

Better Crops with Plant Food – Style Notes – 2010 Edition

Better Crops with Plant Food (BC) magazine is published quarterly (four times each year) by the International Plant Nutrition Institute (IPNI). This publication is unique in many ways, and thus has its own set of style guidelines. Prospective authors of articles for BC are encouraged to follow these suggestions. If there are questions, please contact the Editor at IPNI, or an appropriate IPNI staff member. See the website at: www.ipni.net/bettercrops

Background

Better Crops with Plant Food is not a peer-reviewed academic journal, nor is it intended as a popularized consumer magazine for the general public. The BC audience includes a diverse cross section of readers involved in agronomic research, education, marketing, production, and related fields. Many BC readers work as crop advisers, in soil and water conservation activities, in university and extension responsibilities, and as industry and dealer representatives. The readership also includes students, some farmers, and others.

The purpose of BC articles is to present information originating from agronomic research in a condensed, interpretive style. Readers with a range of educational backgrounds should be able to quickly comprehend the highlights and understand the significance of the subject matter.

BC does not accept advertising, and thus does not offer a rate card or editorial calendar. BC does not encourage or accept articles offered by public relations agencies or freelance authors.

In general, articles should be submitted at least 2 to 3 months ahead of expected publication date. Articles should not be submitted directly to the editorial offices at IPNI headquarters. Instead, manuscripts should originate through communication between an IPNI Regional Director, Deputy Director, and/or Group Vice President and a researcher or other potential author. After the appropriate Regional Director and Group Vice President have approved a proposed article topic, both will also review the content before passing the article and related material on to the Editor.

Authors will be given opportunity to verify any edits or other changes to articles during the formatting process. Complete contact information should be provided by the author, including e-mail address.

Guidelines

Following are some key points related to BC style.

Abbreviations: Preferred abbreviations for BC articles are listed on a separate page.

Units: This may be considered an unusual style policy, but BC publishes some articles in metric units and some in units commonly used in the USA. In an effort to be “reader friendly”, the units used in an individual article should be those common to the region associated with the topic. For example, an article on rice yields in Southeast Asia would use metric units such as kg/ha, while an article on corn yields in Iowa would use units such as bu/A. A conversion chart is provided in each issue. This publication does not use SI units in articles.

Article Length: In general, about 1,000 words (or less) should be adequate for most topics as BC articles, with accompanying tables, figures, photographs, or other illustrations.

Title: The title should be descriptive, but brief. While sensationalized titles are not appropriate for BC, we suggest that authors try to avoid a title that reads like a dull, dusty label.

Author Information: A byline showing the name(s) of the author(s) should appear immediately after the title. Given names may be spelled out or abbreviated. Further information about the author(s) should be listed at the end of the article. This should include the title, affiliation, and location of each author. The e-mail address of the corresponding author(s) should be indicated. In some circumstances, the e-mail address of each author may be included.

Synopsis: Each article submitted to BC should include a brief, one paragraph summary statement which interprets the key message of the article.

Paragraphs: A series of short, descriptive paragraphs should lead the reader through an explanation of the work, general discussion of experiments and procedures, and implications of results. Note practical applications and possible future developments. Subheadings can be helpful.

Summarize: Wrap up the article in a practical statement. Give the reader a conclusion to remember and use.

Statistics, Numbers, and Rounding

BC does not require extensive presentation of statistics with articles. However, any data presented in tables and figures should be supported with appropriate statistics. Whenever statistics are used, the level of significance should be indicated as $p = 0.05$, $p = 0.01$, etc.

Limit significant figures in text, tables, and illustrations depending on the units reported and the accuracy of the measuring method or instrument. *For example, it is appropriate to report soil organic matter as 3% or 3.2%, but not 3.21%. Indicate soil pH as 6.5, not 6.52 or 6.523. Percentage yield increase could be 115%, but not 115.4%. In metrics, grain yield should be 3,145 kg/ha, not 3,145.3 kg/ha; or 3.14 t/ha, not 3.145 t/ha. Soil test results should be rounded to 15 mg/kg or 15 ppm, not 15.3. For example, fertilizer application rate should be 150 kg K_2O /ha, not 150.5.*

Keep in mind that the numerical value of every measurement is only an approximation, and no physical measurement of mass, volume, or other parameter is ever absolutely correct. Reported data should not include more digits than those measured. *For example, reporting a mean of 12.345 kg from observations made with a scale that weighs to the nearest hundredth of a kilogram would create false precision.*

A value can be rounded off to the appropriate number of significant figures by dropping digits to the right. When the first digit dropped is < 5 , the last digit retained should remain unchanged. When the first digit dropped is ≥ 5 , the last digit retained should increase by 1 if it is odd or remain unchanged if it is even.

For example, if the above mean of 12.345 kg must be rounded to hundredths of a kilogram, drop the last digit to the right. The first digit dropped will be 5 and the last digit retained remains unchanged because it is even. The mean will be 12.34 kg. If rounded to tenths of a kilogram, the next digit dropped will be 4 and – because it is less than 5 – the last digit retained will remain unchanged. Therefore, the rounded-off mean is 12.3 kg.

Numerals: It is a fairly universal style or convention to use numerals where practical to indicate values of units of measure, such as 100 bu or 500 ha. *Better Crops with Plant Food* style preference is to extend this rule and use numerals instead of spelling out numbers in broader usage.

For example, say 8 bu/A instead of eight bu/A; 9 kg/ha instead of nine kg/ha.

This more abbreviated style should be applied to situations such as time (hours, days, months, years, etc). *For example, say 4 site-years instead of four site-years; 7 hours instead of seven hours.*

However, in many situations the standard style is to spell out numbers from one through nine, then use numerals for 10 and above. *For example, four researchers and 12 farmers attended.*

Subscripts: Authors should include proper subscripts and superscripts where appropriate for expressions such as P_2O_5 and K_2O . Where the ionic form of an element is used,

it should appear with the correct charge indicated, such as NO_3^- , NH_4^+ , SO_4^{2-} , or Ca^{2+} .

Currency Codes: When necessary to indicate that a monetary value is presented in a specific currency, use the International Organization for Standardization (ISO) 4217 code list. This is a system of three-letter codes now commonly used by banks and other businesses instead of various ambiguous currency symbols. Here are examples of some of the codes: USD = United States dollar; CAD = Canadian dollar; AUD = Australian dollar; BRL = Brazilian real; CNY = Chinese Yuan; FRF = French franc; INR = Indian rupee; MXN = Mexican peso. As an example, instead writing US\$75.50, this value would now be written as USD 75.50; instead of C\$75.50, the new style would be CAD 75.50. Since this style may be less familiar to some, it would be useful to include the description of the currency code in the “Abbreviations and notes” section of the article.

More background and a current listing of currency codes can be found at: http://en.wikipedia.org/wiki/ISO_4217

References

While references are allowed with articles for BC, we discourage excessive lists. Also, BC uses an abbreviated style in reference lists, a form of the author-year notation system. For example, in citing a reference from a periodical at the end of the text of a BC article, the title of the article should not be included. Here is an example of a typical citation:

Bordoli, J.M. and A.P. Mallarino. 1998. *Agron. J.* 90:27-33.

BC style also limits the number of authors to be named in a reference within the text of an article. Where more than two authors are associated with a reference, BC style is as follows: Name the first author, then use “et al.” to indicate that there are additional authors not listed. However, all authors should be named in the reference list at the end of the article (special circumstances may require an exception to be determined by the Editor). Here are some additional guidelines related to references.

1. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked by the author(s) to ensure that the spelling of names and indication of dates are exactly the same in the text as in the reference list.
2. In the text, refer to the author’s name (without initial) and year of publication. *Examples: “Since Johnson (1988) has shown that...” “This is in agreement with results obtained later (Welch, 1989).”*
3. References cited together in the text should be arranged chronologically. The list of references should be arranged alphabetically by author’s names, and chronologically per author. References should not be numbered.
4. Acknowledgments are generally not encouraged with BC articles.

Example of Better Crops with Plant Food Style Elements

Region—Indicate the geographic area, such as North America, Brazil, China, etc.

Headline—The title should be concise and descriptive.

Name of author(s)—Given names may be spelled out.

Synopsis paragraph—An opening summary statement is required at the beginning of each article.

Photos—Images may be provided as either high resolution digital (tif or jpg preferred) or as prints or color slides. Provide images as separate files...do not embed in Word file with text.

Text—State the key information. Avoid complex sentences. Use subheads when appropriate.

If using figures (graphs, charts)—Provide figures as separate files. Do not embed them with the article text. Include the data used to create graphs when possible and practical.

For major nutrients and frequently used expressions—List abbreviations in a box to reduce the need for parenthetical notes in the article.

Tables—Generally, two or three tables should be sufficient. More may be allowed, but avoid large, complex tables. Tables should be regular text or created with the Word table function. Tables in the form of scanned images or non-text files should not be embedded in the Word file. Tables should appear at the end of the file. See further comments about tables with page illustration on the next page.

Region
Headline

NORTH AMERICA

Corn Response to Intensive Crop Nutrition

By Bill Deen, John Lauzon, and Tom Bruulsema

A 5-year study of a corn/soybean rotation in Ontario, Canada, shows that increasing inputs above recommended levels significantly increases yield and changes physiology. Transforming physiological changes into economically and environmentally sustainable yield increases will require further research.

Author(s) →

Synopsis →

Text →

Tables →

Photos ←

Abbreviations and Notes ←


Rising global needs for food, fuel, and fiber are driving up the demand and prices for corn. At the same time, the world's people want to limit the impact of cropland on the natural environment, both by limiting the expansion of cropland and the effects of crop production on water quality. These goals require research exploring intensive management for increased yields.

For the past 5 years, we monitored a corn/soybean rotation with varied management levels in a producer's field in south-central Ontario. Our objective was to assess changes in yield and physiology in response to intensive management and its interaction with high rates and deep placement of K fertilizer. Part of the goal was to determine the feasibility of manipulating input levels to increase yields closer to the genetic potential of current corn hybrids.

The main hypothesis we wanted to test was whether response to higher K inputs would increase with higher overall input levels and yields. The trial consists of seven management combinations: three varying K rates at the producer's level of inputs (which are generally close to recommended practices for Ontario), and four at an intensive input level, varying both K rates and placement of P and K fertilizers. Details of the applied treatments are shown in **Table 1**.

The soil is a London loam with good drainage. Soil pH was 7.5, and soil test P and K levels were 8 ppm Olsen P (low), and 107 ppm ammonium-acetate extractable K (medium). The first five treatments used the same conservation tillage practice of the producer: fall chisel plow with spring secondary tillage. The last two treatments used fall zone tillage followed by spring zone tillage. All plots consisted of strips the full length (1,000 to 1,500 feet) of the field; eight rows wide, with two hybrids in each: Northrup King 3030 Bt and Pioneer 38A25. The site was rated as having 2850 Ontario Crop Heat Units, roughly equivalent to 1,800 growing-degree-days.

Yield increases in response to the management levels imposed were modest. While the differences were significant statistically ($p < 0.05$) and indicated interesting changes in corn



For the field scale research on sustainable intensification, this photo of 2004 harvest shows an AGCO R42 combine equipped with a Juniper Systems Inc. High Capacity Grain Gauge.

physiology, no combination of input intensity and K rates was more economically viable than the producer's current level of management (treatment 2), even with the high corn prices prevailing in early 2007. Nevertheless, average yields at the high K level were consistently higher than those at the grower's K level over all 5 years (**Figure 1**).

The intensive treatments produced higher yields than the control (**Figure 2**). Differences were largest in the third and fifth years. While both K and input intensity generally increased yields, we found no evidence of interaction between the two factors. There was no greater requirement for K with higher input intensity.

Averaged over the 5 years, fall zone tillage did not differ from fall chisel plowing, but in 2004 it produced lower yields and in 2005, higher yields (**Figure 2**). This interaction with years indicates that the relative benefit of tillage method and nutrient placement depends on the growing season.

While we have not yet been able to assess the full environmental impacts, the intensive treatments did not result in higher soil residual NH_4^+ and NO_3^- levels following the 2006 harvest (**Table 2**). Treatment means were not significantly different at

Table 1. Fertilizer, seed, and tillage management treatments applied for corn.

Treatment	Fertilizer N-P ₂ O ₅ -K ₂ O, lb/A				Seeds per acre
	Fall	Seed-placed	Starter	Side-dress	
1. Control, zero K	—		10-50-0	120-0-0	130-63-3
2. Control, grower K			10-50-27		130-63-30
3. Control, high K	0-0-150 ¹	3-13-3			130-63-180
4. Intensive, grower K	0-117-0 ¹				250-180-30
5. Intensive, high K	0-117-150 ¹				250-180-180
6. Intensive, zone-till, grower K	0-117-0 ²		36-50-27	210-0-0	250-180-30
7. Intensive, zone-till, high K	0-117-150 ²				250-180-180

¹ Broadcast before fall chisel plow tillage to 6 in. depth. ² Placed 10 in. deep with fall zone tillage. Error bars represent least significant difference at the 5% level of probability.

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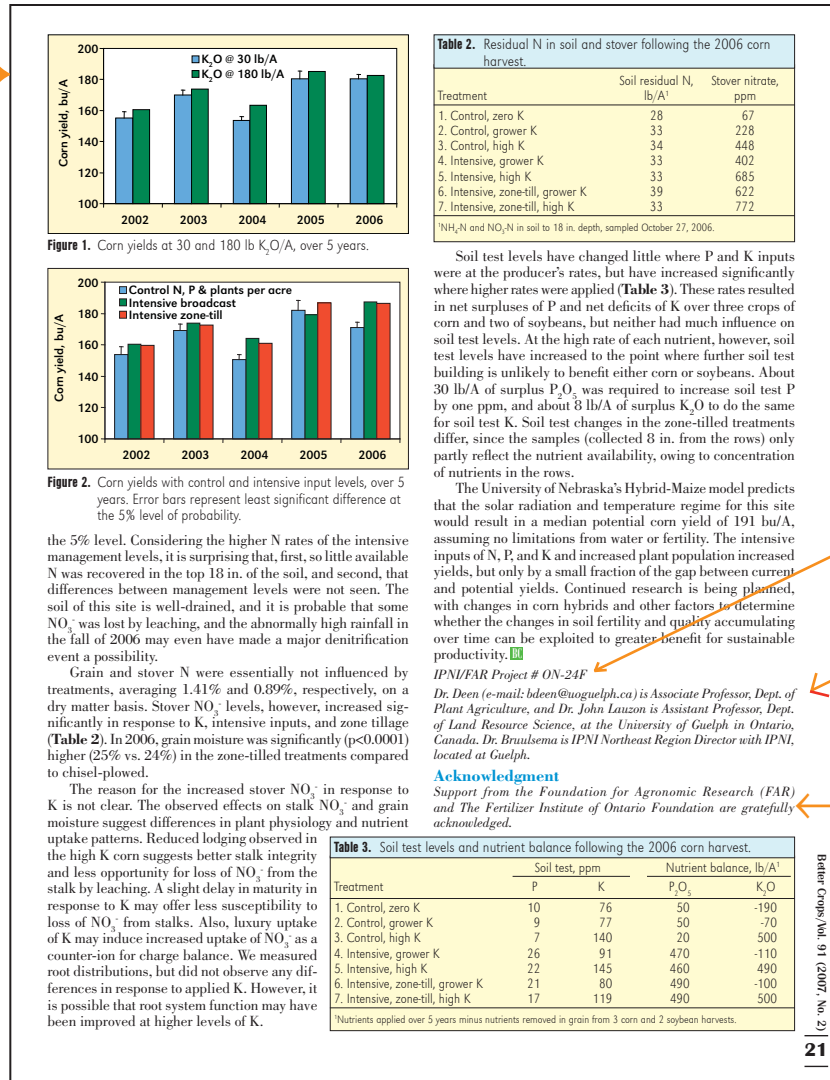
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Guidelines for Tables of Data in BC Articles

- Heading should be concise and descriptive.
- Use standard abbreviations in column headings and for units.
- Generally, align data at the decimal point.
- While statistical significance information is not required, it can be included if deemed appropriate.
- Level of significance should be indicated, such as $p = 0.05$.

Figures

Note: Do not embed figures (charts, graphs) with the article text when the manuscript is submitted. Provide as separate files.



If the article is related to an IPNI or FAR research project, add the project number at the end.

Author information should include affiliation, location, and e-mail address.

Acknowledgments are discouraged, and should be very brief if included.

References

If references are included, show author name(s), year of publication, and source. Do not include title of article.

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