



BioResources

Science and Advanced Applications
of Lignocellulosic Materials

Volume 20 | Issue 1 | 2025

Celebrating
Vol. 20



Formatting your submission to *BioResources*

2025-2026 Journal Guidelines

****See pgs. 21-26 for References Cited
entry examples**

***Additional detailed formatting examples in
the [*BioResources Template*](#)**

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Manuscript Section Sequence

- **ABSTRACT**
- **INTRODUCTION**
- **EXPERIMENTAL**
 - **Materials**
 - *Third level headings as needed*
 - **Methods**
- **RESULTS AND DISCUSSION**
- **CONCLUSIONS**
 - 1. Given in a numbered list.
- **ACKNOWLEDGEMENTS**
- **REFERENCES CITED**

Basic Text Format

Manuscript Parts in their correct styles	Text style
Manuscript Title	16 point Arial bold (Title case)
Author List	12 point Times New Roman
Abstract	10 point Arial
<i>Keywords</i>	10 point Times New Roman italic
<i>Author contact information</i>	10 point Times New Roman italic
<i>*Corresponding author</i>	10 point Times New Roman italic
MAJOR HEADINGS: INTRODUCTION, EXPERIMENTAL, RESULTS AND DISCUSSION, CONCLUSIONS, ACKNOWLEDGEMENTS, REFERENCES	12 point Arial bold, all capital letters
Subheading: Materials, Methods, Others as Needed	12 point Arial bold, capitalize important words
<i>Third-level headings</i>	12 point Times New Roman, italic, capitalize first word only
Main body of text	12 point Times New Roman

Abstract

- The abstract has a maximum length of 200 words.
- Abbreviations and acronyms should be defined in the abstract and again in the main text.
- Abstract should be mostly in past tense as it is a brief description of the study and also describes the results of the study.

Manuscript Body

- All abbreviations and acronyms should be defined the first time they are used in the manuscript, even if also defined in the abstract.
- The margins of the manuscript body, *except in the References Cited, Table titles, and figure captions*, are justified.
- **Sentences should not begin with abbreviations, acronyms, or physical numbers. Spell them out or use an article beforehand.**

In-text Citations

- *BioResources* does not use footnotes or brackets to refer to references cited entries.
- In-text citations should be listed **chronologically** within parentheses in the text. Multiple authors in the same year should be listed alphabetically within that year. For example:
 - (Knope *et al.* 2002; Smith *et al.* 2002; Dwyer and Ludgate 2003; Haverford 2004)
- Only last names (surnames or family names) belong in parenthetical citations. When referring to authors, use last names or full names, do not use only first names.
- If the same exact author has multiple publications being cited in-text at the same time, separate the years with a comma.

Ex: Brier *et al.* 2009, 2011.

Experimental Section

- All instruments and equipment specifically listed should be adequately described, to include the make, model, manufacturer, and manufacturer location (City, (State if USA,) Country). *Ex:* (model; Full and Official Manufacturer Name, City, Country)
- The term ‘significant’ should be used judiciously because this term typically implies *statistical analysis*, where software information (Software Name, Company, version, City, Country) is included in its own section. Unless statistics are performed, do not use when describing changes in specific data values. Use other adjectives.
- If there is statistical significance, please include the p-value or other relevant statistic.

Special Concerns for Animal/Human Experiments (1)

Manuscripts that involve animal or human experimental subjects will be considered for publication only if the work detailed therein meets all of the following guidelines:

- Follows international, national, and/or institutional guidelines for humane animal treatment and complies with relevant legislation;
- Has been approved by the ethics review committee at the institution or practice at which the studies were conducted where such a committee exists;
- For studies using client-owned animals, demonstrates a high standard (best practice) of veterinary care and involves informed client consent;

Special Concerns for Animal/Human Experiments (2)

Prior to consideration of a manuscript, to verify compliance with *BioResources* policies, the authors must:

- Provide a letter certifying that legal and ethical requirements have been met with regards to the humane treatment of animals described in the study;
- Specify in the Experimental section that the ethical review committee approval process and the international, national, and/or institutional guidelines followed.

Scientific Units

- Place a space between a value and an abbreviation or unit (*e.g.*, 24 h)
 - Time: s (second); min (minute); h (hour); d (day)
 - Mass: g (gram); kg (kilogram); μg (microgram)
 - Volume: L (liter); mL (milliliter); μL (microliter)
 - Length: cm (centimeter); mm (millimeter); nm (nanometer)
 - Temperature: $^{\circ}\text{C}$ (centigrade); K (Kelvin)
 - Pressure: kPa (kilopascal); atm (atmosphere)
 - Frequency: Hz (hertz); MHz (megahertz)
 - Power: W (watts); kW (kilowatts)
 - Voltage: V (volts); kV (kilovolts)
 - Current: A (amps); mA (milliamps)
 - Resistance: Ω (ohm)
 - Molarity: M (moles per liter)
 - Percent by weight: wt%

Special Characters and Phrases

- Ensure that special characters are correct.
- Use ° (degree symbol; °C) rather than ° (superscript o; °C)
- Use μ (*e.g.*, μm) rather than u (*e.g.*, um)
- Use ± rather than +/-
- Correct SimSun or other specifically symbolic fonts anywhere in the text, as it disturbs line spacing and causes other formatting troubles.
 - Use the “Insert Symbol” function in Word to add symbols that will match the font you are using.
 - This mistake is particularly seen for characters such as (), x, and °C may that be atypical and need to be replaced; they tend to appear somewhat skewed or italicized, and typically take up an extra space in the line.
- Latin phrases are italicized
et al., *etc.*, *e.g.*, *i.e.*, *vs.*, *versus*, *circa*, *via*, *in situ*, *in vitro*

Equations

- Equations should be left justified with one indent at 0.5”. A number in parentheses follows the equation at 5.5” or 6.0”. On the next line, variables are defined. For example:

The mass and volume of each wood sample was measured. The density (D) was calculated according to Eq. 1,

$$D \text{ (g/cm}^3\text{)} = m / v \quad (1)$$

where m is the mass (g) and v is the volume (cm³).

- Note the space before and after mathematical expressions (e.g., +, -, /, ×), and that there is no line of space before/after an equation unless a new paragraph follows directly after the equation.
- Replace any instance of ‘x’ when used as multiplication with ‘×’, ‘+/-’ with ‘±’.
- If the author inserts an equation using the equation generator for any variables that can be typed or inserted manually, delete the equation and manually insert using the ‘Insert, symbol’ function.

Equations Continued...

- All variables are italicized, both in equations and in the text.
 - Sub/superscripted characters are not italicized
 - Statistical variables (R^2 , p , f , etc.) and Greek characters (β , θ , μ , α , etc.) are not italicized

Figures

- Figures should **be consistent** within the manuscript regarding format, font, and presentation.
- All figures should have a relatively high resolution (no blurred images).
- Figures in plates (more than 1 image, graph, or micrograph defined by one caption) should be clearly identified with a label (*i.e.*, a, b, c; typically in the upper or lower left corner) and defined in the caption.
 - Do not use such terms as “upper, lower, right, left, or center” to denote figures in the caption.
- Figure legends should be clear and concise, and should stand alone.
 - Take care that symbols in legends show up appropriately in your final version.
- Abbreviations, symbols, statistics, *etc.* in the figures should be defined in the caption or the legend.
- All figures should be specifically cited in the body of the manuscript.
- Formatting specifics:
 - Caption (10 point Arial, left justified; no period unless the caption ends with a complete sentence)
 - Labels that denote specific figures in a plate (*i.e.*, a, b, c, *etc.*) (12 point Arial Bold on/next to the figure)

Graphs

- Authors are encouraged to use color graphs whenever possible, since this does not affect costs and typically increases ease of interpretation.
- Check each axis for consistent and complete axis labels. The label should stand alone, and all units should be provided in parentheses (not brackets).
 - There must be a space between the label and the units, *e.g.*, “time (h)”.
 - Again, be careful that symbols in axis labels show up properly.
- For mean data, error bars (standard deviation or standard error of the mean) should be associated with each data point or bar.
- It is best not to label profiles within the graph, but rather use a legend to define each profile.
- Check labels, legends, *etc.* for spelling errors and appropriate formatting (*i.e.*, italics, bold, underline, and special characters).
- Axis labels for graphs should be formatted in **10 point Arial Bold** and use **sentence case capitalization**.

Micrographs

- A scale bar should be placed in the lower right corner of all micrographs to provide the relative size of the structure(s) of interest.
 - The length of the micron bar may be defined in the figure caption, or the length placed above the bar.
- For light micrographs, use color whenever possible.
- Electron (scanning and transmission) micrographs typically have information such as micrograph number, date, magnification (and associated scale bar), and accelerating voltage on the bottom of the original image—**this information is to be cropped** from the bottom of each plate image where it appears (*leave comment for author to do this* and provide a scale manually incorporated in the lower right corner, with a space between numerical value and unit of measurement).
 - See article template for more information and an example.
 - The magnification provided on the image is often listed in the caption. This magnification is correct only if the original image (or negative) size has not been altered.
- Labels or arrows denoting structures within the micrograph should be defined in the legend.

Digital Image Manipulation

The following provides guidance to authors regarding acceptable practices in digital editing of images for manuscripts submitted to BioResources. Images include gels, microscopy, and other photography.

- Do not selectively edit a part of an image. For example, do not enhance, delete, touch up, move, or create a specific feature in the image.
- If grouping images from different specimens, add a dividing line to indicate to the reader that there are different images being presented.
- Do not group different microscopy fields into one image.
- Adjusting brightness and/or contrast is allowed if the edit is applied to the entire image. Do not apply these editing tools to selected pixels.
- Please include in the figure caption and/or in the Materials and Methods the editing software used, and the type of modifications performed on the image.

Taxonomy Nomenclature

- Always italicize binomial nomenclature. If authors use the name/abbreviated name of the person who named the species, this is not italicized (*e.g.*, *H. italica* (L.) Rothm.).
 - The same applies if “sp., spp., or subspp.” abbreviations are used.
- The genus name is always capitalized, while species (and subspecies) is not.
- Full species name should be spelled out the first time it is used (*Vulpes vulpes*), then it can subsequently be shortened (*V. vulpes*).
- Make sure to define the Latin name at first when switching back and forth between the use of Latin and common names (...the red fox (*Vulpes vulpes*)...).
- If using only the genus name in a sentence, it does not need to be italicized.

Tables

- Tables should be generated with the table function in Microsoft Word.
 - An example can be seen and copied from the *BioResources* article template.
- Tables should fit within page margins.
- Use **title case** for table titles and column headings
- Headings should stand alone. All units should be provided in (parentheses), **not** [brackets].
- All abbreviations, symbols, statistics, or other shorthand in the tables should be defined in a table footnote.
- All tables should be specifically cited in the body of the manuscript.
- Formatting specifics:
 - Title (12 point Arial, title case capitalization, left justified)
 - Body (10 point Arial, sentence case capitalization, centered in each column)
 - Footnotes (10 point Arial, left justified)

References Cited

- Full citations in the references section are listed in **alphabetical** order.
 - Not numbered
 - **All** authors of a work must be listed as well as the volume number, issue number (if there is one), page numbers, and DOI (for journal articles).
 - For a citation with more than 10 authors, the first 10 authors are listed and the remaining denoted by “*et al.*”
- The author names in the References Cited are sometimes given incorrectly (rather than Surname, F. I.). Be careful with international names, and if in doubt, search the article online to verify.
- Either a complete or properly abbreviated journal name is acceptable. Within each manuscript, be consistent with the naming regime.
 - If you choose to abbreviate journal names, use only their official abbreviations, available at: <https://www.library.caltech.edu/journal-title-abbreviations> (choose first letter of title after navigating to this page)
 - Shortened names still are capitalized and have periods after each shortened word.
 - For example: *Cell Chem. Technol.*, *Chem. Eng. J. Bioch. Eng.*, *Holz Roh. Werkst.*
- All sources must be listed in the References Cited, including national standards (*i.e.*, ASTM, EN, CSA, GB/T, ISO, TAPPI, TS) and information from websites.
- Formatting of references is often inconsistent. Take time to ensure that the formatting is correct.
- **Compare all references in the manuscript text with the References Cited for missing entries, that they are listed correctly (1, 2, or more authors), and for inconsistent dates. *You can use the CTRL + FIND feature in Word.***

References Cited: Formatting Examples (1)

- Journal article

Barčík, Š., Gašparík, M., and Horejš, P. (2014). “Influence of thermal modification on nail withdrawal strength of spruce wood,” *BioResources* 9(4), 5963-5975. DOI: <https://doi.org/10.15376/biores.9.4.5963-5975>

- Test standard

ISO 9087 (1998). “Determination of nail and screw holding power under axial load application,” International Organization for Standardization, Geneva, Switzerland.

TAPPI T222 om-02 (2002). “Acid-insoluble lignin in wood and pulp,” TAPPI Press, Atlanta, GA, USA.

GB/T 2677.20 (1995). “Fibrous material - Determination of holocellulose,” Standardization Administration of China, Beijing, China.

References Cited: Formatting Examples (2)

- Book

Wang, N. G., Yin, S.-C., Katrakov, I. B., Markin, V. I., Mikushina, I. V., and Khudenko, S. V. (2002). *Methods of Investigation of Wood and Its Derivatives*, Altai University Publisher, Barnaul, Russia.

In a language other than English:

Blažej, A., Šutý, L., Košík, M., Krkoška, P., and Golis, E. (1975). *Chémia Dreva* [*Chemistry of Wood*], ALFA, Bratislava, Slovakia.

- Chapter in a book with editors

James, A. M. (2001). “Music in the 21st century,” in: *Textbook of Music Psychology and the Wooden Instrument Throughout History*, Z. Catania (ed.), McGraw Hill, New York, NY, USA, pp. 150-175.

- Master’s Thesis or Ph.D. Dissertation

Cook, J. R. (2013). *Amine Functionalization of Bacterial Cellulose for Targeted Delivery Applications*, Master’s Thesis, University of Western Ontario, London, Canada.

References Cited: Formatting Examples (3)

- Website

Montoya, I. (2015). “Fencing,” (<http://www.keepusingthatword.com>), Accessed 28 July 2015.

Perkins, A. (2013). “Trees and small town public health,” *The Pawnee Sun*, (www.pawneesun.com/articles/perkins/tree_health.html), Accessed 31 Aug 2014.

- Abstract/poster presentation at a conference

Maminski, M., Parzuchowski, P., Borysiuk, P., and Boruszewski, P. (2009). “Hyperbranched macromolecules as modifiers of urea-formaldehyde resins,” in: *Proceedings of the Wood Adhesives 2009 Conference*, Lake Tahoe, NV, USA, pp. 424-426.

(Here the page numbers refer to the abstract book)

References Cited: Formatting Examples (4)

- Technical Report

Bell, E. R., Peck, E. C., and Krueger, N. T. (1954). *Modulus of Elasticity of Wood Determined by Dynamic Methods* (Report No. 1977), U.S. Department of Agriculture Forest Products Laboratory, Madison, WI, USA.

Sluiter, A., Hames, B., Ruiz, R., Scarlata, C., Sluiter, J., Templeton, D., and Crocker, D. (2008). *Determination of Structural Carbohydrates and Lignin in Biomass* (NREL/TP-510-42618), National Renewable Energy Laboratory, Golden, CO, USA.

- Legislature

European Commission (EC) Regulation 231/2012 (2012). “Commission Regulation (EU) No 231/2012 of 9 March 2012 laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council,” European Union, Brussels, Belgium.

References Cited: Formatting Examples (5)

- Patent

Arnold, H. W., Dorough, G. L., and Latham, G. H. (1943). “Coated cellulosic material,” U. S. Patent No. 2334236.

- Lecture

Smith, G. (2012). “Lectures and course notes for WOOD 487,” Department of Wood Science, University of British Columbia, Vancouver, Canada.

- Handbook/user guide

SAS (2001). *User Guide: Statistics* (Release 8.02), SAS Institute, Cary, NC, USA.

Graphical Abstract

Authors have the option to submit a graphical abstract with their research/review paper.

What is a graphical abstract?

A graphical abstract is a single image file that visually shows the main message of your research study. You can think of a graphical abstract as a presentation of three parts: the context of your research topic; methodology; and main conclusions. The graphic should be concise and not too cluttered with images, diagrams, or text.

Where will it be displayed?

The graphical abstract will be displayed on a cover page of the research paper, and also alongside the abstract and online paper on our website:

<https://bioresources.cnr.ncsu.edu/>

Instructions

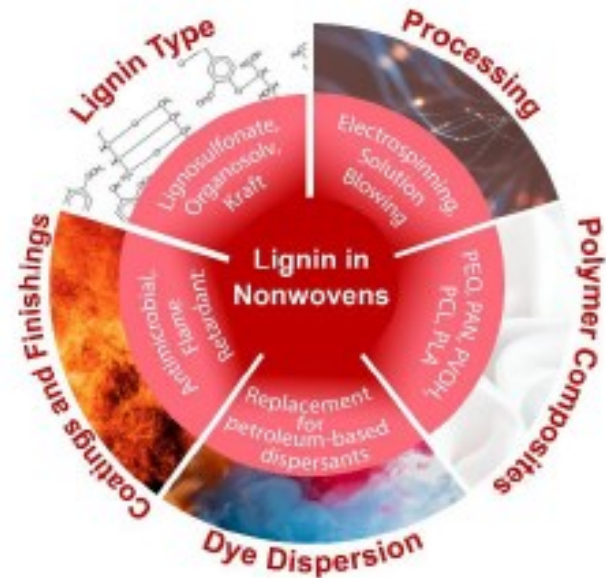
Authors can submit a single picture file in a preferred format of JPEG, PNG, or TIFF. Please make sure the font size is large enough for viewing.

See the next 3 pages for examples of graphical abstracts:

Examples of Graphical Abstracts

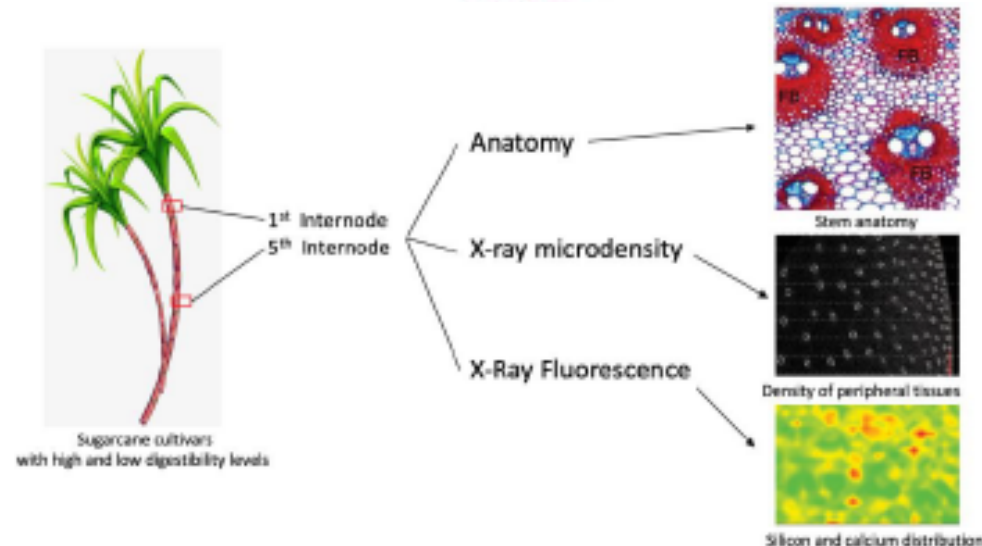
A graphical abstract that visually conveys a Review article about lignin use in nonwovens:

Gaynor, J. G., Szlek, D. B., Kwon, S., Tiller, P. S., Byington, M. S., and Argyropoulos, D. S. (2022). "Lignin use in nonwovens: A review," *BioResources* 17(2), 3445-3488.

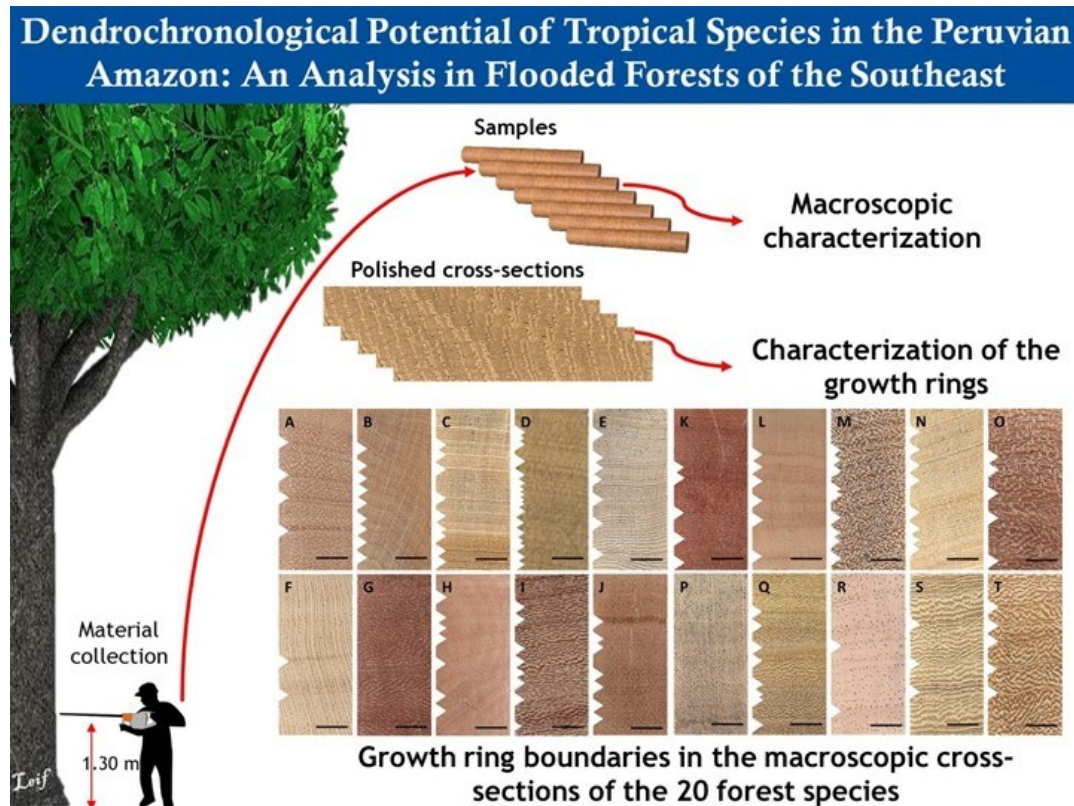


A graphical abstract that summarizes research on traits of sugarcane:

Marques *et al.* (2021). "Sugarcane as a forage plant: Structural and chemical traits that affect fiber quality," *BioResources* 16(4), 7623-7634.



Examples of Graphical Abstracts



Ranilla-Huamantuco, M. A., Cassana-Huáman, I. A., Canales-Ramirez, J., Navio Chipa, J., Macedo Enriquez, K. J., Farfan-Huanca, R. F., and Portal-Cahuana, L. A. (2025). "Dendrochronological potential of tropical species in the Peruvian Amazon: An analysis in flooded forests of the southeast," *BioResources* 20(1), 1482–1503.

Examples of Graphical Abstracts



Ståhl, M., Berghel, J., Frodeson, S., and Ike Anukam, A. (2024). "Impact of amylose and amylopectin content in starch on wood pellet production," *BioResources* 19(4), 7771–7785.

Use of Generative AI

- The use of AI tools in the preparation of text, data analysis, and collation of references must be disclosed at the time of Submission. If using AI tools to identify relevant literature, the authors are encouraged to use curated databases such as [Web of Science](#) or [SCOPUS](#).
- Generative AI should not be used to prepare images, figures, graphs, or diagrams.
- For transparency, the authors should describe which AI tool was used and how it was used in the manuscript Acknowledgements.
- If the editorial staff determines that AI tools have been used excessively, the authors will be asked to submit a revised version of their manuscript before it will proceed to peer review. These guidelines will be implemented at the discretion of the editorial staff and will be updated as needed.
- Authors are responsible for ensuring that all content produced by AI tools adheres to standards of publication ethics.