Instructions for preparing a paper for *Canadian Agricultural Engineering**

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ABSTRACT

This paper is set out in the form that should be used for submitting papers to the *Canadian Agricultural Engineering* journal. The abstract should be informative and summarize the major findings. 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 optional.

Keywords: paper, publication, figures, equations, references

Cet article présente la forme que devrait avoir les articles soumis à la Revue de l'Association Canadienne du Génie Rural. Le résumé doit être instructif et rapporter les principales conclusions. 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 es optionnelle.

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 adjusted, 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 typed double-spaced on 216 x 279 mm (8.5 x 11) paper with margins not less than 25 mm. Manuscript with numbered lines is highly preferred.

When submitting the paper, six copies should be sent directly to the editor. There should be a covering letter giving the full address, the telephone number, the fax number, and E-mail address, if available, of the corresponding author. Corresponding author should be a "permanent" member of the institution or organization. By the time that the publication is in the galley proof stage, "temporary" members such as graduate students and post doctoral fellows often have moved on and are difficult to contact. Final submission, after the review process, must be on diskette produced by a word processing system (MS-DOS WordPerfect preferred, but MacIntosh systems are accepted).

Abbreviations and symbols

Be sure that abbreviations and nomenclature are consistent throughout. Define the 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.

The following list represents the style of abbreviations that should be adhered to when abbreviations are needed (In general, use of abbreviations is discouraged in the text.):

1. In a series of measurements, give the unit at the end; i.e., 2 to 10°C; 3, 6, and 8 mm.
2. Do not begin a sentence with an abbreviation, acronym, or symbol. If a sentence must begin with a number, spell out the number and the unit of measure, for example: Ten millimeters, not Ten mm.
3. A word or phrase to be abbreviated must be spelled out the first time used in the text, followed by the abbreviation in parentheses. Abbreviations can then be used for subsequent citations.
4. The coefficient of variation or coefficient of variability is abbreviated CV. Do not abbreviate mean, mode, and median.
5. The Latin name of a biological organism should be spelled out the first time it is used in the abstract and in the text. After the first time, use the first letter of the genus and spell out the species. Also, they should be italicized, e.g.: *Cryptolestes ferrugineus* (Stephens). If your printer cannot italicize, then use underline.
6. Use single quotes (') for cultivars such as 'Katepwa' wheat.

Figure, table, and equation numbering

Figures, tables, and equations should all be numbered separately and consecutively in the paper (e.g. Fig. 1, Table III, Eq. 9). Table numbers are in Roman numerals. Note that the abbreviations Fig., Figs., Eq. and Eqs. are used unless they are the first word of a sentence.

*This paper has been reviewed by several people, but is not be be considered a refereed paper.

Units of measure

Use appropriate SI unit symbols (m, L, kg, W, J, N, Pa, t, s, h, d, °C, K, wk, yr) and prefixes (m, μ, k, M, G). Note that all these prefixes are factors of 10^3. **Do not use centimeters**. For reporting dollar amounts use Can$ or US$.

Capitalization

Use capitals for the following items:

1. Geographic regions or sections, for example Western Europe.
2. The first letter of genera, family, order, etc., but not species.
3. Trademarked names, but not adjectives derived from them.
4. The first word after a colon, if it begins a clause not logically dependent on the preceding clause.
5. Capitalize first character of **only the first word** in figure axes labels and table headings and sub-headings.

Time

Number the hours consecutively 1 through 24. The day begins at 0000 and ends at 2400. For example:

- 4:00 a.m. = 0400 h
- 10:43 p.m. = 2243 h

Numbers

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

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

- 5 g
- 37%
- 4.12×10^6
- 16 mm
- 27°C
- -11.43×10^{-6}
- 20 ha
- 3.0 MW
- 0.52 Gt

Integers one through nine in a sentence and not followed immediately by an SI unit of measure symbol are spelled out, while integers 10 and over generally appear as numerals. If you are using a series of integers within a sentence, any of which is 10 or over, use all numerals. For example:

> There were nine compounds used to create the substance.
> The system consisted of 231 parts.
> The substance contained 2 parts magnesium, 12 parts copper, and 8 parts of lead.

For expressing large dollar amounts, spell out million or billion, but not thousand or hundred. for example: five million US dollars, Can$ 100.

Commas

Use the serial comma as in, "mean, median, and mode" - not as in, "mean, median and mode."

Footnotes

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

EQUATIONS

Display all important equations on separate lines with consecutive numbers enclosed in parentheses [e.g. (3)] and placed at the right margin to facilitate reference within the manuscript and by other authors who may cite your research. Less important equations may be incorporated within a sentence as part of the text. Write simple fractions with the solidus (slash) e.g. a/b, and for long expressions use built-up equations to improve the readability. For example, use the built-up equation as shown in Eq. 1 rather than z = (ax + by)/(cx + hy):

$$z = \frac{ax + by}{cx + hy} \tag{1}$$

Break equations, when necessary, before the operational signs:

$$F = \int_v \frac{1}{2}\left[rK_{rr}\left(\frac{\partial T}{\partial r}\right)^2 + rK_{zz}\left(\frac{\partial T}{\partial z}\right)^2 - 2r\left(Q - \rho c\frac{\partial T}{\partial t}\right)T \right] dV + \int_{s_2} qT\,dS + \int_{s_3} \frac{h}{2}\left[(T - T_\infty)^2\right] dS \tag{2}$$

where:

r, z = cylindrical coordinate directions (m),
K_{rr}, K_{zz} = thermal conductivities of medium in r and z directions, respectively ($W \bullet m^{-1} \bullet K^{-1}$),
T = temperature at any time and position in object (K),
ρ = density of material (kg/m^3),
c = specific heat of material ($J \bullet kg^{-1} \bullet K^{-1}$),
Q = internal heat generation per unit volume within the body (W/m^3),
etc. . . . .

or at a major bracket:

$$[C^{(e)} = 2\pi\rho c \int_A [(R_iL_1L_1 + R_jL_1L_2 + R_kL_1L_3) (R_iL_2L_2 + R_kL_2L_3) (R_iL_1L_3 + R_jL_2L_3 + R_kL_3L_3)] \begin{Bmatrix} R_i \\ R_j \\ R_k \end{Bmatrix} \begin{Bmatrix} L_1 \\ L_2 \\ L_3 \end{Bmatrix} [L_1\ L_2\ L_3]\,dA \tag{3}$$

Align the relational signs vertically in a series of equalities or inequalities, as in the following:

$$\begin{aligned} Y_{0.5} &= 28.6W\,(Gr^{-0.282})\,(x/W)^{0.4} \\ &= 28.6\,(0.010)\,(1.19E4)^{-0.282}\,(2.7/0.010)^{0.4} \\ &= 0.19 \end{aligned} \tag{4}$$

FIGURES

Data should be presented in only one form: figure, table, or text. Figures are normally used to show trends, while tables are used when the numerical values of the data are more important. Illustrations and tables attract the reader's attention and clarify the text, but should not be included unless discussed in the text. Avoid using hand lettering. If possible, use a drawing package such as DrawPerfect, Lotus Freehand, or one that can export a CGM (metafile) graphic. Include the graphics on the diskette when the final draft of the paper, after review, is being submitted for publication. **DO NOT BURY THE GRAPHICS WITHIN THE TEXT OF THE PAPER.** Submit each graphic as a separate file.

Figure captions

Every figure must have a caption. The caption should be a brief but complete explanation of the figure. All captions should be simple, clear, and direct. Captions should be typed as a list of "**FIGURE CAPTIONS**" at the end of the paper and not placed within the body of the text nor included on the figure itself. Figure 1is an example.

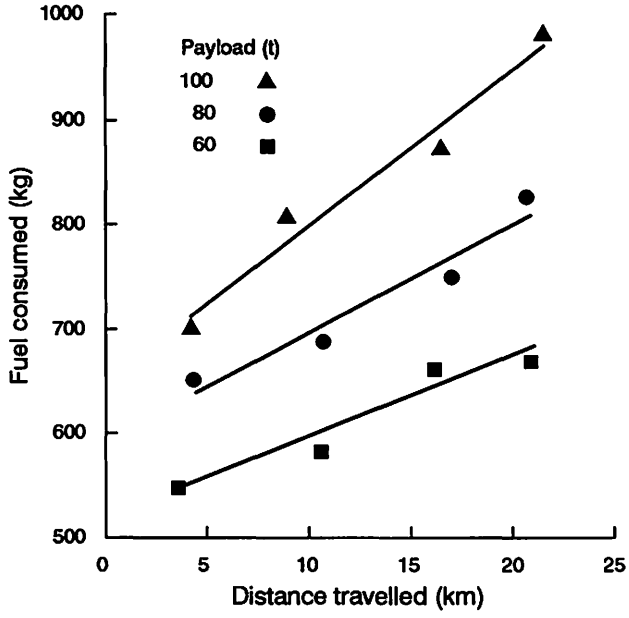

Fig. 1. Aviation fuel consumed by the model KS35-2 driver as a function of distance travelled and payload carried. The lines represent the least-squares linear fits to the data.

Figure axes

When drawing graphs, note the following:

1. Make the figure approximately "square".
2. Draw the axes only; do not "box in" the graph.
3. Capitalize only the first character of the axis label.
4. Units should be in parentheses. If the axis label includes a symbol such as "T", the form should be "Axis label, T (units)".
5. Letter sizes for the axes labels should be 3% of the width of the figure. All other letters (axes values, descriptions on the graph, etc.) should be 2.5% of the width of the figure. These letter sizes will reduce to an appropriate size when the figure is reduced to one column width in the journal.

Axis value interval The number of labelled intervals on an axis should be limited to five to eight, otherwise the graph appears too cluttered. Use the following as a guide for choosing the axis value interval (use Fig. 1 as an example):

1. Take the range and divide by 5 [x axis: (21-3)/5=3.6]
2. Choose an axis interval near the value from 1., but limit intervals to 1, 2, 4, 5, 8, (preferably 1, 2, 5) or multiples of 10 thereof. Choose the interval so that there will be 5 to 8 intervals on the axis. [Use x axis intervals of 5; this will give axis values of 0, 5, 10, 15, 20, 25. Intervals of 4 would also be reasonable (0, 4, 8, 12, 16, 20, 24).]
3. If at least two leading intervals are empty of data, these leading intervals **may** be truncated. [Consider the y axis where the range is 540 to 980. Range/5 = 440/5 = 88. Choose an interval of either 80 or 100. If 80 is chosen, the intervals would be 0, 80, 160 ... 480, 560, 640, 720, 800, 880, 960, 1040. The intervals up to 480 (6 intervals) would be empty and should be truncated. If an interval of 100 was used, the intervals would have been 500, 600, 700, 800, 900, 1000. Note that the truncated axis always starts on some multiple of the axis interval (e.g. 6 x 80, 5 x 100).]

If there are a number of graphs of similar data, use the same axes intervals for all graphs if possible.

TABLES

Tables should be planned for maximum effectiveness and clarity. Tables should bear a significant relationship to the topic under discussion and be cited in the text. The title should appear directly above the table. Horizontal rules should be used to separate column headings and column subheadings. Avoid using vertical rules. Each table should be typed on a separate page at the end of the paper. See the example at the end of the paper.

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 the 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; Thijessen 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. (1992b, 1992c) are two papers published by the same authors in a single year. Vigneault et al. (1992a, 1992c) are two papers published by Vigneault as the first author, along with at least two other authors, in the same year.

The reference list

All references are listed under a major heading of "**REFERENCES**" at the end of the paper, but before any appendices, or list of symbols, tables, or figures.

References are listed in alphabetical order beginning with the first author. If the first author has a number of references and there are second or more authors, these references will be subsorted alphabetically according to the last name of the second author followed by subsorting by third author, etc., if necessary. If two or more references have the identical author listing, then these references are subsorted by date with the earliest reference appearing first.

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 CSAE or ASAE for the two Societies. **All journal names are spelled out in full.**

The names of published books, including published proceedings of conferences, and journal names are printed in italics. If you do not have the use of italics, use the underline instead.

Examples of references

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

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

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

Paper not in a journal or proceedings Typically these are ASAE or CSAE papers presented at conferences. The form is "Authors. Year. Title of paper with only the first word capitalized. Paper number. City, Province: Society." Enright and Madramootoo (1988) is an example.

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

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

Paper in a conference proceedings If there is a sponsoring organization that has an address, the form is "Authors. Year. Paper title with only the first word capitalized. In *Title of the Proceedings*, identifying publication number, first page of paper-last page of paper. City, Province: Sponsoring Organization." Lambert et al. (1981) is an example. If there isn't a sponsor or if the sponsor doesn't have an address, the form is "Authors. Year. Paper title with only the first word capitalized. In *Title of the Proceedings*, first page of the paper-last page of the paper. City, Province where the conference was held, Month days. Edwards and Burney (1988) is an example.

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

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Acknowledgements are generally limited to those persons who have made a significant contribution to the research, paper, or both. For example, we thank W.E. Muir, Department of Biosystems Engineering, University of Manitoba for critical evaluation of this manuscript.

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Table I: Mean friction coefficients and standard deviations of 'Katepwa' wheat at four moisture contents on three surfaces and at three lateral pressures

Surface	Moisture content (% wb)	Pressure (kPa)					
		10		30		50	
		Mean	S.D.†	Mean	S.D.	Mean	S.D.
Perpendicular*	13.0	0.247 aw	0.0115	0.244 aw	0.0074	0.270 bw	0.0199
	15.4	0.256 ax	0.0070	0.275 bx	0.0060	0.273 bw	0.0112
	16.5	0.260 ay	0.0083	0.285 by	0.0127	0.309 cx	0.0174
	19.4	0.427 az	0.0269	0.471 bz	0.0254	0.474 by	0.0537
Parallel**	13.0	0.156 aw	0.0081	0.178 bw	0.0089	0.190 cw	0.0067
	15.4	0.191 ax	0.0114	0.241 bx	0.0190	0.295 cx	0.0383
	16.5	0.289 ay	0.0183	0.303 by	0.0168	0.324 cy	0.0215
	19.4	0.416 az	0.0318	0.441 bz	0.0329	0.420 abz	0.0436
Galvanized steel***	13.0	0.160 aw	0.0080	0.144 bw	0.0042	0.148 cw	0.0040
	15.4	0.178 ax	0.0116	0.172 bx	0.0055	0.186 cx	0.0154
	16.5	0.210 ay	0.0100	0.214 ay	0.0087	0.232 by	0.0033
	19.4	0.340 az	0.0248	0.352 az	0.0227	0.409 bz	0.0220

†S.D. = standard deviation based on n = 27, unless noted otherwise [α (n = 9); β (n = 26); γ (n = 18)].

*Unsanded spruce plywood with wood-grain perpendicular to the motion of seed.

**Unsanded spruce plywood with wood-grain parallel to the motion of seed.

***Well worn galvanized steel.

Means followed by same letter for rows (a, b, c) or columns (w, x, y, z) within each surface are not significantly different (P > 0.05). Duncan's multiple range test.

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