DOMESTIC ANIMAL ENDOCRINOLOGY

DESCRIPTION

Domestic Animal Endocrinology publishes scientific papers dealing with the study of the endocrine physiology of domestic animal species. Those manuscripts utilizing other species as models for clinical or production problems associated with domestic animals are also welcome.

Topics covered include:

- Classical and reproductive endocrinology
- Clinical and applied endocrinology
- Regulation of hormone secretion
- Hormone action
- Molecular biology
- Cytokines
- Growth factors

Benefits to authors
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services.

Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center

AUDIENCE

Physiologists, Endocrinologists, Animal Scientists, and Veterinary Scientists

IMPACT FACTOR

2017: 1.937 © Clarivate Analytics Journal Citation Reports 2018
ABSTRACTING AND INDEXING

MEDLINE®
Elsevier BIOBASE
Science Citation Index
CAB Abstracts
Focus on: Veterinary Science and Medicine
Global Health (Index Veterinarius, Veterinary Bulletin)
AGRICOLA
BIOSIS
Cambridge Scientific Abstracts
Chemical Abstracts
Current Contents/Agriculture, Biology & Environmental Sciences
Scopus

EDITORIAL BOARD

Editor-in-Chief
Stan Hileman, West Virginia University, USA

Associate Editor
Andrew Foote, Oklahoma State University, Stillwater, Oklahoma, USA
Casey C. Nestor, North Carolina State University, Raleigh, North Carolina, USA

Editors:

Editorial Board
Ryan Ashley, New Mexico State University, USA
Simon Bailey, University of Melbourne, Australia
Lance Baumgard, Iowa State University, USA
Massimiliano Beltramo, Institut National de la Recherche Agronomique, France
Mario Binelli, University of São Paulo, Brazil
Binyun Cao, Northwest A&F University, China
Mark Cline, Virginia Tech, USA
Audrey Cook, Texas A&M University, USA
Robert Cushman, USDA-ARS, USA
Xavier Donadeu, Roslin Institute, Great Britain
William L. Flowers, North Carolina State University, USA
Stephen Ford, University of Wyoming, USA
Chen Gilor, University of California at Davis, USA
Laura Hernandez, University of Wisconsin, USA
Ferenc Jeanplong, AgResearch, New Zealand
Gregory Johnson, Texas A&M University, USA
Michael Lehman, University of Mississippi, USA
Sean Limesand, University of Arizona, USA
Chantal McMillan, University of Calgary, Canada
Akio Miyamoto, Obihiro University, Japan
Jan Mol, Utrecht University, Netherlands
Isabel Navarro, University of Barcelona, Spain
Gary Newton, Prairie View A&M University, USA
Nicole Sanchez, USDA-ARS, USA
Stephen Smith, Texas A&M University, USA
Gwonhwa Song, Korea University, Republic of Korea
Kristine Urschel, University of Kentucky, USA
Milo Wiltbank, University of Wisconsin, USA
Dorota Zieba, University of Agriculture, Poland
GUIDE FOR AUTHORS

INTRODUCTION
Please consult this Guide for Authors for further details on the requirements for submitting your paper to Domestic Animal Endocrinology. The guidelines described in this document should be adhered to carefully, to ensure high-quality and rapid publication of your manuscript.

Aims and scope
Domestic Animal Endocrinology publishes scientific papers dealing with fundamental, translational, and clinical aspects of the endocrinology of domestic animal species at all levels of organization (organismal, cellular, and molecular). Those manuscripts utilizing other species as models for clinical or production problems associated with domestic animals will also be considered. Clinical Case Reports will generally not be accepted unless the research report provides significant new information regarding mechanisms responsible for a phenomenon. Topics covered include the regulation of hormone secretion, hormone action, and biochemical endocrinology.

Types of article
1. Original Research Papers (Regular Papers)
2. Review Articles
3. Short Communications

Original Research Papers should report the results of original research. The material should not have been previously published elsewhere, except in a preliminary form.

Review Articles should cover subjects falling within the scope of the journal that are of active current interest. They may be submitted or invited.

Short Communications are concise but complete descriptions of a limited investigation, which will not be included in a later paper. Short Communications should be as completely documented, both by reference to the literature and description of experimental procedures employed, as an Original Research Paper. They should not occupy more than six printed pages (about 12 manuscript pages, including figures, tables and references).

Page charges
This journal has no page charges.

BEFORE YOU BEGIN

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Policy and ethics
The work described in your article must have been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans http://www.wma.net/en/30publications/10policies/b3/index.html; EU Directive 2010/63/EU for animal experiments http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm; Uniform Requirements for manuscripts submitted to Biomedical journals http://www.icmje.org. This must be stated at an appropriate point in the article.

Unnecessary cruelty in animal experimentation is not acceptable to the Editors of Domestic Animal Endocrinology.

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted.
2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

**Submission declaration and verification**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

**Preprints**
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

**Use of inclusive language**
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

**Author contributions**
For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example

**Authorship**
All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

**Changes to Authorship**
This policy concerns the addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts:

*Before the accepted manuscript is published in an online issue:* Requests to add or remove an author, or to rearrange the author names, must be sent to the Editor-in-Chief from the corresponding author of the accepted manuscript before development of Author Proofs and before the manuscript is published online. Requests must include: (a) the reason the name should be added or removed, or the author names rearranged and (b) written confirmation (e-mail, fax, letter) from all authors that they agree with the addition, removal or rearrangement.

*After the accepted manuscript is published in an online issue:* Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information.
Copyright
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

Author rights
As an author you (or your employer or institution) have certain rights to reuse your work. More information.

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

Role of the funding source
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Funding body agreements and policies
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder’s open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online. After acceptance, open access papers will be published under a noncommercial license. For authors requiring a commercial CC BY license, you can apply after your manuscript is accepted for publication.

Open access
This journal offers authors a choice in publishing their research:

Subscription
• Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
• No open access publication fee payable by authors.
• The Author is entitled to post the accepted manuscript in their institution's repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

Gold open access
• Articles are freely available to both subscribers and the wider public with permitted reuse.
• A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:
Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is USD 3000, excluding taxes. Learn more about Elsevier's pricing policy: https://www.elsevier.com/openaccesspricing.

Green open access
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. Find out more.

This journal has an embargo period of 12 months.

Elsevier Researcher Academy
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop http://webshop.elsevier.com/languageediting/or visit our customer support site http://support.elsevier.com for more information. If it is determined by the Editor-in-Chief that the English grammar usage within a submitted manuscript fails to meet a minimum level of acceptability, the manuscript will be returned to the authors with a request to have it edited by a native English-speaking editor or editing service as described above. Failure to meet minimum language requirements in subsequent submissions of the article will be grounds for rejection of the manuscript.

Submission
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTex) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Submit your article
Please submit your article via http://ees.elsevier.com/dae/.

Referees
Please submit, as part of the covering letter with the manuscript, the names, full affiliation (department, institution, city and country) and email addresses of 3 potential Referees. Appropriate Referees should be knowledgeable about the subject but have no close connection with any of the authors. You may also suggest reviewers you do not want to review your manuscript, but please state your reasons for doing so.

PREPARATION

Peer review
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.
It is important that the file be saved in the native format of the word processor used. The text should be in single-column format, double-spaced, and with all lines numbered continuously on the left margin to facilitate the review process. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: https://www.elsevier.com/guidepublication). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article Structure**

**Title page**

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

- **Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Use initials only for first and middle names. Present the authors' affiliation addresses (where the actual work was done) below the names in italicized font. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. Ensure that phone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be kept up to date by the corresponding author.

- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

**Abstract**

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, they must be cited in full, without reference to the reference list. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. Abstracts must be limited to a single paragraph with no more than 2,500 keystrokes (characters plus spaces).

**Graphical abstract**

A Graphical abstract is optional and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See https://www.elsevier.com/graphicalabstracts for examples. Authors can make use of Elsevier's Illustration and Enhancement service to ensure the best presentation of their images also in accordance with all technical requirements: Illustration Service.

**Keywords**
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

**Subdivision - numbered sections**

Divide your article into clearly defined and numbered sections. Main headings (1. Introduction; 2. Materials; 3. Methods; 4. Results; 5. Discussion) should be written in sentence case, bold font. Subheadings should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering), italicized and not bolded. Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

**Introduction**

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results. Introduction should not exceed 1.5 manuscript pages.

**Materials and methods**

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

**Results**

Results should be clear and concise.

**Discussion**

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature. Although there are always exceptions, a good rule of thumb is for the Discussion section to not exceed 5 double-spaced manuscript pages and to limit the number of references to no more than 35.

**Conclusions**

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

**Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

**Formatting of funding sources**

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference style
Text: Indicate references by (consecutive) arabic numerals placed within brackets and separated by commas in the order in which they appear in the text.
List: Number the references in the list in the order in which they appear in the text. Place on the left margin in brackets. Please list the names of all co-authors. For further detail and examples you are referred to the AMA Manual of Style, A Guide for Authors and Editors, Tenth Edition, ISBN 0-978-0-19-517633-9 (see http://www.amanualofstyle.com).

Examples:
Reference to a journal publication:
Reference to a book:
Reference to a chapter in an edited book:

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Tables
Number tables consecutively in accordance with their appearance in the text. Each table should be placed on a separate page following References. To facilitate editing, tables should be created using the word processing program with the caption included. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

Table footnotes
Indicate each footnote in a table with a superscript lowercase letter.

**Figure captions**
Ensure that each illustration has a caption. Supply captions in a separate “List of figures”, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

**Figures**
Each figure should be placed on a separate page following the tables. Do not place figures or illustrations in the text of the manuscript.

**Artwork**

**Image manipulation**
While it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

**Electronic artwork**

**General points**
- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the printed version.
- Submit each illustration as a separate file.

A detailed guide on electronic artwork is available on our website: [https://www.elsevier.com/artworkinstructions](https://www.elsevier.com/artworkinstructions) You are urged to visit this site; some excerpts from the detailed information are given here.

**Formats**
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
- EPS (or PDF): Vector drawings, embed all used fonts.
- TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
- TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
- TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

**Please do not:**
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

**Color artwork**
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color on the Web (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations
are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or on the Web only. For further information on the preparation of electronic artwork, please see [https://www.elsevier.com/artworkinstructions](https://www.elsevier.com/artworkinstructions).

Please note: Because of technical complications which can arise by converting color figures to 'gray scale' (for the printed version should you not opt for color in print) please submit in addition usable black and white versions of all the color illustrations.

**Text graphics**

Present incidental graphics not suitable for mention as figures, plates or schemes at the end of the article and number them "Graphic 1", etc. Their precise position in the text can then be indicated. See further information under Electronic artwork. If you are working with LaTeX and have such features embedded in the text, these can be left, but such embedding should not be done specifically for publishing purposes. Further, high-resolution graphics files must be provided separately.

**Data references**

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

**Reference management software**

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. [More information on how to remove field codes from different reference management software.](http://open.mendeley.com/use-citation-style/domestic-animal-endocrinology)

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:


When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

**Reference Sample**


**Data visualization**

Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions [here](http://open.mendeley.com/use-citation-style/domestic-animal-endocrinology) to find out about available data visualization options and how to include them with your article.

**Supplementary material**

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.
**Research data**

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

**Data linking**

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**Mendeley Data**

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

**Data statement**

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

**Important style notes**

Please use the following words, phrases, abbreviations, and stylistic conventions:
- Do not use the term 'significant' redundantly throughout the text. Cite a P value (recommended for Abstract and for Results) associated with each statistical inference.
- Terms with a specific statistical meaning (i.e. significant, tended and correlated), should only be used in a strict statistical context.
- Numbers less than 10 are written as a word, unless followed by an abbreviation for unit of measure, e.g. five embryos, 5 min
- Abbreviate units of measure when they follow a quantity: days, d; hours, h; weeks, wk; years, yr; minutes, min; For example, 4 d, 5 h, 6 yr.
- When using a time-descriptive noun as a name (e.g., hour of the experiment or day of the experiment), spell out the noun.

Use the following expressions:
- Estrus is a noun; estrous is an adjective.
- 120 to 125, not 120-125
- treatment by period, not treatment X period
- gravity: 100 X g (in lieu of speed for centrifugation)

**Abbreviations**

The following abbreviations represent DAE-terms that do not require definition by the author. All units of measure associated with numerical values must be abbreviated according to DAE form as indicated below. All others should be defined in the abstract (if used) and again the first time the term appears in the text. Thereafter, use the abbreviation. Never use an abbreviation to start a sentence (e.g., mRNA should be Messenger ribonucleic acid); otherwise, rephrase the sentence so that it doesn’t begin with the word in question.

**Units of time**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>second(s)</td>
</tr>
<tr>
<td>min</td>
<td>minute(s)</td>
</tr>
<tr>
<td>h</td>
<td>hour(s)</td>
</tr>
<tr>
<td>d</td>
<td>day(s)</td>
</tr>
<tr>
<td>wk</td>
<td>week(s)</td>
</tr>
<tr>
<td>mo</td>
<td>month(s)</td>
</tr>
<tr>
<td>yr</td>
<td>year(s)</td>
</tr>
</tbody>
</table>

**Units of volume**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>µL</td>
<td>microliter</td>
</tr>
<tr>
<td>mL</td>
<td>milliliter</td>
</tr>
<tr>
<td>L</td>
<td>liter</td>
</tr>
<tr>
<td>dL</td>
<td>deciliter</td>
</tr>
</tbody>
</table>

**Other physical units**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bq</td>
<td>becquerel</td>
</tr>
<tr>
<td>°C</td>
<td>degree Celsius</td>
</tr>
<tr>
<td>Cal</td>
<td>calorie</td>
</tr>
<tr>
<td>Ci</td>
<td>curie</td>
</tr>
<tr>
<td>cM</td>
<td>centimorgan (spell out morgan if used without a prefix)</td>
</tr>
<tr>
<td>Da</td>
<td>dalton</td>
</tr>
<tr>
<td>Eq</td>
<td>equivalent</td>
</tr>
<tr>
<td>g</td>
<td>gram</td>
</tr>
<tr>
<td>ha</td>
<td>hectare</td>
</tr>
<tr>
<td>Hz</td>
<td>hertz</td>
</tr>
<tr>
<td>IU</td>
<td>international unit</td>
</tr>
<tr>
<td>J</td>
<td>joule</td>
</tr>
<tr>
<td>lx</td>
<td>lux</td>
</tr>
<tr>
<td>m</td>
<td>meter</td>
</tr>
<tr>
<td>M</td>
<td>molar (concentration; preferred over mol/L)</td>
</tr>
<tr>
<td>mol</td>
<td>mole</td>
</tr>
<tr>
<td>N</td>
<td>normal (concentration)</td>
</tr>
<tr>
<td>Pa</td>
<td>pascal</td>
</tr>
<tr>
<td>t</td>
<td>metric ton (1,000 kg)</td>
</tr>
<tr>
<td>V</td>
<td>volt</td>
</tr>
<tr>
<td>W</td>
<td>watt</td>
</tr>
</tbody>
</table>

**Statistical symbols and abbreviations**

- as in P < 0.05
- ANOVA - analysis of variance
- CV - coefficient of variation
- df - degree(s) of freedom
- F - F-distribution (variance ratio)
- LSD - least significant difference
- n - sample size (used parenthetically or in footnotes)
- P - probability
- r - simple correlation coefficient
- r² - simple coefficient of determination
- R - multiple correlation coefficient
R2 - multiple coefficient of determination
s2 - variance (sample)
SD - standard deviation (sample)
SE - standard error
SED - standard error of the differences of means
SEM - standard error of the mean

Other acronyms/abbreviations
ACTH - adrenocorticotropic hormone
ADG - average daily gain
ADP - adenosine diphosphate
AI - artificial insemination
ATP - adenosine triphosphate
avg - average (use only in tables, not in the text)
BCS - body condition score
bp - base pair
BSA - bovine serum albumin
BW - body weight
cDNA - complementary deoxyribonucleic acid
C/EBP - CAAT-enhancer binding protein
cfu - colony-forming unit
CoA - coenzyme A
Co-EDTA - cobalt ethylenediaminetetraacetate
CP - crude protein (N x 6.25)
d - dextrodiam. diameter
DE - digestible energy
DNA - deoxyribonucleic acid
EBV - estimated breeding value
eCG - equine chorionic gonadotropin
EDTA - ethylenediaminetetraacetic acid
EIA - enzyme immunoassay
ELISA - enzyme-linked immunosorbent assay
Exp. - experiment (always followed by a numeral)
FFA - free fatty acid(s)
FSH - follicle-stimulating hormone
g - gravity
GE - gross energy
GLC - gas-liquid chromatography
GLM - general linear model
GnRH - gonadotropin-releasing hormone
GH - growth hormone
GHRH - growth hormone-releasing hormone
hCG - human chorionic gonadotropin
HEPES - N-(2-hydroxyethyl)piperazine-N'-2-ethanesulfonic acid
HPLC - high-performance (pressure) liquid chromatography
i.d. - inside diameter
Ig - immunoglobulin (when used to identify a specific immunoglobulin)
IGF - insulin-like growth factor
IGFBP - insulin-like growth factor-binding protein(s)
IL - interleukin
kb - kilobase(s)
LD50 - lethal dose 50%
LH - luteinizing hormone
LHRH - luteinizing hormone-releasing hormone
ME - metabolizable energy
Misc. - miscellaneous
NAD - nicotinamide adenine dinucleotide
NADH - reduced form of NAD
NDF - neutral detergent fiber
NDIN - neutral detergent insoluble nitrogen
NE - net energy
NEg - net energy for gain
NEI - net energy for lactation
NEm - net energy for maintenance
NEFA - nonesterified fatty acid
No. - number (use only in tables, not in the text)
NRC - National Research Council
o.d. - outside diameter
PAGE - polyacrylamide gel electrophoresis
PBS - phosphate-buffered saline
PCR - polymerase chain reaction
PG - prostaglandin
PMSG - pregnant mare's serum gonadotropin
PPAR - peroxisome proliferator-activated receptor
PUFA - polyunsaturated fatty acid(s)
QTL - quantitative trait locus (loci)
RFLP - restriction fragment length polymorphism
RIA - radioimmunoassay
RNA - ribonucleic acid
rpm - revolutions/minute (not to be used to indicate centrifugal force)
RQ - respiratory quotient
SDS - sodium dodecyl sulfate
SFA - saturated fatty acid
SNP - single nucleotide polymorphism
ssp. - subspecies
ST - somatotropin
spp. - species
TDN - total digestible nutrients
TLC - thin layer chromatography
Tris - tris(hydroxymethyl)aminomethane
USDA - US Department of Agriculture
UV - ultraviolet
VFA - volatile fatty acid(s)
vol - volume
vol/vol - volume/volume (used only in parentheses)
vs. - versus
wt - weight (use only in tables, not in the text)
wt/vol - weight/volume (used only in parentheses)
wt/wt - weight/weight (used only in parentheses)

Submission checklist
The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:
One author has been designated as the corresponding author with contact details:
• E-mail address
• Full postal address
• Phone numbers
All necessary files have been uploaded, and contain:
• Keywords
• All figure captions
• All tables (including title, description, footnotes)
Further considerations
• Manuscript has been 'spell-checked' and 'grammar-checked'
• References are in the correct format for this journal
• All references mentioned in the Reference list are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Web)
• Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print, or to be reproduced in color on the Web (free of charge) and in black-and-white in print
• If only color on the Web is required, black-and-white versions of the figures are also supplied for printing purposes
For any further information please visit our customer support site at http://support.elsevier.com.
AFTER ACCEPTANCE

**Online proof correction**

Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

**Video data**

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a preferred maximum size of 50 MB. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect: [http://www.sciencedirect.com](http://www.sciencedirect.com). Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages at [https://www.elsevier.com/artworkinstructions](https://www.elsevier.com/artworkinstructions). Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

**Offprints**

The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Webshop. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**AUTHOR INQUIRIES**

Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | [https://www.elsevier.com](https://www.elsevier.com)