *Guidelines for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*, 1st revised edition, 1999 (Association Headquarters, 2441 Village Green Place, Champaign, IL 61822); and, if applicable, *Guide for the Care and Use of Laboratory Animals* (United States Department of Human Health and Services, National Institutes of Health, Publication Number ISBN 0-309-05377-3, 1996); or *Guide to the Care and Use of Experimental Animals*, 2nd ed., Vol. 1, 1993 (Canadian Council on Animal Care). Methods of killing experimental animals must be described in the text. In describing

¹Updated October 2009.

surgical procedures, the type and dosage of the anesthetic agent must be specified. Intra-abdominal or intra-thoracic invasive surgery requires anesthesia. This includes caponization. The editor-in-chief of JAPR may refuse to publish manuscripts that are not compatible with these guides. If rejected solely on that basis, however, the paper may be resubmitted for reconsideration when accompanied by a written verification that a committee on animal care in research has approved the experimental design and procedures involved.

Types of Articles

Research Reports. Most papers published in JAPR are research reports. The journal emphasizes the importance of good scientific writing and clarity in presentation of the concepts, apparatus, and sufficient background information that would be required for thorough understanding by scientists in other disciplines. The results of experiments published in JAPR must be replicated, either by replicating treatments within experiments or by repeating experiments.

In addition to research reports, other types of papers appear in the journal:

Field Reports. Field reports will be published when adequate background is available and conclusions can be supported by quantifiable laboratory or diagnostic results. The manuscript should follow the format outlined in the Style and Form. It should include a section titled Field Report in which the observations are explained and discussed under subheadings of Materials and Methods and Results and Discussion. Authors are encouraged to include subheadings for all major areas in this section.

Review Articles. Articles submitted to this section may cover new developments in a field, describe the evolution of a currently accepted management practice, propose changes in management based on current research, or describe procedures. Clear distinctions should be made between firmly established practices and unresolved questions. Articles should begin with a concise description of the topic, followed by a critical evaluation of the important references. Review articles, whether solicited or unsolicited, will be subject to a stringent review process.

Review articles should follow the general format outlined in the Style and Form when appropriate and include brief subheadings to separate main ideas. The title page should use the appropriate format and include a summary and statement of primary audience. Review articles may include tables, figures, and photographs. A Conclusions and Applications section should be included in most cases.

The use of copyrighted materials must be by permission of the copyright holders. Authors are responsible for obtaining copyright permissions and sending them to the managing editor.

Symposium and Workshop Articles. Manuscripts presented at the annual meeting as part of a symposium or workshop may be submitted with prior agreement by the editor-in-chief. These submissions will be subject to peer review and may be accepted or rejected in the same manner as other submissions. The format may be similar to reviews, research reports, or field reports, as outlined in the Style and Form.

Letters and Commentaries. The journal accepts letters, book reviews, and other free-form communications (used to correct errors, provide clarification, or offer other points of view on pertinent issues). Submissions may be edited in consultation with the author.

SUBMISSION OF MANUSCRIPTS

Authors should submit their papers online to our Web-based submission and review system (<http://mc.manuscriptcentral.com/psa>). Detailed instructions for submitting electronically are provided online at that site. Authors who are unable to submit online should contact the editorial office (jeremyh@assoqh.org) for assistance.

Copyright Agreement

When a manuscript is accepted for publication, the authors agree to transfer copyright to the publisher, that the manuscript will not be published elsewhere in any language without the consent of the copyright holders, that written permission of the copyright holder has been obtained by the authors for material used from other copyrighted sources (including tables, graphs, figures, and illustrations), and that any costs associated with obtaining this permission are the authors' responsibility.

The Manuscript Submission and Copyright Release Form (available on the JAPR Web site: <http://japr.fass.org/misc/ifora.dtl>) must be completed and filed with the editorial office for each paper submitted; faxed copies are acceptable. The copyright agreement is included in the Manuscript Submission and Copyright Release form and must be completed by all authors before publication can proceed. The corresponding author is responsible for obtaining the signatures of co-authors. Authors who are not permitted to release copyright, such as federal employees, must still sign and return the form with a statement of the reason for not releasing the copyright.

REVIEW OF MANUSCRIPTS

The journal uses a two-stage review process. All manuscripts will first receive a preliminary review to ensure appropriateness for the journal. The second review will be a more detailed scrutiny by individuals knowledgeable in the specific subject area of the paper. Additional examination of the manuscript will be made by the editors.

The review process will be stringent. Names of authors will be made known to reviewers; reviewers may contact the authors directly with questions, suggestions, and comments if such contact will improve the paper or streamline the review process. The subject editors will handle all initial correspondence with authors during the review process; the editor-in-chief will notify the author of the final decision to accept or reject.

PRODUCTION OF PROOFS

Accepted manuscripts are forwarded to the editorial department for preparation for typesetting. At this point, a technical editor may contact the authors for missing information or table or figure revisions. The manuscript is then typeset, figures are reproduced, and author proofs are prepared.

Proofs

Author proofs of all manuscripts will be sent to the corresponding author indicated on the title page of the manuscript. Proofs should be read carefully, because the responsibility for proofreading is with the authors.

Corrections to the proof should be made neatly and clearly in the margins of the proof. Galley proofs should be faxed (217-378-4083) to PSA headquarters. Proofs should be corrected and returned within 3 working days.

Editor queries appear in the text, within brackets and in boldface type. Queries should be answered on the galley proofs; failure to do so may delay publication.

Publication Charges and Offprints

Two options are available for the publication of articles in this journal: conventional page charges and Open Access (OA).

Conventional Page Charges. The current charge for publication is \$60 per printed page (or fraction thereof) in the journal if at least one author is a current professional member of PSA. If no author is a member of PSA, the publication charge is \$85 per journal page.

OA. For authors who wish to publish their papers OA (freely available without subscription when the issue is posted online), authors will pay the OA fee when proofs are returned to the editorial office. Charges for OA are \$2,400 if at least one author is a current professional member of PSA; the charge is \$3,100 when no author is a professional member.

Offprints and Color Charges. Offprints may be ordered at an additional charge. Authors who submit articles containing color illustrations are responsible for paying the additional charge for color printing, including the printing of any reprints they order, and must agree in writing prior to publication to pay the additional charges (http://japr.fass.org/misc/JAPR_ColorChargeAgreement.pdf). When the galley proof is sent, the author is asked to complete an offprint order indicating the number of offprints desired and the name of the institution, agency, or individual responsible for publication charges.

MANUSCRIPT PREPARATION: STYLE AND FORM

Preparing the Manuscript File

Manuscripts should be submitted in Microsoft Word 2003 and should be double-spaced with lines and pages numbered consecutively using Times New Roman font at 12 points. Files created in Office 2007 should be saved down to Office 2003 before submission for compatibility with our composition software. All special characters (e.g., Greek, math, symbols) should be inserted using the symbols palette available in this font. Complex math should be entered using MathType or another equation editor. Tables and figures should be placed in separate sections at the end of the manuscripts (not placed in the text). Failure to follow these instructions may result in immediate rejection of the manuscript.

Metric or English units (or both) are acceptable. Authors should use units appropriate for the intended audience. Energy content of feeds will be expressed as calories.

Headings

Major Headings. Major headings are centered, boldface, in all capital letters, and consist of SUMMARY, DESCRIPTION OF PROBLEM, MATERIALS AND METHODS, RESULTS AND DISCUSSION, CONCLUSIONS AND APPLICATIONS, and REFERENCES AND NOTES.

Major headings in review articles, field reports, and symposium articles may vary from those listed here, but should include SUMMARY, CONCLUSIONS AND APPLICATIONS, and REFERENCES AND NOTES.

First Subheadings. First subheadings are boldface and italic, on a separate line beginning at the left margin, and have the first letter of each important word capitalized. Text that follows a first subheading should be in a new paragraph.

Second Subheadings. Second subheadings begin the first line of a paragraph. They are indented, boldface, italic, and followed by a period. The first letter of each important word is capitalized. The text follows immediately after the final period of the subheading.

Title Page

- The title should be indicative of the content. It should capture the interest of all who might benefit from information in the manuscript. However, the length of the title should be kept to a minimum.
- Address and affiliation of authors should be included. Indicate to whom correspondence should be directed by means of a footnote, with the notation "Corresponding author: (e-mail address)" at the bottom of the title page.

- List 3 to 8 key words or phrases to identify the most important subjects covered by the paper.
- The running title should be 30 characters or less, including spaces.
- Statement of primary audience: To determine appropriateness for the journal and to assist in selecting reviewers, the author should indicate clearly what sector(s) within the poultry community (e.g., flock supervisors, nutritionists, quality assurance personnel, researchers, plant managers, veterinarians) could most benefit from the content of this article.

Summary

The Summary (12 to 16 lines) is not an abstract. It is intended to give readers with diverse backgrounds a general appreciation of the manuscript contents. It should be written so that even those not directly interested in the topic will enjoy reading at least this section to keep abreast of areas other than their own. This section should not include details of materials and methods or a detailed review of the results. Keep the summary free-flowing, giving the reader a general, not specific, idea of what the study revealed. Do not include reference citations in the summary.

Description of Problem

This section will acquaint the reader with the problem, citing field experiences where appropriate. Readability is of utmost importance. Detailed literature reviews may not be appropriate for this section. A more extensive citation of references should be included in the Results and Discussion or References and Notes section. This section should end with a statement of the objective(s) of the study.

Materials and Methods

The author(s) should clearly establish in the Materials and Methods section why the problem was approached in a particular way. The rationale for including each treatment should be clearly stated. Detailed laboratory and bird management procedures should be described in the References and Notes section and not in the Materials and Methods section. Sources of stock, equipment, and materials should be listed in the References and Notes section and not in the text or a footnote.

A brief statement of the statistical methods should be included, with more detailed descriptions placed in the References and Notes section.

In manuscripts using several treatments, a description of treatments should be included as Table 1.

Results and Discussion

This section begins with observed results and their interpretation. Descriptive subheadings may precede all major paragraphs and changes in subject emphasis. This section should discuss specifically how findings address the problem described in the Description of Problem section and how they are related to published works.

Statements regarding statistically significant differences between treatments in results should be included in the text, tables, and figures. Statements regarding differences should be avoided unless they are supported by statistical analyses and meet the stated level of probability (e.g., $P < 0.05$).

Conclusions and Applications

Conclusions and recommendations of the author(s) should be listed numerically. Each statement should be clear, concise, and without discussion. Authors are encouraged to summarize their significant findings, to identify further research needs, and to describe the constraints, economics, and

other factors associated with using the results in scientific or commercial applications. Do not include references in this section.

References and Notes (with Acknowledgments)

References and notes should be cited in text, by number within an editorial bracket (e.g., [1]). In the References and Notes section, citations should be listed in the order they appear and are numbered in the text (not alphabetically). Authors are encouraged to use reference management software (e.g., EndNote or Reference Manager) to facilitate renumbering or inserting references by the editor or inserting references during the revision process. Manuscripts may be returned to authors *before review* for renumbering of references if not cited in numerical order. Include details such as statistical analysis; detailed procedures; sources of birds, instruments, or items; details of designed instruments; a literature review; and other tangential matters.

Cite acknowledgments at the end of this section in a subsection called *Acknowledgments*. These entries are not numbered.

Tables

Number tables consecutively according to the citation in the text. Tables must be created using the MS Word table feature and inserted in the manuscript after the references section. Each table must be placed on a separate page and must have a clear descriptive heading so that the meaning of the data will be understandable without reference to the text. Indicate footnotes to tables with numbers, beginning with 1. Statistical notation should be made with lowercase and uppercase superscript letters or with asterisks, as appropriate. Statistical notation should place the superscript “a” on the largest mean. Probability values may be indicated as follows: $*P \leq 0.05$, $**P \leq 0.01$, $***P \leq 0.001$, and $\dagger P \leq 0.10$. Consult a recent issue of the journal for examples of tables.

Figures

- **Figure Size.** Prepare figures at the final size for publication. Figures should be created at the final publication size of 8.9 cm wide (1 column), 14 cm wide (2 column), or 19 cm wide (full page width).
- **Font Size.** Ensure that all type within the figure and axis labels is readable at the final publication size. A minimum type size of 8 points (after reduction) should be used.
- **Fonts.** Use Helvetica or Times New Roman. Symbols may be inserted using the Symbol palette in Times New Roman.
- **Line Weight.** For line graphs, use a minimum stroke weight of 1 point for all lines. If multiple lines are to be distinguished, use solid, long dash, short dash, and dotted lines. Avoid the use of color, gray, or shaded lines because these will not reproduce well. Lines with different symbols for the data points may also be used to distinguish curves.
- **Axis Labels.** Each axis should have a description and a unit. Units may be separated from the descriptor by a comma or parentheses, and should be consistent within a manuscript.
- **Shading and Fill Patterns.** For bar charts, use different fill patterns if needed (e.g., black, white, gray, diagonal stripes). Avoid the use of multiple shades of gray because they will not be easily distinguishable in print.
- **Symbols.** Identify curves and data points using the following symbols only: \square , \blacksquare , \bigcirc , \bullet , \blacktriangle , \blacktriangledown , \triangle , ∇ , \diamond , \blacklozenge , $+$, or \times . Symbols should be defined in a key on the figure if possible.
- **File Formats.** Figures can be submitted in Word, PDF, EPS, TIFF, and JPEG. Avoid Power-Point files and other formats. For the best printed quality, line art should be prepared at 600 ppi. Grayscale and color images and photomicrographs should be at least 300 ppi.

- **Grayscale Figures.** If figures are to be reproduced in grayscale (black and white), submit in grayscale. Often color will mask contrast problems that are apparent only when the figure is reproduced in grayscale.
- **Color Figures.** If figures are to appear in color in the print journal, files must be submitted in CMYK color (not RGB).
- **Photomicrographs.** Photomicrographs must have their unmagnified size designated, either in the caption or with a scale bar on the figure. Reduction for publication can make a magnification power designation (e.g., 100×) inappropriate.
- **Caption.** The caption should provide sufficient information so that the figure can be understood without excessive reference to the text. All author-derived abbreviations used in the figure should be defined in the caption.
- **General Tips.** Avoid the use of 3-dimensional bar charts unless essential to the presentation of the data. Use the simplest shading scheme possible to present the data clearly. Ensure that data, symbols, axis labels, lines, and the key are clear and easily readable at the final publication size.

Color Images. The cost to publish in color is \$995 per figure; there is also a surcharge for color offprints. The corresponding author should complete a Color Charge Agreement form, available on the journal Web site (<http://japr.fass.org/misc/ifora.dtl>) and should fax (217-378-4083) that form to the JAPR editorial office when a manuscript with color figures is accepted for publication.

Sample References

NOTE: The headings that appear above the following sample references and notes are for clarification in these instructions, but they are not used in an actual paper, except for *Acknowledgments*.

Journal Article

Dansky, L. M., and F. W. Hill. 1952. Application of the chromic oxide indicator method to balance studies with growing chicks. *J. Nutr.* 47:449–459.

Snow, J. L., M. W. Douglas, and C. M. Parsons. 2003. Phytase effects on amino acid digestibility in molted laying hens. *Poult. Sci.* 82:474–477.

Witter, R. L., and I. M. Gimeno. 2006. Susceptibility of adult chickens, with and without prior vaccination, to challenge with Marek's disease virus. *Avian Dis.* doi:10.1637/7498-010306.R1

Monograph

NRC. 1994. *Nutrient Requirements of Poultry*. 9th rev. ed. Natl. Acad. Press, Washington, DC.

Dissertation

Heskett, E. A. 2003. Efficacy of a recombinant herpes virus of turkeys vector vaccine, expressing genes to Newcastle disease virus and Marek's disease virus, in chickens and turkeys against exotic Newcastle disease virus challenge. PhD Diss. Univ. Florida, Gainesville.

Trade Publication

Wilgus, H. S. 1973. Temperature-programmed feeding schedules and other means of conserving protein in market turkey production. *Feedstuffs* 45(27):27–31.

Book or Chapter in Book

AOAC International. 2007. Official Methods of Analysis of AOAC International. 18th ed. Rev. 2. AOAC Int., Gaithersburg, MD.

Whittow, G. C. 1976. Regulation of body temperature. Pages 146–173 in Avian Physiology. P. D. Sturkie, ed. Springer-Verlag, New York, NY.

Proceedings

Hruby, M., J. C. Remus, and E. E. M. Pierson. 2004. Nutritional strategies to meet the challenge of feeding poultry without antibiotic growth promotants. Pages 3–5 in Proc. 2nd Mid-Atlantic Nutr. Conf., Timonium, MD. Univ. Maryland, College Park.

Federal Register

USDA, Plant and Animal Health Inspection Service. 2004. Blood and tissue collections at slaughtering and rendering establishments, final rule. 9CFR part 71. Fed. Regist. 69:10137–10151.

Laboratory Procedure

The extract was added to 30 mL of hexane, made to 100 mL with 10% aqueous Na₂SO₄.

Personal Communication

Wilson, H. R. 2005. Univ. Florida, Gainesville. Personal communication.

Proprietary Product

Incubator, Petersime, Zulte, Belgium.

Avizyme TX, Finnfeed International, Marlborough, Wiltshire, UK.

Thymol, 99% purity, Acros Organics, Geel, Belgium.

Statistical Procedure

If a note has an embedded reference, the reference is cited by number (as in the text) or parenthetically within the note:

Data were analyzed by ANOVA with flock as the independent variable. When differences among flocks were significant, means were separated using Duncan's multiple range test (SAS User's Guide, 2001, Version 8 ed., SAS Institute Inc., Cary, NC). Pearson product-moment correlation coefficients were calculated between average percentage cracks from each flock recorded every week and average values for egg-specific gravity, breaking strength, percentage shell, shell thickness, and shell weight per unit of surface area. Significance implies $P < 0.05$.

Statistical Software

SAS User's Guide. 2001. Version 8 ed. SAS Inst. Inc., Cary, NC.

US Patent

El Halawani, M. E., and I. Rosenboim. 2004. Method to enhance reproductive performance in poultry. Univ. Minnesota, assignee. US Pat. No. 6,766,767.

Web Site

Dyro, F. M. 2005. Arsenic. WebMD. <http://www.emedicine.com/neuro/topic20.htm> Accessed Feb. 2006.

Acknowledgments

The advice and technical assistance of Thomas Jones (affiliation, location) are acknowledged.

Abbreviations

The following abbreviations may be used without definition in the *Journal of Applied Poultry Research*. Plurals do not require “s”. Chemical symbols and 3-letter abbreviations for amino acids do not need definition. Other abbreviations should be defined at first use in the summary and the main text, as well as in each table or figure in which they appear. Abbreviations are boldface at first use in the main text. Abbreviations should not be used in the manuscript title, running title, or to begin a paragraph or sentence. They can be used in section headings if previously defined. This list appears inside the back cover of each issue of the journal.

ADF	acid detergent fiber
ADFI	average daily feed intake
ADG	average daily gain
AME	apparent metabolizable energy
AME _n	nitrogen-corrected apparent metabolizable energy
ANOVA	analysis of variance
BSA	bovine serum albumin
BW	body weight
°C	Celsius
cDNA	complementary DNA
CF	crude fiber
cfu	colony-forming units (following a numeral)
CI	confidence interval
CP	crude protein
cpm	counts per minute
CV	coefficient of variation
d	day
df	degrees of freedom
DM	dry matter
DNA	deoxyribonucleic acid
EDTA	ethylenediaminetetraacetate
EE	ether extract
°F	Fahrenheit
FCR	feed conversion ratio
FE	feed efficiency
ft	foot
g	gram
gal	gallon
G:F	gain-to-feed ratio
GLM	general linear model
h	hour
HEPES	<i>N</i> -(2-hydroxyethyl)piperazine- <i>N'</i> -2-ethanesulfonic acid
HPLC	high-performance (high-pressure) liquid chromatography

ICU	international chick units
Ig	immunoglobulin
IL	interleukin
i.m.	intramuscular
in.	inch
i.p.	intraperitoneal
IU	international units
i.v.	intravenous
kcal	kilocalorie
L	liter (also capitalized with any combination, e.g., mL)
lb	pound
L:D	hours of light:hours of darkness in a photoperiod
LSD	least significant difference
m	meter
μ	micro
<i>M</i>	molar
ME	metabolizable energy
ME _n	nitrogen-corrected metabolizable energy
MHC	major histocompatibility complex
mRNA	messenger ribonucleic acid
min	minute
mo	month
MS	mean squares
n	number of observations
<i>N</i>	normal
NAD	nicotinamide adenine dinucleotide
NADH	reduced form of NAD
NDF	neutral detergent fiber
NRC	National Research Council
NS	not significant
PBS	phosphate-buffered saline
ppm	parts per million
r	correlation coefficient
r^2	coefficient of determination, simple
R^2	coefficient of determination, multiple
RH	relative humidity
RIA	radioimmunoassay
RNA	ribonucleic acid
rpm	revolutions per minute
s	second
s.c.	subcutaneous
SD	standard deviation
SE	standard error
SEM	standard error of the mean
SNP	single nucleotide polymorphism
SRBC	sheep red blood cells
TBA	thiobarbituric acid
T cell	thymic-derived cell
TME	true metabolizable energy
TME _n	nitrogen-corrected true metabolizable energy
TSAA	total sulfur amino acids

USDA	United States Department of Agriculture
UV	ultraviolet
vol/vol	volume to volume
vs.	versus
wt/vol	weight to volume
wt/wt	weight to weight
wk	week
yr	year

Supplemental Information (Online)

The following information is available online and is updated regularly. Please refer to these pages when preparing a manuscript for submission.

Journal Title Abbreviations. A list of standard abbreviations for common journal titles is available online (<http://japr.fass.org/misc/ifora.dtl>).

SI Units. The following site (National Institute of Standards and Technology) provides a comprehensive guide to SI units and usage: <http://physics.nist.gov/Pubs/SP811/contents.html>

Manuscript Central Instructions. Manuscripts are submitted online (<http://mc.manuscriptcentral.com/psa>). Full user instructions for using the Manuscript Central system are available online; click the “Get Help Now” link on the top right of the main page (<http://mc.manuscriptcentral.com/psa>).