Meat and Muscle Biology™

The Journal of the

American Meat Science Association

Policies, Style Guide, and Instructions for Authors

(Revised April 2026)

1. Policies and Procedures of Meat and Muscle Biology

Scope and Purpose

The American Meat Science Association (AMSA) fosters community and professional development among individuals who create and apply science to efficiently provide safe and high quality meat.

The purpose of the *Muscle and Meat Biology (MMB)* journal is to provide an appropriate medium for the dissemination of knowledge on all antemortem and postmortem factors that influence the properties of meat that are marketed for human consumption.

MMB is a gold open access online publication, allowing maximum exposure immediately after publication and extending its reach freely across the globe. High quality, pertinent, and timely basic and applied research will be published on meat and muscle biology from domestic mammals, avians, reptiles, aquaculture species, amphibians, wild capture mammals, and synthetic meat analogs. Topics can include any factors affecting meat and its use, including production, quality, composition, processing, safety, and value of edible products including muscle biology and biochemistry, human nutrition, food safety, sensory evaluation, consumer

science, new or improved meat related analytical procedures, processing and sensing technologies, and marketing of meat products.

Types of papers considered for publication, with all undergoing peer review:

- Original research articles
- Review papers by invitation or unsolicited
- Short Communications
- Reciprocal Meat Conference abstracts (as one paper) that are accepted for the AMSA annual meeting
- Proceedings of the RMC by invitation only

The Editorial Board is committed to minimizing the time to decision for the articles submitted. Editorial policies are established by the Editor-in-Chief, Associate Editors, and Editorial Board in conjunction with the AMSA Board of Directors. The views given in articles published in *MMB* are the opinions of the author(s) and do not represent the official policy of the author's institution or company, AMSA, *MMB*, or the *MMB* Editorial Board. Authors are responsible for ensuring that the experimental protocols, design, sampling, analyses, collection of data, and interpretation in *MMB* papers is scientifically valid and is accurately represented.

Information on the scientific content of *MMB* or submission of the manuscript can be found on the Iowa State University Digital Press website.

Publication Ethics

MMB is committed to meet the highest ethical standards throughout its review and publication process. *MMB* follows rigorous review guidelines and the review and editorial processes adhere to the Core Practices developed by the Committee on Publishing Ethics (COPE). *MMB* uses a plagiarism check software for the initial screening process to ensure the integrity of research. *MMB* is not published for profit and its editorial decisions are not influenced by outside interests.

Animal Care and Use of Human Subjects in Research

If live animals are used in the research, then submission of the manuscript signifies that the research has followed established standards for humane care and use of animals. The standard which was followed and a statement of the approval or waiver by the appropriate authorities or Institutional Animal Care and Use Committee (IACUC) must be submitted with the manuscript.

For research involving human subjects, authors must clearly describe the necessity and extent of human participation. Researchers are required to obtain written informed consent from all participants, ensuring they are fully informed about the research purpose, procedures, potential risks and benefits, and their right to withdraw at any time. For minors or individuals unable to consent, consent must be obtained from parents or guardians. Consent forms must cover both study participation and data publication and should be archived and available upon request. Manuscripts must include a statement confirming that informed consent was obtained and approved by an appropriate ethics committee. The research procedures must align with the ethical standards of the 2013 revised Declaration of Helsinki, developed by the World Medical Association. For non-interventional studies, where ethical approval is not required, or if a study has been granted an exemption by an ethics committee, this should be clearly mentioned in the manuscript with a full explanation.

The Methods section of the manuscript must detail the approval from a local ethics committee or institutional review board (IRB), including the name of the authorizing body and any reference or permit numbers. If informed consent was obtained verbally rather than in writing, this must be explained and stated within the manuscript. If institutional review boards or committees do not exist, authors must ensure that the research complies with the 2013 revised Declaration of Helsinki.

Researchers must ensure the confidentiality and privacy of participants by removing or anonymizing identifiable information. Identifying details, such as names and ID numbers, should not be used in the text and must be removed from any images. Simply covering an individual's eyes in a photograph is insufficient to conceal their identity. If informed consent is not required or an exemption has been granted, this must be included in the Methods section along with the name of the authorizing body. While the Journal does not routinely collect consent forms, authors should be prepared to provide written consent forms signed by the participants or other appropriate documentation to the editorial office upon request.

Documentation of IACUC and/or IRB status must be made available upon request. The statements of compliance should preferably be at the beginning of the Methods section rather than in the Acknowledgements section. For further guidance and examples, please refer to COPE's guidance on consent.

Conflicts of Interest

The integrity and credibility of published articles is partially based on the transparency of relationships surrounding all aspects of the research and its publication. Authors, reviewers, editors, and agents of AMSA are required to disclose possible conflict of interest situations, actual or perceived, that may affect or appear to affect the objectivity, impartiality, and overall integrity of the peer review process and publication of research. Conflicts of interest may be from employment; financial benefit; personal, social, or professional relationships; or other situations. Disclosure of potential or real conflicts of interest are required, but do not necessarily

exclude a paper from consideration for publication. Failure to disclose actual or perceived conflicts of interest in the manuscript when submitted may result in rejection of the manuscript or retraction of a published paper from the journal.

Author conflicts of interest

Conflict of interest situations that authors should report are those concerning financial interests in the outcome of the research. It is not possible to anticipate or describe every potential conflict of interest, authors should communicate to the Editor-in-Chief at the time of manuscript submission of known or perceived conflicts of interest, including those with any potential reviewer or editor.

1) a financial interest in the outcome of the research or a relationship that might affect judgment of the data or results by the author, close family member of the author, or professional associate (as defined by National Institutes of Health).

2) service as an employee, officer, director, owner, member, or trustee of an organization with a financial interest in the outcome of the research or as a consultant, advisor, expert witness, or advocate on behalf of an entity with a financial interest in the outcome.

3) support of the research, including grants, contracts, subcontracts, fellowships, consulting agreements, gifts, services, or other nonfinancial benefits with a company or organization having a financial interest in the outcome.

4) employment, rights to patent applications, patents, sales, licensing, or royalty agreements or memoranda of understanding; service on advisory boards, speaker or review panels; or ownership of stock or shares in a company or organization that might gain or lose financially based upon the outcome.

Reviewer and editor conflicts of interest

Peer manuscript reviewers and editors are expected to provide independent and impartial reviews and decisions on manuscripts and so are bound by the same conflicts of interest ethical concerns as for authors. Additionally, reviewers and editors will have a conflict of interest if they have financial or personal interests directly with the author(s) that might affect or might be perceived to affect the impartiality of manuscript review and decisions. Potential conflicts include, but are not limited to,

1) collaborations, research grants, contracts, subcontracts, or consulting directly with any of the authors or other investigators or key personnel on the research in the manuscript.

2) serving as an advisor or advisee to author(s) on the current manuscript.

3) employment (current, pending, or prospective) at the author(s) institution or company that could be affected by the peer review process or manuscript decision.

Reviewers are obligated to indicate if they have a vested interest in the publication of a manuscript that would compromise their ability to serve as an impartial reviewer. Reviewers who feel unable to give an independent and unbiased review when invited or during the course of their review should contact *MMB* so they can be removed from the review assignment. Potential reviewers or editors with actual or perceived conflicts of interest will not be involved in the manuscript decision process. Editors who are authors or coauthors on manuscripts will be excluded from the decision processes, but will have the usual author or coauthor access to manuscript information.

Expectations of Authors and Manuscripts

Authors are expected to adhere to scientific methods in conducting, evaluating, and reporting research in manuscripts submitted to *MMB*. Each manuscript must contain a clear description of the conduct or protocol for the experiment, including the experimental conditions, experimental design, experimental units, number of observations, and the method and statistical model by which the data were statistically analyzed.

Eligibility of Authors

Membership in the American Meat Science Association is not required for publishing in *MMB*. Members, however, do receive a discount on publication charges. Authors who wish to join AMSA to receive this discount should do so before the paper is accepted for publication. Membership information is available on the AMSA website.

Authorship and Author Contributions

The authorship criteria should be clearly defined and agreed upon by all contributors before the work begins. The corresponding author bears responsibility for ensuring that all authors meet the authorship criteria based on the International Committee of Medical Journal Editors (ICMJE) guidelines. To be considered an author, individuals must have made significant contributions to the conception, design, acquisition, analysis, or interpretation of data, contributed to drafting or revising the work, provided final approval of the version to be published, agreed to be accountable for all aspects of the work, and agreed to be named on the author list. Individuals who do not meet these criteria may be acknowledged in the publication, but they should not be listed as authors. Funding sources, research group supervisors, administrative support, and proofreaders may be acknowledged but not named as authors. It may be advisable for authors to obtain written permission from those being acknowledged, as their inclusion in the publication may be perceived as an endorsement.

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Artificial Intelligence (AI) use and Accessibility Compliance

Use of Artificial Intelligence (AI) in Manuscript Preparation

The use of artificial intelligence (AI) or similar algorithmic tools to generate manuscript text, scientific content, or interpretation is not permitted. AI and AI-assisted technologies must not be listed as authors. Authors may use such tools only for limited purposes such as improving readability, grammar, or language. In all cases, authors remain fully responsible for the accuracy, integrity, and originality of the manuscript. Any violation of this policy constitutes scientific misconduct.

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The use of AI or generative tools to create graphical abstracts, schematic illustrations, or infographics is permitted only with full transparency and author oversight. Authors must clearly disclose the use of AI tools, including the name of the tool and the extent of its use, in the manuscript (e.g., Acknowledgments or Methods section). AI-generated visuals must be accurately reviewed, edited, and approved by the authors prior to submission. Authors retain full responsibility for the scientific accuracy, appropriateness, and integrity of all visual materials.

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- Creating visuals that fabricate, manipulate, or misrepresent scientific data or findings

All figures must faithfully represent original data or scientifically accurate concepts.

AI-Assisted Alternative Text (Alt-Text) and ADA Compliance

In accordance with accessibility requirement under the Americans with Disabilities Act (ADA) Title II, all figures, images and graphical elements must include descriptive alternative text (alt text) to ensure accessibility. Authors may use AI tools to assist in generating alternative text descriptions. However, all AI-generated alt-text must be reviewed, edited, and explicitly approved by the authors prior to submission. Alt-text descriptions must be accurate, complete,

and objective, and must adequately convey the essential information of the visual content for readers with visual impairments. Failure to properly review and validate AI-assisted alt-text constitutes non-compliance with journal policy and accessibility requirements and may result in delays in peer review, return to authors for correction, or rejection of the manuscript.

Use of AI in Peer Review and Editorial Evaluation

The use of AI or AI-assisted technologies to generate, draft, or substantially inform peer-review reports or editorial decisions is strictly prohibited. Peer review must reflect the independent, critical assessment of qualified human reviewers and editors. Additionally, reviewers and editors must not upload or share confidential manuscript content with AI tools or third-party platforms, as this may compromise confidentiality, intellectual property, and ethical standards of the review process.

Publication Charges

Publication charges are $1,000 for a research paper of 12 typeset pages or less, which is payable at the time a manuscript has been accepted for publication. AMSA members will receive the discounted rate of $850 on publication charges when papers have been accepted and membership has been verified. Publication charges for the Short Communications are $300 and $450 for AMSA members and non-members, respectively. *MMB* has a flexible pricing structure for countries that may need assistance with the cost of publication ($400 for upper middle-income countries and $0 for lower income and lower middle-income countries) based on World Bank classifications. No papers will be listed in the *MMB* table of contents or will be available on the *MMB* website until the publication charge has been received. Invited review papers will not incur page charges while unsolicited review papers will have the same page charges as for research papers, but may be up to 20 typeset pages without additional charges. Research pages longer than 12 typeset pages or unsolicited review papers longer than 20 typeset pages will have additional publication charges at the rate of $200 per page regardless of author membership in AMSA.

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No Prior Publication or Simultaneous Submission

Papers submitted to *MMB* should be original reports of research unless it is a review or issue paper invited or accepted for submission. It is expected that the work has not been previously published in a scientific journal and is not being considered for publication in another scientific journal. Authors must disclose at the time of submission if portions of the paper have been submitted or published elsewhere and to submit copies of the relevant prior publications when the manuscript is submitted. The determination of whether a technical paper such as a Cattlemen's Day Report or Swine Day publication is a prior scientific publication will be decided for each case, but in general, prior publication is considered if substantial portions of the manuscript sections have been published in the technical media.

Review or issue papers can be submitted if invited by the *MMB* Editor-in-Chief on a specific topic or as unsolicited review papers on pertinent topics. The Editor-in-Chief will determine the appropriateness and importance of unsolicited manuscripts for peer review. Review papers should provide a synthesis of existing knowledge and give new insights or concepts not previously presented in the literature. They are not exhaustive reviews of the literature, but provide enough literature review to give the reader a sound basis for understanding and interpreting the topic. Review papers are on important subjects needing a scholarly perspective, give balanced coverage of the entire spectrum of the topic, and adds a perspective to the subject not previously available to scientists. Invited issue papers serve the purpose to stimulate discussion and examination of current views on a topic and might be controversial, but should not be confrontational. Authors should contact the *MMB* Editor-in-Chief before writing and submitting unsolicited issue papers.

General Manuscript Handling Procedures

Authors must complete the Manuscript Submission and Copyright Release form for each manuscript that is submitted. Receipt of manuscripts will be acknowledged by email to the corresponding author and to each co-author. The corresponding author verifies that the other authors have reviewed the manuscript before its submission and that each contributed to the research or report being submitted. The cover letter or title page should give the corresponding author's current telephone number and email address for use during review and production. After initial confirmation to all authors that the manuscript has been received, then all other correspondence will be only with the corresponding author via the contact information provided upon submission.

Manuscripts are assigned a manuscript number, reviewed for conformity to the *MMB* desired format, and assigned to an associate editor. The associate editor invites two or more scientists knowledgeable on the research in the manuscript to provide objective peer reviews of the originality, appropriateness of methods, and validity of the results and conclusions. A manuscript may be rejected before it is sent for review because it does not fall within the scope of *MMB*, does not conform to acceptable scientific standards, or does not follow *MMB* style guidelines.

The manuscript number assigned by the submission site must be given in all subsequent communications. Authors will be informed as the manuscript moves through the various steps involved in review, review/acceptance/rejection, and publication. Manuscripts accepted for publication are edited for language, grammar and style and prepared for publication by professional editorial staff for *MMB*. Manuscript proofs are sent in electronic format to authors with instructions for proofreading. Proofs must be returned to the editorial office within 5 days of receipt. After any necessary corrections are made, the journal article is posted to the *MMB* website, usually within two weeks after return of the corrections.

All papers are given an anonymous review where the names of reviewers are not revealed to the authors of the papers or to the other reviewers. The contact information of authors is entered when a manuscript is submitted in the online manuscript submission system so that editors and technical staff can contact authors about the status of the paper.

Manuscripts may be rejected and not published for several reasons. *MMB* has high scientific standards and does not accept works that are incomplete, poorly described, poorly designed, lack adequate statistical procedures, lack evidence to support conclusions, lack contributions to science or meat and muscle biology knowledge, or do not advance information in the field of meat and muscle biology science. Papers that are not deemed to fit the journal scope will also be rejected and alternative scientific publication venues will be recommended. Manuscripts that do not follow the guidelines in this Policy, Style Guide, and Instructions for Authors; are not written in clear, concise, organized, and coherent manners; or that have excessive grammar and language difficulties may be rejected before or after being subjected to peer review. Authors are responsible for the contents of manuscripts. Authors who are not proficient in English language and/or scientific writing are urged to have an editing service review the manuscript before it is submitted.

Authors are urged to discuss difficulties with manuscripts with the Editor-in-Chief. Decisions can be appealed with a committee of Editorial Board members consulted to advise the Editor-in-Chief on the disposition of the manuscript. Appeal decisions of the Editor-in-Chief to publish or reject manuscripts are final.

Post-publication Correction and Retractions

Authors, editors, and/or readers may identify errors in published articles. Errors can range from minor typographical errors to more significant issues such as incorrect data, conclusions, or references. If an error is identified in an article published in *Meat and Muscle Biology*, the author(s) should contact the Editor-in-chief to ensure that errors and misconduct are addressed promptly and transparently. The editor-in-chief will review the error and determine whether it requires a correction or an erratum with editorial staff from the publisher to ensure any necessary changes are made in accordance with guidance from the Committee on Publication Ethics (COPE). Corrections can take different forms, such as an erratum, corrigendum, or addendum. An erratum is used to correct a significant error that affects the scientific integrity of the article, such as incorrect data, results, or conclusions. A corrigendum is used for minor errors, such as typographical errors, incorrect author names, or incorrect affiliations. An addendum is used to add information that was not included in the original article. Corrections will be made as soon as possible after the error is identified, but the timeline for correction may vary depending on the severity of the error. Corrections will be clearly labeled and published in the same format and location as the original article.

Procedure for retractions

Retractions are used when there are serious issues with the scientific integrity of an article, such as data falsification, plagiarism, ethical violations, or other forms of misconduct. Retractions are typically initiated by the authors, the editors, or the publisher. The process may involve an investigation by an editorial board or an ethical review board to determine the validity of the claims of misconduct. The decision to issue a retraction for an article will be made in accordance with the Committee on Publication Ethics (COPE) guidelines. A retraction notice should be published in the same format and location as the original article, clearly stating the reasons for the retraction and providing a link to the corrected or retracted article. The notice should also be disseminated to relevant indexing services, databases, and search engines. Additionally, the lead institution in the published work will be notified of the retraction. Retractions should be made as soon as possible after the issue is identified. The timeline for retraction may vary depending on the severity of the issue and the editorial policies of the journal.

Allegations of Research Misconduct and Publishing Malpractice

The editors, reviewers, and publishers will take reasonable precautions to identify and prevent the publication of manuscripts, in which research misconduct and publishing malpractice are suspected. The journal expects the authors to follow highest standards in conduct of research and publication ethics. Research misconduct and publishing malpractice include, but are not limited to, intentional falsification and/or fabrication of research data; plagiarism, including self-plagiarism (i.e., reusing the authors' own previous publications without any proper citation); and misappropriation of work. The allegations of misconduct and malpractice will be considered serious and dealt according to the COPE guidelines. The submitted manuscripts containing any misconduct and/or malpractice will be rejected immediately. When a published article is found

to have any misconduct and/or malpractice, it will be retracted and the retraction will be linked to the original article.

Complaints and Appeals

Any complaints and/or appeals on editorial decisions should be sent directly to the editor-in-chief within 30 days of the date of decision communication, if the authors believes that the decision was biased or erroneous. A letter detailing the grounds for the complaint and/or appeal should be sent to the editor-in-chief. The complaints and appeals will be processed according to COPE guidelines.

Data Sharing and Reproducibility

Authors publishing in *Meat and Muscle Biology* agree to share their data and other materials that support their analyses or results of the work upon reasonable request. Authors will make the determination about what is a reasonable request and may choose to not share data when doing so would not be ethically correct, would violate the privacy or protection of human subjects, would violate funding agreement, would violate governmental regulations, or would jeopardize privacy or security.

Short Communications

Short communications are shorter papers that provide novel results of original research that do not warrant publication as a full-length research paper. They are concise manuscripts that merit publication, but are less comprehensive than full-length articles. They could address: (1) a specific question, present a new finding that is expected to have a significant impact, and therefore warrants rapid dissemination; and/or (2) the results and corresponding discussion of a research work that cannot be explored to the same level of detail as in an original full-length research article, yet relevant for scientific community and industry.

Short communications report the original findings of scientifically sound and complete experiments, but with a more limited scope of investigation than a full-length paper. Negative results are sometimes best reported in this format so that needless repetitions by other researchers can be avoided. However, short communications should not be used as a vehicle for reporting results of inferior research. Preliminary data are not acceptable, and findings shall not be published in any later papers.

Short communication manuscripts should be prepared and organized according to MMB guidelines of full-length articles. They should contain the same headings and sections and must follow the same format of full-length articles. Short communications are reviewed employing the same standards of full-length research papers. However, for rapid and timely dissemination of knowledge, short communications can go through an expedited review with the same

scientific rigor of full-length research papers. During the review process, the editors and/or reviewers may recommend converting a full-length research paper to a short communication (and vice versa) based on the scientific content presented.

Title. The title should have a prefix "Short Communications" to clearly identify that this is not a full-length manuscript. For example: "Short Communication – Effect of MAP on Fresh Beef Color Stability".

Word limit. Maximum 2,500 words (not including references, tables/figures and their corresponding captions and legends)

Tables and figures. Maximum of either 2 tables or figures or one of each

References. Maximum of 15 references

Conference Proceedings and Abstracts

Authors requested by the AMSA to submit proceeding articles for the annual AMSA Reciprocal Meat Conference (RMC) must conform to the latest version of the *MMB* Policies, Style Guide, and Instructions for Authors in preparing the manuscript. Proceeding articles should be submitted through the Iowa State University Digital Press website. RMC proceedings are reviewed and handled employing the same standards of full-length research manuscripts. However, for rapid and timely dissemination of knowledge, proceeding manuscripts may go through an expedited review and editorial decision-making process with the same scientific rigor of full-length research papers. Authors who wish to submit abstracts for the annual RMC meeting should check the latest version of the AMSA Reciprocal Meat Conference abstract guidelines at the AMSA website. Submitted abstracts will be peer-reviewed by members of the AMSA RMC Program Planning Committee, MMB Editorial Board, and the Committee under the supervision of the Abstract Subcommittee Chair.

2. MANUSCRIPT PREPARATION

Authors should read through this Style Guide and have colleagues thoroughly review the manuscript before submission to the American Meat Science Association (AMSA) *Meat and Muscle Biology* journal (*MMB*). Coauthors should have read and agreed with the scientific content and merit of the paper. It is advisable to consult the *MMB* manuscript template or papers in *MMB* to view an acceptable format for headings, title page, desired sections (Abstract, Key words, Introduction, Materials and Methods, Results, Discussion or combined Results and Discussion, Literature Cited, tables, figures) of research papers. A template for development of manuscripts is at the *MMB* website. Manuscripts must be written in English and use American spelling and usage and standard scientific usage.

Resources for detailed information about general style and form are the Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers. 8th ed. Council of Science Editors, Reston, VA. For anatomical nomenclature, the current Nomina Anatomica Veterinaria should be consulted. Bacteria nomenclature should follow the Approved Lists of Bacterial Names.

Details of Manuscript Preparation

Manuscript Submission and Handling

Authors must submit manuscripts using the *MMB* online manuscript submission system.

Specific Information for Manuscript Submissions

All accepted manuscript files are edited in Microsoft Word so authors should submit manuscripts in Microsoft Word or file formats compatible with Microsoft Word. Papers submitted as pdf files will be returned to authors before review. Manuscripts must be double-spaced, with consecutive line and page numbering for the entire paper; use 12 point Times New Roman font and 2.54 cm (1 inch) margins. Do not use complicated fonts or complicated features of Microsoft Word such as automatic footnoting or outlining because these interfere with editing and electronic formatting. The use of italics, bold, and superscripts and subscripts should be limited. If you need to place a numbered list in your manuscript, enter the numbers and use appropriate tabs and indents manually instead of using automatic outlining. Complex equations should be inserted using MathType. Manuscripts should be uploaded to the Iowa State University Digital Press website using the fewest files possible to facilitate review and editing.

Abbreviations

Abbreviations are highly discouraged except for standard abbreviations of weights and measures. Author defined abbreviations and acronyms are highly discouraged, but if used, each must be

defined in the abstract, defined at first use in the body of the manuscript, and defined in each table and figure. Abbreviations should not be used for terms that appear fewer than three times in the manuscript.

Headings and Subheadings

Keep headings short and only use headings pertinent to describe sections. The formatting of headings is illustrated in the *MMB* Manuscript Template at the submission website. Level 1 headings (main headings) are used for the main sections of Introduction, Materials and Methods, Results, and Discussion and Level 2 headings can be used for subsections. Level 3 and Level 4 headings are allowed, but should be used only when necessary.

Research Manuscript Format

Manuscripts of research usually have the order and sections of:

1. Running head, title, and byline.
2. Author–paper documentation (addresses/affiliations, email address of the corresponding author).
3. Abstract.
4. Keywords.
5. Introduction. This section should include sufficient literature review to introduce the reader to the topic and lead to the hypothesis or research objectives, which must be clearly stated.
6. Materials and Methods.
7. Results. This section is sometimes combined with the discussion section.
8. Discussion. This may include a subsection for conclusions. No separate summary section is used because it would duplicate the function of the abstract; a summary statement may, however, be given as a closing paragraph.
9. Acknowledgments (if desired to give credit or required to explain conflicts of interest, funding).
10. Literature Cited.
11. List of figure captions, then tables with titles, then the figures or images.

Manuscript Format

Running Head. The running head should be a shortened version of the article title. Running heads should be limited to 45 characters, including spaces. Running head should not include abbreviations.

Title. The title should be representative of the content of the article and facilitate retrieval in secondary literature service indexes. Title terms should give specific information about the

content of the article. Titles should be started with key words and not with "Effect of" or "Influence of." Appropriate titles briefly identify the subject, indicate the study purpose, and gives key terms or concepts. Titles should not contain more than 12 to 15 words and be free of nonstandard abbreviations, chemical formulas, or proprietary names. An example of an acceptable title would be "Palatability of beef from forage-finished cattle" rather than "Effects of feeding forages to cattle on the palatability of beef."

Acknowledgements about the research that may include those of a consortium, grant funding, dissertation requirement, journal article number, or experiment station or journal series number are given by a footnote to the title. The disclosure of potential or actual conflicts of interest related to the research with full details of the conflict, extensive support information, and personal thanks belong in the acknowledgments section at the end of the paper. Any required government or institutional disclaimer in reference to commercial products or trade names mentioned in the text should also be in this section.

Author Listing. Full names (Michael Z. Smith) can be used. The first person listed in the title is considered the senior author. The corresponding author, who might not be the senior author, submits the manuscript and is the author with whom the journal personnel will communicate. The corresponding author is designated by an asterisk (*) and is responsible for making any needed corrections and returning the article proofs within the required times. In standard American rules of punctuation, the asterisk comes after any comma (e.g., Stanley G. Jones, Michael Z. Smith,* and Zhang A. Zhao). The order of the authors on the paper must be decided and agreed upon by all of the authors.

Affiliations and addresses for all authors and an email address for the corresponding author should be in a paragraph following the author listing, using numerals for identifying authors with different affiliations with the specific affiliations. If all authors are at one affiliation or one address, only the one affiliation or address should be listed and not repeated.

Abstract. The abstract aids readers in determining the overall content of the article and is the portion of the paper used by abstracting and indexing services. The abstract should contain all information that is important in the paper, by giving the basic information and also calling attention to techniques, observations, or data. The abstract should be concise, but have specific details from the paper. This informative abstract should reflect the entire paper by having one or two sentences on an introductory statement of the rationale and objectives or hypotheses, materials and methods, results and conclusions. Specific pertinent results should be given, with quantitative and statistical data (i.e., P values) when possible. Use of abbreviations are highly discouraged except for weights and measurements and should be limited. When abbreviations are used, each should be defined when first used in the abstract, in the body of the manuscript, and in each table and figure. Abbreviations used in the body of the manuscript should be defined at first use in the body and not rely on the abstract for definition. The abstract should be limited to 300 words and preferably be less than 250 words for abstracting services.

Key words. Up to 6 key words or phrases should be used, including the species, variables tested, and major response criteria. The first letter of each key word is lower case unless proper nouns are used. Key words should be separated by commas with no use of abbreviations.

Introduction. The introduction should be as brief as possible and contain a concise introduction, justification for the research that references previous concepts and research, clear hypotheses that were tested, and the objective(s) of the research. The literature should be limited to essential information with use of the most pertinent or relevant citations available. The extensive discussion of literature pertaining to the research should be in the Discussion (or Results and Discussion section, if combined). An appropriate discussion clearly communicates to the reader the identification of the subject area, what the research is intended to contribute to the current knowledge in the subject area, and the hypothesis, definition of the problem, or objectives for the research.

Materials and Methods. The first item in this section should be any statements indicating that requirements for institutional animal care and use committee approval or institutional review board approval were met if they are necessary for the research conducted. If approvals are not needed, the reasons that those approvals were not necessary should be stated. If live animals or human subjects were used in the research, the committee, agency, or institutional approval information (number, date) should be given along with a description or location of the affiliation review documents

This section must contain a clear description of the conduct or protocol for the experiment, including the experimental conditions, experimental design, experimental units, number of observations, and the method and statistical model by which the data were statistically analyzed. This section should give sufficient detail to allow a competent scientist to repeat the experiments, mentally or in actuality. The preparation method, equipment, and measurements, including SI units must be given, in a logical order or in the sequence in which the methods were performed. Materials and equipment specific to the research or essential to the outcome should be identified by code or model, manufacturer, and manufacturer location. Readily available or common apparatuses, instruments or equipment such as beakers or analytical balances need not be identified with specific information, but sources of chemicals and other products must have the code, source, and location. Chemical rather than trade names are preferred. Materials that are proprietary or specially procured should be identified by the pertinent chemical and physical properties (e.g., purity, pH, concentration).

It is preferable to cite references for methods if the methods are exactly as those in the reference. If the reference method is modified or adapted, only the modifications or adaptations should be described. The statistical methods should clearly describe the experimental design, treatments, experimental units, experiment replications, and probability levels. The statistical programs used to analyze the data must be given.

For sensory studies, information on study parameters including source of samples, storage, preparation methods, temperature parameters, serving size, number of samples per session, number of sessions per day, time between samples, number of replications, duplication, palette cleansers, serving order design, use of carriers and other key information on the sensory test should be provided in the methods. For descriptive studies using trained panels, the number of panelists, the type and length of training, definition of scales and attributes, and how the panel was monitored and validated must be given. For consumer studies, the number of consumers, basic demographic information, recruitment/selection pool and criteria are required. Information from AMSA Research Guidelines for Cookery, Sensory Evaluation, and Instrumental Tenderness Measurements of Meat should be used and appropriately cited.

For color measurements, the AMSA Meat Color Measurement Guidelines should be consulted and appropriately cited.

Results. Tables, graphs, and other illustrations should be in the Results section to provide a clear understanding of the data obtained from the experiments. Attention should be drawn to significant or pertinent findings such as one quantity is greater than another, one result is linear across a range, or a particular value is an optimal value. However, do not repeat in the text what is clearly shown in the tables, graphs, or other illustrations. Minimal results can be described in the text rather than in tables or figures. When giving results, it is preferable to give exact probability levels associated with the results (e.g. P=0.003). If significance is described in the Materials and Methods section to be specific probability values, then it is not acceptable to use the word "significant" and the probability level (P=0.172) in the same sentence. If there is not a separate Discussion section, the results should be related to the stated objectives for the research and to relevant, previously published work.

Discussion. This section is used to interpret the results, specifically addressing the problem, question, or hypothesis presented in the introduction. It is expected that the discussion will relate the results to the original objectives; explain the principles, relationships, and generalizations that are supported or refuted by the results; address exceptions to the findings or lack of correlations that necessitate qualification of the research results; explain how the results relate to previous findings in the published literature to support, contradict, or add information; and present a conclusion that is supported by the summary of the evidence. The discussion section focuses on the meaning of the findings, not to simply repeat the results. Speculation about the results and their use is acceptable when the speculation is reasonable, supported by the observations, and can be tested through experimentation, but should be expressed as speculation.

Acknowledgements. The disclosure of potential or actual conflicts of interest as described in the Policies and Procedures section related to the research giving full details of the conflict, information about funding, grant, or other support of the research, credit for research or manuscript assistance, and personal thanks belong in this section. Any required government or institutional disclaimers in reference to commercial products or trade names mentioned in the text also should be in this section.

Literature Cited. The Literature cited section lists only the references for the literature cited in the paper. Authors are encouraged to cite only significant, published, and the most recent literature references. Only literature available through libraries and public sources should be cited in the text. Personal communications and unpublished data are highly discouraged, but exceptions may be made if absolutely necessary and if cited according to the Citation Style section.

Figure Captions, Tables, and Figures. The captions for all figures should be in a single list by figure number and caption/title after the Literature Cited. Tables with titles in chronological order follow the figure captions. Tables and figures should be constructed so they can be understood without referring to the body of the manuscript. Each table and figure should include a measure of the variation and evidence of statistical analysis of the data. Abbreviations in tables and figures should be self-contained, so redefine abbreviations where needed. This can be done within a footnote or in an abbreviations list. Figures should be submitted as high-resolution TIF or EPS files to facilitate the layout process. Editors should be contacted if figures are larger than 5 MB to arrange for ftp transfer.

Line patterns instead of shading and avoidance of thin, light lines are needed for figures. It is desirable to use color in figures with a mixture of patterns, line widths, dash types, and other options. Most figures will be reduced to one-column width (84 mm, or ~3.25 inches) so the original should be as close to possible to this size (one-half larger than the intended final size in the published paper). Relative size should be considered for symbols, letters, and numbers.

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Brown, L. D. and G. C. Smith. 2014. Title. Journal title vol.:pages.

Brown, L. D., G. C. Smith, and J. D. Tatum. 2005. Title. Journal title vol.:pages.

Brown, L. D.., G. C. Smith, and J. D. Tatum. 2007a. Title. Journal title vol.:pages.

Brown, L. D.., G. C. Smith, and J. D. Tatum. 2007b. Title. Journal title vol.:pages.

Brown, L. D.., G. C. Smith, J. D. Tatum, K. J. Jones, and A. Q. Brown. 2001. Title. Journal title vol.:pages.

Brown, L. D.., G. C. Smith, E. C. Vandegraft, and J. D. Tatum. 2015. Title. Journal title vol.:pages.

Brown, L. D. and J. H. Ziegler. 1994a. Title. Journal title vol.:pages.

Brown, L. D. and J. H. Ziegler. 1994b. Title. Journal title vol.:pages.

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First author, second author, and third author. Year. Title of article. Journal Title Vol.:pages. DOI.

Tatum, J. D., G. C. Smith, B. W. Berry, C. E. Murphey, F. L. Williams, and Z. L. Carpenter. 1980. Carcass characteristics, time on feed and cooked beef palatability attributes. J. Anim. Sci. 50:833–840. https://doi.org/10.2527/jas1980.505833x.

Online Journal Articles. For electronic-only journals, the format is similar to that for print journal articles. The DOI number should be given at the end of the citation, instead of the URL, which may change with time.

Du, M., J. Tong, J. Zhao, K. R. Underwood, M. Zhu, S. P. Ford, and P. W. Nathanielsz. 2010. Fetal programming of skeletal muscle development in ruminant animals. J. Anim. Sci. 88:E51–E60. https://doi.org/10.2527/jas.2009-2311.

Duckett, S. K., S. L. Pratt, and E. Pavan. 2009. Corn oil or corn grain supplementation to steers grazing endophyte-free tall fescue. II. Effects on subcutaneous fatty acid content and lipogenic gene expression. J. Anim. Sci. 87:1120–1128. https://doi.org/10.2527/jas.2008-1420.

Duckett, S. K., D. G. Wagner, L. D. Yates, H. G. Dolezal, and S. G. May. 1993. Effects of time on feed on beef nutrient composition. J. Anim. Sci. 71:2079–2088. https://doi.org/1993.7182079x

Garmyn, A. J., S. M. Knobel, K. S. Spivey, L. F. Hightower, J. C. Brooks, B. J. Johnson, S. L. Parr, R .J. Rathmann, J. D. Starkey, D. A. Yates, J. M. Hodgen, J. P. Hutcheson, and M. F. Miller. 2011. Warner Bratzler and slice shear force measurements of 3 beef muscles in response to various aging periods after trenbolone acetate and estradiol implants and zilpaterol hydrochloride supplementation of finishing beef steers. J. Anim. Sci. 89:3783–379. https://doi.org/10.2527/jas.2011-4134.

Honikel, K. O. 1998. Reference methods for the assessment of physical characteristics of meat. Meat Sci. 49:447–457. https://doi.org/10.1016/S0309-1740(98)00034-5.

Immonen, K., and E. Puolanne. 2000. Variation of residual glycogen-glucose concentration at ultimate pH values below 5.75. Meat Sci. 55:279–283. https://doi.org/10.1016/S0309-1740(99)00152-7.

Immonen, K., M. Ruusunen, K. Hissa, and E. Puolanne. 2000. Bovine muscle glycogen concentration in relation to finishing diet, slaughter and ultimate pH. Meat Sci. 55:25–31. https://doi.org/10.1016/S0309-1740(99)00121-7.

Article in serial publication

Huck, G. L., R. T. Brandt, Jr., M. E. Dikeman, D. D. Simms, and G. L. Kuhl. 1991. Timing of trenbolone acetate implants on performance, carcass characteristics, and beef quality of finishing steer calves. Kansas State University Cattlemen's Day Report. p. 90-92.

Article with known erratum follow-up

Morales, A., L. Vázquez-Hernández, L. Buenabad, E. Avelar, H. Bernal, L. H. Baumgard, 2016. Effect of heat stress on the endogenous intestinal loss of amino acids in growing pigs. J. Anim. Sci. 96:165-172 [erratum: 94:2682-2682].

Articles in press

For an in-press article, use the current year as the date. If the manuscript has been posted online ahead of publication, include the DOI.

Author. Year. Article title. Journal Title. DOI (in press).

Hagenmaier, J., C. Reinhardt, S. Bartle, and D. Thomson. 2016. Effect of shade on animal welfare, growth performance, and carcass characteristics in large pens of beef cattle fed a beta agonist in a commercial feedlot. J. Anim. Sci. https://doi.org/10.2527/jas.2016-0935 (in press).

Magazine Article

Faivre, K. 2016. Addressing barriers to sustainable ag. Feedstuffs, Oct. 3, p.8, 43.

Frazer, A. M. and M. A. Pascall. Cleaning and sanitization of food-contact surfaces in retail/foodservice establishments. Food Safety Mag., Feb.-Mar., p. 12, 14-15.

Hartman, L. R. 2016. Natural ways to a long and healthy shelf life. Food Proc. 77(9):47-48.

Topp-Becker, . 2016. BIF symposium provide valuable insights for Branvieh breeders. Braunvieh World, 26(3):18-19.

Books (including bulletins, reports, multivolume works, series)

Budavari, S., editor. 1996. The Merck index. 12th ed. Merck Publ. Group, Rahway, NJ.

Food and Agricultural Organization. 1994. Production and trade yearbook, 1993. FAO, Rome.

Snedecor, G.W., and W. G. Cochran. 1989. Statistical methods. 8th ed. Iowa State Univ. Press, Ames.

Steel, R. G. D., and J. H. Torrie. 1960. Principles and procedures of statistics, with special reference to the biological sciences. McGraw-Hill, New York.

Steel, R. G .D., and J. H. Torrie. 1980. Principles and procedures of statistics: A biometrical approach. 2nd ed. McGraw-Hill, New York.

Taylor, B. N. 1995. Guide for the use of the International System of Units (SI). NIST Spec. Publ. 811. US Gov. Print. Office, Washington, DC.

Online Books

Online books usually correspond to printed versions, and the reference style is similar. Use the DOI in place of a URL if available.

Barbut, S. 2015. Science of Poultry and Meat Processing. ISBN 978-0-88955-62-3 (pdf). www.poultryandmeatprocessing.com/.

Chapter in a Book

The entry for a chapter or article within a larger work must give the author(s), year, chapter title, the word "In" followed by a colon, any editors, and the publication title, followed by the volume (for multivolume works), edition (when more than one has been published), publisher, place of publication, page range, and DOI (when available).

Author. Year. Chapter title. In: Editor name(s), editor(s), Book title. Publisher, Place of publication. page range.

Gardner, G. E., B. L. McIntyre, G. D. Tudor, and D. W. Pethick. 2001b. Nutritional influences on muscle glycogen recovery following exercise in sheep and cattle. In: J. L. Corbett and I. Schmidt, editors, Recent advances in animal nutrition in Australia. Univ. of New England, Armidale, Australia. p. 145–151.

Hamm, R. 1975. Water-holding capacity of meat. In: D. A. J. Cole and R. A. Lawrie, editors, Meat. Butterworth, London. p. 321–338.

Hamm, R. 1986. Functional properties of the myofibrillar system and their measurements. In: P. J. Bechtel, editor, Muscle as food. Academic Press, Inc., Orlando, FL. p. 135–199. https://doi:10.1016/B978-0-12-084190-5.50009-6.

Sainz, R. D., and E. Hasting. 2000. Simulation of the development of adipose tissue in beef cattle. In: J. P. McNamara, J. France, and D. Beever, editors, Modelling nutrient utilization in farm animals. CABI Publishing, Cambridge MA. p. 175–182.

Online Chapter in a Book

Wenther, J. 2015. Muscle characteristics. In: The meat processor's journal science, methods and trends. Vol. 1 Whole muscle processing. MTG Media Group, Chicago, IL. p. 33-40. http://www.meatingplace.com/Ebook/MeatProcessorsJournalVol1. accessed 18 October 2016.

Wenther, J. and M. Fielding. Definition of whole muscle processed meat/poultry products. In: The meat processor's journal science, methods and trends. Vol. 1 Whole muscle processing. MTG Media Group, Chicago, IL. p. 7-11. http://www.meatingplace.com/Ebook/MeatProcessorsJournalVol1. accessed 18 October 2016.

Conference, Symposium, or Workshop Proceedings and Transactions

An entry for conference proceedings is similar to an entry for a book, with two more pieces of information: the place of the meeting and the date. Conference proceedings often have two titles: the title of the book of proceedings and the name of the conference. If both are present, the title of the book is given first, with only the first word of the title, proper nouns, and proper adjectives capitalized, followed by a period. After the book title comes the name of the conference; capitalize all significant words for the conference name.

Published proceedings and symposia

Author. Year. Title. Conference Proceedings, City, State. pages OR Editor. Year. Title of book. Number and Name of Conference, place of conference. Date of conference. Publisher, place of publication.

Howard, B., J. Gonzalez, W. Keller, J. Drouillard, K. Phelps, S. Ebarb, and K. Maddock-Carlin. 2015. Effects of implanting strategy and zilpaterol hydrochloride on the calpain proteolytic system in sectioned beef steaks aged for two time periods. 68th Recip. Meat Conf. Proc., Lincoln, NE.

Mega, A., T. Mitsuhashi, and M. Tajima. 1999. Changes in the texture, histological structure and degradation of myofibrillar protein of beef round meat during ordinary or vacuum cooking. Congress Proceedings, 45th Intl. Congress Meat Sci. Technol., Yokohama, Japan 1-6 August 1999. Vol. 1: p. 188-189.

Schnäckel, W. and J. Krickmeier. 2007. Influences of functional ingredients on technological and sensory quality of cooked sausages. In: G. Zhou and W. Zhang, editors, Proceedings of 53rd Intl. Congress Meat Sci. Technol., Beijing, China 5-10 August. p. 423-424.

Chapter in a proceedings volume

Papers published in a proceedings volume are treated much like a book chapter.

Slautterback, D. B. 1966. The ultrastructure of cardiac and skeletal muscle. In: E. J. Briskey, R. G. Cassens, and J. C. Trautman, editors, The physiology and biochemistry of muscle as a food and Proceedings of an International Symposium, Madison, WI 12-14 July 1965. The Univ. Wisconsin Press, Madison, WI. p. 39-68.

Abstracts

Authors. Year. Title. Source, Location. pages. (Abstr.)

Raines, C. R., M. C. Hunt, and J. A. Unruh. 2008. Cow biological type affects ground beef color stability. 54th International Congress of Meat Science and Technology, Cape Town, South Africa 10-15 August. p. 87 (Abstr. 3A.10).

Tørnberg, M. and N. Madsen. 2005. Effect of retail- packaging methods on premature browning of cooked beef patties. 51st International Congress of Meat Science and Technology, Baltimore, Maryland 7-12 August 2005. p. 42 (Abstr. T43).

Papers and poster sessions presented at meetings

Use this format when citing unpublished conference papers. When possible, avoid citing conference papers older than two years. If subsequent publication is known, cite the published form.

Author. Year. Title of paper. Paper [or poster session] presented at: Title of conference. Number and Name of the Conference, place of the conference. Date.

Burkett, J. L., K. J. Stalder, W. Powers, T. J. Baas, J. W. Mabry, and J. L. Pierce. 2005. Effect of inorganic and organic trace mineral supplementation on growth performance and carcass traits of market hogs. 21st Annual Symposium: Biotechnology in the Feed and Food Industries, Lexington, KY, May 22-25.

Meyer, S. R. 2005. Optimal selling strategies& comparing packer matrices. Paper presented at: Iowa Pork Produc. Assoc.-Iowa Pig Info. Conf., Marshalltown, IA.

Yang, J. and Y. Xiong. 2014. Strong inhibition o flipid oxidation in o/w emulstions by interface-abstorbed myofibrillar protein: Evidence of physical protection. Paper 064-03 presented at: Inst. Food Technol. Ann. Meeting & Food Expo, New Orleans, LA. June 22.

Miscellaneous

Author. Year. Title of item. Source or publisher: page numbers.

Dissertations and theses

Author. Year. Title of dissertation or thesis. Ph.D. diss. or M.S. thesis, University, City. Internet access information if available online.

Cruzen, S. 2013. Characterization of the skeletal muscle calpain/calpastatin system in growth models in swine and cattle. Ph.D. diss., Iowa State Univ., Ames. (http://lib.dr.iastate.edu/etd/13305/)

Grubbs, J. K. 2010. Molecular and physiological effects of ractopamine on yearling heifers across days on feed. M.S. thesis, Auburn Univ., Auburn, AL. (https://etd.auburn.edu/handle/10415/2149)

Software and software documentation

Abacus Concepts. 1991. SuperANOVA user's guide. Release 1.11. Abacus Concepts, Berkeley, CA.

Minitab. 1998. MINITAB 12. Minitab, State College, PA.

SAS Institute. 1994. The SAS system for Windows. Release 6.10. SAS Inst., Cary, NC.

Encyclopedia article

Paulsen, P. and J. Nagy. 2014. Mechanically recovered meat. In: C. Devine and M. Dikeman, editors-in-chief, Encyclopedia of meat sciences. Elsevier, Oxford. p. 270-275.

Patents

McMindes, M. K., E. Godinez, I. Mueller, M. W. Orcutt, and P. A. Altemueller. 2013. Protein composition and its use in restructured meat. U.S. Patent 8,529,976. Date issued: 10 September.

Riley, C. and S. H. Hultin. 2014. Methods for separating proteins from connective tissue. U.S. Patent 8,871,291. Date issued: 28 October.

Standards or Standard Procedures

Institution. Year. Rule number: Title. Publisher, Place of publication.

American Meat Science Association. 2015. Research guidelines for cookery, sensory evaluation, and instrumental tenderness measurements of meat. Version 1.0. Am. Meat Sci. Assoc. Champaign, IL.

AOAC. 2000. Official methods of analysis. 17th ed. AOAC, Arlington, VA.

ASTM 2011. F2925-11. Standard specification for tenderness marketing claims associated with meat cuts derived from beef. ATSM Int., West Conshohocken, PA. http://www.astm.org.

CIE. 1976. Recommendations on uniform color spaces– color difference equations, psychometric color terms. Supplement No. 2 to CIE Publication No. 15 (E-1.3.1) 1978, 1971/(TC-1-3). CIE, Paris.

CIE (Commission Internationale de l'Eclairage). 1976. Recommendations on uniform color spaces- color difference equations, Psychometric Color Terms. Supplement No. 2 to CIE Publication No. 15. Commission Internationale de l'Eclairage, Paris, France.

USDA. 1996. United States standards for grades of slaughter cattle. Livest. Seed Program, Agric. Market. Serv., Washington, DC.

USDA. 1997. United States standards for grades of carcass beef. Livest. Seed Program, Agric. Market. Serv, Washington, DC.

USDA Agricultural Marketing Service. 2012. Operational requirements for the USDA certification of ASTM International tenderness marketing claim. December 2012. http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5095042. (Accessed 14 February 2016).

Electronic sources

Electronic sources of information should be cited as for any other reference, with the author, date, article or Web page title, and further information essential to the online reference. Publications in both printed and digital forms should cite only the printed form. The date of copyright (if displayed), the date of updates or revisions, and the date when the publication was accessed should be given. The title should be the title on the website or the major wording describing the article. The person or organization responsible for the site is the publisher, whose information may be at the top, bottom, or sides of pages. The URL or DOI, if either is given, of the database citation should be included.

Author. Year. Title of document. Title of site. Owner or sponsor of site. URL (accessed day month year).

Tatum, J. D. 2011. Animal age, physiological maturity, and associated effects on beef tenderness. http://www.beefresearch.org/cmdocs/beefresearch/pe_white_%20papers/animal_age.pdf. (Accessed 26 March 2015.).

Tatum, J. D., S. L. Gruber, and B. A. Schneider. 2007. Pre-harvest factors affecting beef tenderness in heifers. http://www.beefresearch.org/CMDocs/BeefResearch/PE_Executive_Summaries/Pre_Harvest_Factors.pdf. (Accessed 26 March 2015.)