

Preparing a paper for submission to the journal

I.M. Author¹ and U.R. Another²

¹First Author's Department, Organization, City, Province, Country, PC; and ²The same for the second author.

ABSTRACT

This paper is set out in the form that should be used for submitting papers to *Canadian Biosystems Engineering/Le genie des biosystemes au Canada* (except for the single spacing of lines). The abstract should be informative and summarize the major findings. Remember that the abstract must have value as a stand alone publication. It is desirable that the abstract be submitted in both English and French. If it is submitted in only one language, there will be a \$50 translation charge. The use of keywords is encouraged. **Keywords:** paper, publication, figures, equations, references.

Cet article présente la forme que devrait avoir les articles soumis à la *Canadian Biosystems Engineering/Le genie des biosystemes au Canada*. Le résumé doit être instructif et rapporter les principales conclusions. Le résumé doit être un document complet pouvant être utilisé séparément de l'article principal. Il est souhaitable de soumettre le résumé en français et en anglais. Des frais de traduction de \$50 seront imputés aux auteurs, si le résumé n'est soumis que dans une seule langue. L'utilisation de mots clés est optionnelle. L'utilisation de mots clés est fortement encouragée.

SECTION HEADINGS

Formatting of section headings is to be done as illustrated in this example. First-level headings are capitalized in bold and centered on the page, as for "SECTION HEADINGS".

Second-level headings

This is an example of a second-level heading. The heading is left margin justified, in bold, and only the first word is capitalized.

Third-level headings This is an example of a third-level heading. It is similar to a second-level; however, the text begins on the same line as the heading.

MECHANICS OF THE PAPER

Typing and submission of the manuscript

The manuscript should be printed in 12 point font and double spaced. It **must** have line numbers. Margins should be at least 25 mm.

Nomenclature and abbreviations

Be sure that nomenclature and abbreviations are consistent throughout the paper. Define symbols immediately after first use in the text or in an equation. If there are many symbols (15 or more), include a "LIST of SYMBOLS" at the end of the manuscript.

1 The following list represents the style and use of abbreviations that should be adhered to
2 when abbreviations are needed. In general, use of abbreviations in the text, other than units of
3 measure, is discouraged.

- 4 1. In a series of measurements, give the unit at the end; i.e., 2 to 10°C; 3, 6, and 8 mm.
- 5 2. Do not begin a sentence with an abbreviation, acronym, or symbol. If a sentence must begin
6 with a number, spell out the number and the unit of measure; i.e., Ten millimeters, not Ten
7 mm.
- 8 3. A word or phrase to be abbreviated must be spelled out the first time used in the text,
9 followed by the abbreviation in parentheses. Abbreviations can then be used thereafter.
- 10 4. Some statistical terms may be abbreviated. These include: standard deviation (SD);
11 coefficient of variation (CV); and coefficient of determination (R^2). Do not abbreviate mean,
12 median, or mode.
- 13 5. The Latin name of a biological organism should be spelled out the first time it is used in the
14 abstract and in the text (using italics) followed by the authority. Thereafter the genus may be
15 abbreviated by the first letter and the authority may be dropped. The common name for a
16 well known organism may be used after it has been defined by the Latin name. For example,
17 "The most common weed in the world is *Taraxacum officinale* Weber. The *T. officinale* is
18 generally known as the dandelion. Dandelions have golden flowers."

19 **Figure, table, and equation numbering**

20 Figures, tables, and equations should be numbered separately and consecutively in the paper (Fig.
21 4, Table 2, Eq. 12). The abbreviations Fig., Figs., Eq., and Eqs. are used unless they are the first
22 word of a sentence.

23 **Units of measure**

24 Use appropriate SI unit symbols (m, L, kg, W, J, N, Pa, ha, t, s, h, d, wk, y) and prefixes (μ , m, k, M,
25 G). Note that all these prefixes are factors of 10^3 . **Do not use centimeters as a length unit;**
26 however, in some situations it may be used as a unit of area. Volume measurements can often be
27 given in milliliters (mL) rather than cubic centimeters (cm^3).

28 Compound units that have only one unit in the denominator may use the slash to separate the
29 numerator and denominator, for example: 105 kg m/d. Note that there is a space between the units
30 "kg" and "m". If there is more than one unit in the denominator, **do not use the slash;** use negative
31 powers, i.e., $0.563 \text{ N s}^{-1} \text{ m}^{-2}$.

32 **Numbers**

33 When reporting a number, the number of significant digits must be commensurate with the precision
34 of the source. If a quantity must be converted to SI units, multiply the quantity by the exact
35 conversion factor and then round to the appropriate number of significant digits.

36 For numbers consisting of four digits, the numerals are run together as in 8975 and 1000.
37 Express numbers consisting of more than four digits in exponential form with appropriate significant
38 digits. The exponent should be a multiple of 3, for example; -9, -6, -3, 3, 6. Follow the format:

- | | | |
|------------|----------|---------------------------|
| 39 · 5 g | · 37% | · 4.12×10^6 |
| 40 · 16 mm | · 27°C | · -11.43×10^{-6} |
| 41 · 5 ha | · 3.0 MW | · 0.52 Gt |

1 For expressing large dollar amounts, spell out million or billion, for example: 5.3 billion US
2 dollars.

3 **Commas**

4 For a list of three or more items use a comma before the and as in "mean, media, and mode".

5 **Footnotes**

6 The use of footnotes, other than in tables, is discouraged. Most material that would go in a footnote
7 can be incorporated into the text. Footnotes to tables are permitted and frequently are needed to
8 provide sufficient explanation so that the table is self-explanatory.

9 **EQUATIONS**

10 Display all equations on separate lines with consecutive numbers enclosed in parentheses and placed
11 at the right margin. Use built-up equations rather than a slash, as in:

$$12 \quad z = \frac{ax + by}{cx + hy} \quad (1)$$

13 **FIGURES**

14 Data should be presented in only one form, figure or table. Figures are generally used to show trends,
15 whereas tables are used when the numerical values of the data are important. Illustrations and tables
16 attract the reader's attention and clarify text. Use a graphics package that can export files as JPG files.
17 **DO NOT BURY THE GRAPHICS WITHIN THE TEXT OF THE PAPER.** Figures and tables
18 should be at the end of the paper. Later on, when submitting the final version for publication, it is
19 preferred that each figure and each table be submitted as a separate electronic file.

20 **Figure captions**

21 Each figure must have a caption. The caption should be a brief but complete explanation of the
22 figure. Do not include the caption as part of the figure graphics (i.e., do not have the caption as part
23 of the figure file); but, include the caption on the page where the figure is printed. In addition,
24 include a list of figure captions at the end of the paper.

25 **Figure axes**

26 When drawing graphs, note the following:

- 27 1. Make the figure approximately "square" if at publication time it will fit into one column wide
28 (approximately 90 mm). If the figure likely is to require more than one column width, then
29 a figure that is wider than high is desirable.
- 30 2. Draw the axes only; do not "box in" the graph unless the upper and/or right hand side also
31 are axes. See the section on "**Line weights**" below.
- 32 3. Capitalize only the first character of the axis label.
- 33 4. Units should be in parentheses. If the axis label includes a symbol such as "T", the form
34 should be "Axis label, T (units)".

- 1 5. Use **Arial** font for all lettering. If the figure is to fit into one column wide when published,
2 the letter size (vertical) for the axis label should be about 3% of the total width of the graphic
3 (letter point size is 4 times the vertical height in millimeters). All other letters (axes values,
4 descriptions on the graph, etc.) should be approximately 80% of the size of the letters on the
5 axis labels. For example, if the overall width of the figure, as you are drawing it, is 150 mm,
6 the axis labels should have letters that are approximately 4.5 mm high (18 pt) and the other
7 lettering should be approximately 3.6 mm high (14 pt). If the figure will need to be the full
8 width of the published page, all these example values should be reduced by a factor of 2.

9 **Axis value interval** The number of labeled intervals on an axis should be limited to five to eight,
10 otherwise the graph will appear to be cluttered. Use the following as a guide for choosing the axis
11 value interval (use Fig. 1 as an example).

- 12 1. Take the range of the data and divide by 5 [x axis: $(21-3)/5=3.6$].
13 2. Choose an axis interval near the value calculated in 1., but limit intervals to 1, 2, 4, 5, 8
14 (preferably 1, 2, or 5) or multiples of 10 thereof. Choose the interval so that there will be 5
15 to 8 intervals on the axis. [For the x axis an interval of 5 would result in axis values of 0, 5,
16 10, 15, 20, 25. An interval of 4 would result in axis values of 0, 4, 8, 12, 16, 20, 24 which
17 would also be reasonable.
18 3. Always assume that the axis values start at 0 (obviously not if you have a log scale!).
19 Determine the axis intervals and then you may truncate "empty" intervals at the lower end,
20 if there are at least two empty intervals. Use the y axis as an example. Calculate 1. from the
21 range. $[(980-540)/5=88]$. Choose either 80 or 100 as the axis interval. If we choose 100 (as
22 in Fig. 1) the axis values would be 0, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000.
23 However the first 5 intervals (0-500) would be empty and thus it would be appropriate to
24 start the axis values at 500. If we had chosen 80 as the interval value, the axis values would
25 have been 0, 80, 160, 240, 320, 400, 480, 560, 640, 720, 800, 880, 960, 1040. The first 6 intervals (0-480)
26 would have been empty and thus the axis starting value could have been 480. Note that the truncated axis always has a
27 starting value that is a multiple of the axis interval ($100 \times 5 = 500$, $80 \times 6 = 480$). If there is a
28 number of graphs of similar data, use the same axes intervals for all graphs, if possible.

29 **Lines**

30 All lines should be black. Where it is necessary to distinguish between a number of lines on a figure,
31 use different styles of black lines (solid, short dashes, long dashes, mixed, etc). **Do not use shades**
32 **of gray for lines.**

33 **Line weights** Lines on graphs, when in the published form, should be approximately 0.3 mm in
34 width. Therefore, if your actual drawing has a width of approximately 150 mm and the published
35 figure is to fit into a single column (approximately 90 mm), the line width used should be
36 approximately 0.5 mm ($0.3 \times 150 / 90$). In point widths, that is approximately 2 pt. The axis lines
37 should be slightly lighter than the graph lines.

38 **Shading on figures**

39 At the publication stage, it is difficult to handle shading on figures, especially if the figures must be
40 scanned (and many do!). It is much preferable to use various patterns of black and white cross
41 hatching.

TABLES

Use the "Table" function in your word processing package to set up tables. Keep the formatting as simple as possible so that the tables can be easily transferred from one processing system to another.

USE of REFERENCES

Citing references in the text

The author-date system is used for citing references. The following are examples.

1. Thijssen (1974) studied freeze drying of. ...
2. Freeze drying is an important process (Thijssen 1974). Note that there isn't a comma between the author and the date.
3. Enright and Madramootoo (1988) concluded that the Green-Ampt infiltration equation was best. When there are two authors, both names are used.
4. Lambert et al. (1981) discussed the use of irrigation scheduling. When three or more authors, use the first author name followed by "et al.".
5. Many authors (Deshpande et al. 1984; Heldman and Singh 1981; Thijssen 1974) have discussed processing of foods by freezing. Note that the semicolon is used to separate the list.
6. Edwards and Burney (1988, 1989) have published several papers that are referenced. Vigneault et al. (1992a, 1992b) are two papers published by the same first author in a single year.

The reference list

All references are listed under a major heading of "**REFERENCES**" at the end of the paper, but before any appendices, list of symbols, tables, or figures. Note that this is a "reference" list, not a "bibliography". Each reference must appear somewhere in the paper as a citation.

References are listed in alphabetical order by first author. **After sorting alphabetically by first author**, the papers should be sub-sorted as follows:

1. For papers with the "first" author as the only author, sort by date of publication with the earliest reference appearing first.
2. For papers with two authors, sort alphabetically by second author. If there are two or more papers by the same authors, further sub-sort by date as in 1.
3. For papers with three or more authors, sort by date as in 1.

Within the "categories" above, add "a", "b", "c", etc. to a year if there is more than one paper published in the same year by the same single author, pair of authors, or first author when there are more than two authors.

Authors' given names are not used; only initials are used. The first author's last name, followed by initials begin all citations. Second and subsequent authors have the initials before the last name.

The only abbreviations that are used in the reference list are the two letter abbreviations for provinces or states when used as an address and CSBE/SCGAB or ASABE for the two Societies. **All journal names are spelled out in full.**

1 The name of published books, including proceedings of conferences and journal names, are
2 printed in italics.

3 **Formatting of references**

4 **Journal article** Journal articles are of the form "Authors. Year. Title with only the first word
5 capitalized. *Journal Title* with major words capitalized followed immediately by volume number
6 (issue number is optional): first page number-last page number." See Deshpande et al. (1984) as an
7 example.

8 **Book** Book references are of the form "Authors. Year. *Book Title* with all major words capitalized,
9 2nd edition (if there is an edition number), City, Province (or state or country): name of publisher."
10 See Heldman and Singh (1981) as an example.

11 **Chapter in a book** References of chapters in a book are of the form "Authors. Year. Chapter title
12 with only the first word capitalized. In *Book Title*, ed. editor's name, first page of chapter-last page
13 of chapter. City, Province: Publisher." See Thijssen (1974) as an example.

14 **Paper not in a journal or proceedings** Typically these are CSBE/SCGAB or ASABE papers
15 presented at conferences. The form is "Authors. Year. Title of paper with only the first word
16 capitalized. Paper number. City of Society office, Province: Society." Enright and Madramootoo
17 (1988) is an example.

18 **Paper in a conference proceedings** If there is a sponsoring organization that has an address, the
19 form is "Authors. Year. Paper title with only the first word capitalized. In *Title of the Proceedings*,
20 identifying publication number, first page of the paper-last page of the paper. City of sponsoring
21 organization, Province: Sponsoring Organization." If there isn't a sponsor or if the sponsor doesn't
22 have an address, the form is "Authors. Year. Paper title with only the first word capitalized. In *Title*
23 *of the Proceedings*, first page of the paper-last page of the paper. City, Province where the
24 conference was held. Month days." Edwards and Burney (1988) is an example.

25 **Thesis** The form for a thesis is "Author. Year. Thesis title with only the first word capitalized.
26 Unpublished M.Sc. or Ph.D. thesis. City, Province: University Department, University." Schell
27 (1990) is an example.

28 **Bulletin, report, or similar publication** The form is "Authors. Year. Bulletin title with only the
29 first word capitalized. The bulletin or report number. City, Province: Agency." Kangro (1986) is an
30 example.

31 **WEB site** Referencing WEB sites is discouraged because they come and go. However, if you do
32 chose to reference a WEB site, use the following form. "Authors. Year. Title of site. WEB site URL.
33 (Date accessed)." Canadian Shipping Act (1983) is an example. You should make a hard copy of
34 the WEB site material to keep in your files so that readers can contact you for the information if the
35 site is no longer accessible.

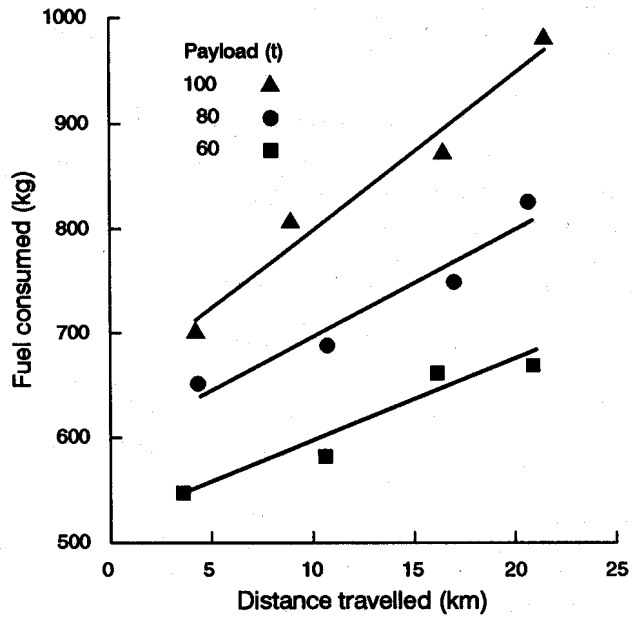
36 **Personal communication** Personal communications should not be listed as a reference; they should
37 be put in the text in the form (Initials Last Name, title, address). It is important to include the
38 person's title so that readers can judge the person's authority on the topic.

39 **ACKNOWLEDGMENTS**

40 Acknowledgments are generally limited to those persons who have made a significant contribution
41 to the research, the paper, or both.

REFERENCES

- 1
2 Canadian Shipping Act. 1983. Grain Cargo Regulations. <http://www.tc.gc.ca/actsregs/csa-lmmc/csa24.html> (2001/09/13).
3
4 Deshpande, S.S., M. Cheryan, K.S. Shridhar and D.K. Salunkhe. 1984. Freeze concentration of fruit
5 juices. *Critical Reviews in Food Science and Nutrition* 20(3): 173-248.
6 Edwards, L.M. and J.R. Burney. 1988. Erosion of soil under frozen and freeze-thaw conditions. In
7 *Proceedings XIX International Erosion Control Association*, 355-366. New Orleans, LA. February
8 25-26.
9 Edwards, L.M. and J.R. Burney. 1989. The effect of antecedent freeze-thaw frequency on runoff and
10 soil loss from frozen soil with and without subsoil compaction and ground cover. *Canadian Journal*
11 *of Soil Science* 69:799-811.
12 Enright, P. and C.A. Madramootoo. 1988. A comparison between the curve number method and
13 the Green-Ampt equation for predicting excess rainfall in Quebec. ASAE Paper No. NAR-88-403.
14 St. Joseph, MI: ASABE.
15 Heldman, D.R. and R.P. Singh. 1981. *Food Process Engineering*, 2nd edition. Westport, CT: AVI
16 Publishing Company Inc.
17 Kangro, A. 1986. Load measurements in bunker silos for silage. Report 48. Lund, Sweden: Division
18 of Agricultural Building Technology, Swedish University of Agricultural Science.
19 Lambert, J.R., C.W. Doty and V.L. Quisenberry. 1981. Irrigation scheduling in humid areas. In
20 *Proceedings Irrigation Scheduling Conference*, ASAE Special Publication 23-81, 132-143. St.
21 Joseph, MI: ASABE.
22 Schell, G.S. 1990. The application of radar measured rainfall to hydrologic modelling. Unpublished
23 M.Sc. thesis. Montreal, QC: Department of Agricultural Engineering, McGill University .
24 Thijssen, H.A.C. 1974. Freeze concentration. In *Advances in Preconcentration and Dehydration of*
25 *Foods*, ed. A. Spicer, 114-119. New York, NY: John Wiley and Sons.
26 Vigneault, C., B. Panneton, V. Orsat and G.S.V. Raghavan. 1992a. Diffuser characterization using
27 a mechanical sampler for high density clouds of bubbles. *Canadian Agricultural Engineering* 34:
28 353- 357.
29 Vigneault, C., B. Panneton and G.S.V. Raghavan. 1992b. Real time image digitizing system applied
30 to air bubble measurement. *Canadian Agricultural Engineering* 34: 151-155.



1 Fig. 1. Aviation fuel consumption by the model
 2 KS35 driver as a function of distance
 3 travelled and payload carried. The lines
 4 represent the least-squares linear fit to
 5 the data.