

## Manuscript Structure

- A. A Detached Leaf Technique for Studying Race-specific Resistance to *Cladosporium caryigenum* in Pecan
- B. Patrick J. Conner<sup>1,2</sup>
- C. <sup>1</sup>Department of Horticulture, University of Georgia, Coastal Plain Experiment Station, 4604 Research Way, Tifton, GA 31793
- D. Footnotes
1. <sup>2</sup>Corresponding author email: pconner@tifton.cpes.peachnet.edu
  2. I thank William Goff for help in obtaining the pathogen isolates used in this work.
  3. This paper was originally presented at the 20xx meeting of the Florida State Horticultural Society
- E. *Additional index words.* *Carya illinoensis*, scab, vertical resistance, fungus, microscopic, histology, stain, trypan blue, chlorazole black E
- F. *Abstract.* A detached leaf screening technique was developed for studying specific interactions between pecan [*Carya illinoensis* (Wangenh.) C. Koch] cultivars and isolates of the pecan scab fungus *Cladosporium caryigenum*. Monoconidial isolates were obtained from leaf scab lesions on ‘Wichita’, ‘Desirable’, ‘Cape Fear’, and ‘Elliot’. Each isolate was then inoculated onto detached leaves of each of the four cultivars and fungal growth was observed under the microscope after eight days. ‘Wichita’, ‘Desirable’, and ‘Cape Fear’ isolates produced subcuticular hyphae at a much higher frequency when inoculated back onto the cultivar from which they were isolated in comparison to the other cultivars. The results obtained indicate that pecan scab is composed of multiple races with a high degree of specificity for host cultivars. A

rapid whole-leaf staining system is presented which appears to have wide applicability to assessing fungal growth in leaves.

#### G. The Article:

1. Pecans [*Carya illinoensis* (Wangenh.) C. Koch] are attacked by a wide range of pathogen and insect pests which cause substantial crop losses. In the humid growing conditions of the southeastern United States, the most economically damaging pest is the fungus *Cladosporium caryigenum* which causes pecan scab. Scab infection reduces both yield and quality of nuts, and if uncontrolled results in total crop loss (Sanderlin, 1994).

#### 2. Materials and Methods

*Isolate preparation.* Isolates were obtained from each of the four cultivars; ‘Wichita’ (Wi-Tif-2), ‘Desirable’ (De-Tif-3), ‘Cape Fear’ (Cf-Au-2), and ‘Elliot’ (El-Au-2).

Conidia from individual lesions were suspended in a drop of water and spread across a petri dish containing 1% water agar. Plates were incubated at room temperature for 24 h and then single germinated conidia were transferred to potato dextrose agar containing the antibiotics streptomycin, chloramphenicol, and tetracycline at 50 g·L<sup>-1</sup>. Plates were placed in a growth chamber set at 24 °C with a 12-h photoperiod provided by fluorescent lights (115 μmol·m<sup>-2</sup>·s<sup>-1</sup>) for 2 weeks. After 1 to 2 weeks growth, conidia were harvested and the concentration adjusted to 1 × 10<sup>6</sup> conidia/mL of water with a hemacytometer.

#### 3a. Results

At 4 d PI conidia had germinated and formed germ tubes and appressoria on leaves of all four cultivars. Inoculating Wi-Tif-2 conidia on to ‘Wichita’ leaves showed over 40% (Fig. 1A) of the conidia penetrating the cuticle underneath the appressorium and

producing clearly visible subcuticular hyphae between the cuticle and epidermal cell layer. Field inoculations validated the results from the detached leaf study in that the greatest infection frequency resulted from inoculation of a cultivar with an isolate obtained from that cultivar (Table 1). Isolate Wi-Tif-2 produced a large number of lesions on 'Wichita' leaves but not on the other three cultivars.

### 3b. Discussion

A detached leaf screening system is highly advantageous in this plant- pathogen system because the size of the host plant makes greenhouse and growth chamber studies difficult. Previous studies made use of a chloral hydrate-acid fuchsin staining system that requires several days to complete (Latham and Rushing, 1988; Yates et al., 1996). In summary, this research indicates that pecan cultivars display vertical or race- specific resistance to pecan scab. Results to date indicate that the scab pathogen consists of a large number of races, each well-adapted to its host cultivar. Therefore, a resistance breeding program should challenge potential new cultivars with a wide range of scab isolates in order to lower the likelihood of escapes being misclassified as resistant.

### 4. Literature Cited

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Yates, I.E., D. Maxey, S. Lee, D. Sparks, and C.C. Reilly. 1996. Developing the pecan scab fungus on susceptible and resistant host and nonhost leaves. *J. Amer. Soc. Hort. Sci.* 121:350-357.

H. Table 1. Number of scab lesions per square centimeter produced from field inoculations of four pecan cultivars with two pecan scab isolates.

Isolate	Time period <sup>z</sup> (d)	Cultivar inoculated			Elliot
		Wichita	Desirable	Cape Fear	
No. scab lesions/cm <sup>2</sup>					
Wi-Tif-2	21	1.95 a <sup>y</sup>	0.00 b	0.00 b	0.00 b
De-Tif-3	21	0.03 a	1.59 b	0.00 a	0.00 a
De-Tif-3	28	0.00 a	1.13 b	0.00 a	--- <sup>x</sup>

<sup>z</sup>Number of days between inoculation and sample counts.

<sup>y</sup>Any two means within a row not followed by the same letter are significantly different at  $P \leq 0.01$ .

<sup>x</sup>Inoculation test not performed.

I.

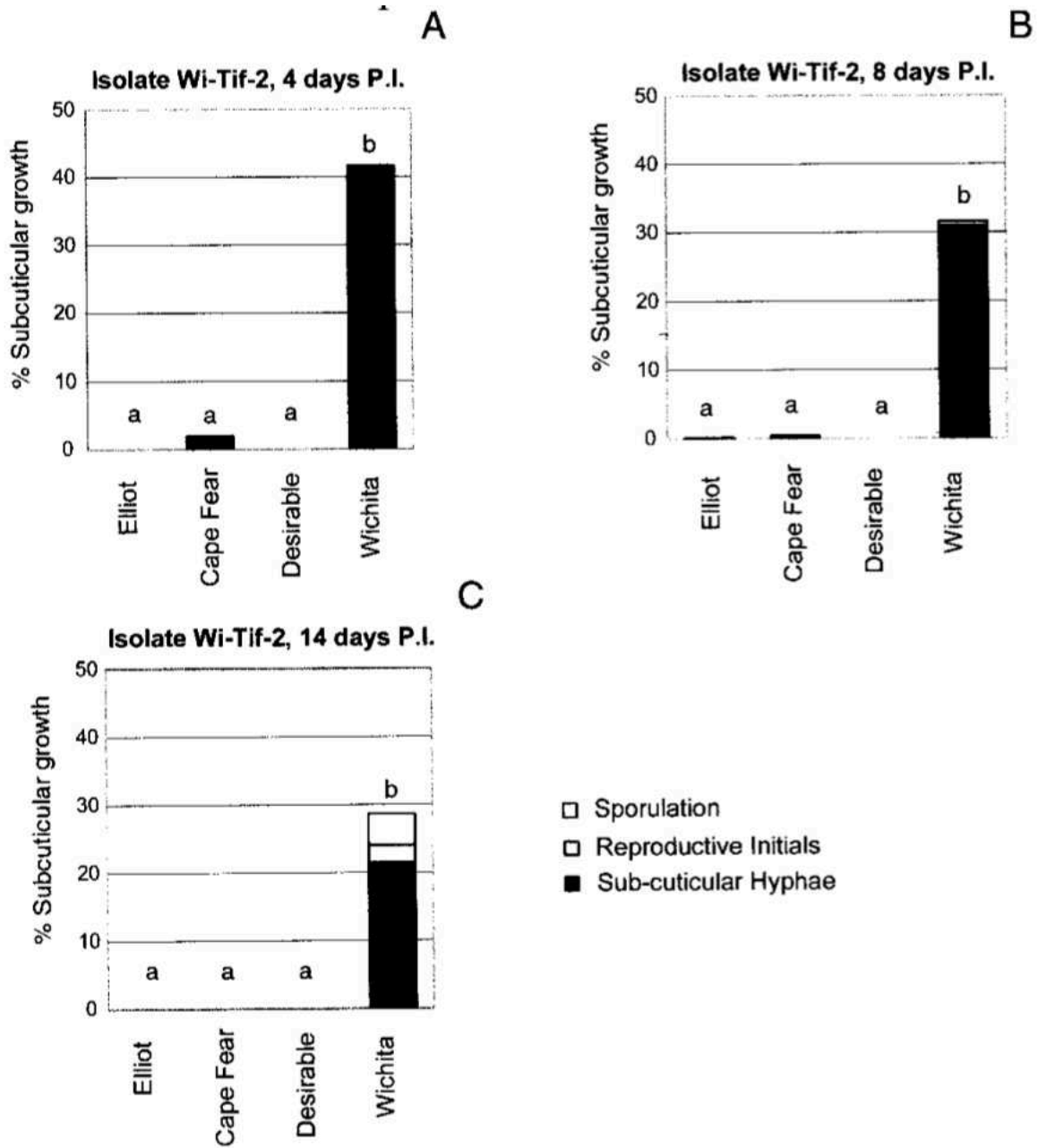


Fig. 1. Chronology of pathogen development on resistant and susceptible cultivars. Leaves of the four cultivars were inoculated with *Cladosporium caryigenum* isolated from 'Wichita'. Leaves were examined microscopically at (A) 4, (B) 8, and (C) 14 d postinoculation. The percent of the germinated conidia

producing subcuticular hyphae, reproductive initials, and sporulation were determined. Mean totals with a common letter are not different ( $P \leq 0.05$ ) by ANOVA on ranks test.

## Notes on the correct formatting of each part of the paper

### A. Title

The title of the paper should be a precise and concise description of the work performed and results gathered; it should be no longer than three typeset lines (12 to 15 words maximum). Use the most important key words of the paper to facilitate indexing and information retrieval.

- Worthless words and phrases—such as “influence of,” “effects of,” “results of,” “relies on,” “evaluation of,” “factors involved in,” and “tests on” are obvious and useless for indexing purposes.
- Binomial and authority—Give in the title of a paper only if the species is not widely known or when the common name does not unambiguously identify the organism. If the entire identification is given in the title, it should not be given elsewhere.
- Cultivar names—Provide when important (e.g., if only two *Malus* cultivars were used in a study, the title could say ‘Delicious’ and ‘Golden Delicious’).
- Common names of chemicals—Do not use full chemical names and trade or brand names in titles.
- Abbreviations and chemicals—Spell out abbreviations and chemical elements/ compounds; avoid jargon.
- Numbers—One through nine should be spelled out.
- Capitalize all words—Except for articles such as “a” and “the”; prepositions such as “of,” “in,” “on,” “during,” “between,” “after,” “before,”; and conjunctions such as “and” and “but” that are not the first word.

### B. Byline

The byline includes the name(s) of the author(s) on one line, with a concise but **complete** mailing address below. Names of authors are given according to the preferences of the author(s)—full names (not initials) are encouraged. The spelling of names of foreign authors is in the native spelling with diacritical marks (if present). Do not include degree abbreviations or professional titles as part of the author’s name; if desired, they may be footnoted.

### C. Affiliation

The address should be that of the institution (or institutions) where the research was conducted. For addresses in the United States, use two-letter abbreviations for states, followed by the ZIP code. For foreign and Canadian addresses, include city, province (Canada) (abbreviated), postal code, and country name. Give the name of the city and country in English. The byline address normally includes departmental affiliation. When authors are in separate departments at the same

institution, however, indicate this fact in footnotes on the title page. When authors are from separate institutions (or separate campuses of the same institution), indicate this fact in separate bylines, grouped by author seniority. If the author's address is different from the byline, indicate the current address as a footnote on the title page.

#### **D. Footnotes**

Footnotes (except for those in tables) must be given on the cover page of the manuscript. They will appear as a group at the bottom of the first column of the first printed page.

Unnumbered footnote—The first (unnumbered) footnote is written as a block of copy (not as individual paragraphs) and includes the following (in sequence):

- Identification of the paper as part of the institution's publication series (if applicable). Add this entry (including the number of the journal series, paper, contribution, or publication) if required by the sponsor or host institution.
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- Do not use footnotes in the text. Insert the appropriate information as a parenthetical phrase in the text. Do not footnote abstracts or additional index words.



## **E. Additional Index Words**

A list of five to seven key index words or phrases, not already used in the title, follows the byline. These words are used in the annual and cumulative indexes and for information storage and retrieval by indexing services. Include scientific names (without the name of the authority) and common names of plant species, common names of chemicals used (do not use full chemical names), and physiological and pathological terms. Spell out the same genus, even if it is mentioned more than once. The index words should be selected carefully to indicate content, not nouns selected randomly from the manuscript. Avoid general or broad words such as “yield” or “growth.”

## **F. Abstract**

The abstract should be a concise, self-explanatory, one-paragraph summation of the findings, not to exceed 5% of the length of the paper. Abstracts often are published by “extracting journals.” The abstract should be informative, rather than merely indicating what the study was about (e.g., avoid phrases such as “the results are discussed”). Do not duplicate the title in the abstract.

Include objectives of the study, the full scientific names (including the name of the authority) of organisms (unless already in the title), materials used, effects of major treatments, and major conclusions. Use specific rather than general statements. At the end of the abstract, list each chemical name used in the abstract followed by its common name or abbreviation in parentheses. If a chemical formula is used in text but not in the abstract, DO NOT include it in “Chemical Names.” Also, all measurements of time should be spelled out (e.g., days, minutes, hours, etc.)

Include only information presented in the text: The abstract must be consistent with statements in the article. Omit discussion citations, footnotes, references to tables and figures, and methods (unless the paper’s main emphasis is on methods).

## **G. The Article**

Every part of the manuscript must be double-spaced, including Literature Cited, tables, and figure captions.

### **1. Introduction**

The introduction (**without a heading**) should answer clearly and concisely the question “why was this research conducted?” It should include a statement of the problem that justifies doing the research or the hypothesis on which it is based, the findings of (and reference to) earlier work (if applicable) that will be challenged or developed, and the general approach and objectives.

### **2. Materials and Methods**

The technical and experimental methods must be described so that the work may be replicable. For materials, give the appropriate technical specifications and quantities and source or method of preparation. Give enough information to indicate how the research was conducted. Well-

known tests or procedures should be cited but not described in detail. Describe any controls and the statistical procedures. Methods papers should be detailed enough to permit replication of the work. When specific equipment is mentioned in the text, include the model number followed by the name and location (model; city, state, country) of the manufacturer in parentheses.

### 3. Results and Discussion

Present results succinctly in a format consistent with experimental design, with emphasis on main effects and significant interactions. The text and tables should discuss the topics in the same sequence. **All figures and tables must be cited in numeric order in the text.** Interpret results in the discussion.

Report and discuss only those results that are relevant to the study. The discussion should compare and explain any differences in the results within the experiment or those contrary to previous studies. Discuss any practical applications of the study and areas for future research. Speculation is encouraged, but must be firmly founded in observation and subjected to tests, and identified apart from the discussion and conclusions. Close the discussion with a brief, pertinent conclusion or interpretive statement; complex conclusions should form a separate section but generally are not necessary if the information is included in the abstract. The section on “Results” can be combined with the section on “Discussion” or they can be separate.

### 4. Literature Cited

The reference section should include only published, significant, and relevant sources accessible through a library or an information system. These include journal articles, books, theses, dissertations, proceedings, bulletins, reports, and published abstracts of papers presented at meetings.

Unpublished work, privileged data, or information received personally should be noted parenthetically in the text [e.g., “(E.D. Brown, unpublished data)” or “(J.B. Smith, personal communication)”]. Papers or manuscripts submitted to a publisher may not be used in literature citations unless the work has been accepted for publication, in which case the work may be cited as “(In press.)” at the end of the citation.

All citations mentioned in the text must be included in the Literature Cited; also, all references listed in the Literature Cited must be mentioned somewhere in the text. Check the alphabetical reference list against literature citations in the text before submitting the manuscript for publication. **When two or more citations are listed in the text, list the citations alphabetically first, then chronologically, e.g., “(Jones, 1998, 2000; Kader, 2001; Smith, 1996).”** Authors are responsible for verifying that each reference is complete, accurate, and traceable. Authors must check the original source—do not copy a reference from a previous list of citations, because the odds are that at least one error will be copied. Citations must appear exactly (misspellings included and followed by “[sic]”) as written in the original published work.

## Citation format

The FSHS (ASHS) style for listing literature citations is the Harvard system, with the last name(s) of the author(s) and the year of the publication cited in the text.

List citations alphabetically (letter by letter not word by word) by last names of authors (then initials if last names are the same) and chronologically if duplicate author names appear. Authors are listed first by senior author (last name first, followed by initials) and then additional authors (initials first).

### Examples:

Jones, B.F., T.C. Wesson, and J.E. Smith. 1998a. Hollies. Wiley, New York.

Jones, B.F., Z.C. Wesson, and J.E. Smith. 1998b. Holly berries. Wiley, New York.

If a name is followed by “Jr.” or a Roman numeral, the correct form is “Smith, Jr., B.F.,” or “Smith, II., B.F. Do not include professional and honorary titles. All authors of a reference must be listed. If an author is cited more than once, repeat the author’s name—do not substitute the underline for the author’s name. Names of foreign authors retain their native spellings and diacritical marks.

If a work has no author, give the name of the publisher or the organization (committee, agency, etc.) responsible for the work. If no authority is known, credit the work to the publisher, not to Anonymous. If an editor or editors is given, their names are followed by “(ed.)” or “(eds.),” respectively, followed by a period.

Following the name(s) of the author(s), give the year of publication (the copyright or publication date listed on the publication, not the actual release date), followed by a period. If no year is given, then either estimate the year in parentheses “(1918?)”—or indicate no date—e.g., “(n.d.)” If more than one work by the same author or set of authors is cited, list the publications in chronological order and, if the year is also identical, insert lowercase letters (in alphabetical sequence) after the date, according to the order in which they are cited in the text. All single-authored articles of a given individual precede multiple-authored articles of which that individual is senior author.

Titles should be lowercase except for the first word, proper names, or certain foreign-language conventions. Do not italicize titles except for words or phrases italicized in the title of the published work. Do not use quotation marks around titles. If an article, book, or chapter title has a subtitle (indicated by a dash, colon, semicolon, smaller type, or different typeface), place a colon before the subtitle and capitalize the first letter of the first word. Never abbreviate titles. Titles of foreign publications retain their native spelling and diacritical marks. Languages that capitalize nouns (such as German) retain their capitalization, but the rest of the title should follow style in lowercase. Do not translate foreign titles into English unless a translated copy was used. Titles that have been translated or transliterated into Roman characters should carry a parenthetical note [e.g., “(in Russian)”] before the period ending the title.

When giving the name of a publisher, use the short form, e.g., “Wiley” not “John Wiley & Sons, Inc.,” or “Macmillan,” not “Macmillan Publishing Co.”

When the publisher is a professional society, abbreviate the name. Include the location of the publisher. **When more than one location is listed for a publisher, give only the first one.**

The following is the correct spelling of several commonly used publishers:

Kluwer Academic Publishers  
Macmillan  
McGraw Hill  
Pergamon Press  
Springer-Verlag  
Wiley

Spell out all publication titles with one-word names, e.g., Ecology, Euphytica, Hilgardia, HortScience, Nature, Phytopathology, and Science. Do not italicize publication titles. Capitalize the first letter of all words, but delete extraneous prepositions and articles. Abbreviate the roots of words when they stand alone or with a prefix, e.g., Anal. Biochem. (See “Abbreviations for Literature Cited” for abbreviations of commonly used words in periodical titles.) Give the volume number in Arabic numerals, followed by the issue number (if available) in Arabic numerals in parentheses. Issue numbers are only necessary if the publication’s pages are renumbered from 1 with each issue within a volume. The pagination of the publication follows, connected to the volume number and/or issue number by a colon, and all closed up (no spaces): 96(5):645–648. Give full pagination, e.g., use “1101–1102,” not “1101–2” or “1101–02.”

Supply the abstract number or university microfilm number for dissertations available from Dissertation Abstracts or on microfilm.

Electronic citations should follow the MLA-recommended minimum format as follows.

1. Name of author, editor, compiler, or translator of the source.
2. Year of electronic publication, latest update, or posting.
3. Title.
4. Date (day, month, year) author accessed the source.
5. Complete electronic address.

### **Specific examples of citations**

Commonly used citations for publications follow. Note punctuation and abbreviation in each case.

#### **ABSTRACT**

Nesmith, W.C. and W.M. Dowler. 1973. Cold hardiness of peach trees as affected by certain cultural practices. HortScience 8(3):267 (abstr.).

## **ABSTRACT FOR HORTICULTURAL ABSTRACTS**

Gherghi, A., I. Bwrza, K. Millim, and O. Tudosescu. 1998. The behavior in controlled atmosphere storage of 'Jonathan' apples grown on different rootstocks (in Romanian). *Lucr. Stün, Inst. Cerc. Val. Leg. Fruct.* 9:71–75 (*Hort. Abstr.* 48:10310; 1978).

### **BOOK**

Hartmann, H.T., D.E. Kester, and F.T. Davies, Jr. 1990. *Plant propagation principles and practices*. 5th ed. Prentice Hall, Englewood Cliffs, N.J.

### **BOOK CHAPTER**

Brown, A.G. 1995. Apples, p. 3–37. In: J. Janick and J.N. Moore (eds.). *Advances in fruit breeding*. Purdue Univ. Press, West Lafayette, Ind.

### **BULLETIN**

Rollins, H.A., F.S. Howlett, and E.H. Emmert. 2002. Factors affecting apple hardiness and methods of measuring resistance of tissue to low temperature injury. *Mich. Agr. Expt. Sta. Res. Bul.* 901.

### **ELECTRONIC CITATION**

State of California. 2002. *California Code of Regulations, Title 3. Food and Agriculture*. Office of Administrative Law, Sacramento. 10 July 2002. <[http:// ccr.oal. ca.gov/](http://ccr.oal.ca.gov/)>.

### **PERIODICAL**

Goldberg, D., B. Cornat, and Y. Bar. 1991. The distribution of roots, water, and minerals as a result of trickle irrigation. *J. Amer. Soc. Hort. Sci.* 96:645–648.

### **PROCEEDINGS**

American Society for Horticultural Science. Tropical Region. 2000. *Proc. XVIII Annu. Mtg., Miami, 25–30 Oct. 2000.* (*Proc. Trop. Reg. Amer. Soc. Hort. Sci.* 14).

### **PROCEEDINGS PAPER**

Locascio, S.J., J.G.A. Fiskell, and P.E. Everett. 2000. Advances in watermelon fertility. *Proc. Trop. Reg. Amer. Soc. Hort. Sci.* 14:223–231.

### **REPORTS**

U.S. Department of Agriculture. 1997. *Agricultural statistics for 1996*. U.S. Dept. Agr., Washington, D.C.

## THESIS OR DISSERTATION

Reeder, J.D. 2001. Nitrogen transformations in revegetated coal spoils. Colo. State Univ., Fort Collins, PhD Diss. Abstr. 81-26447.

## ABBREVIATIONS

The following list gives some of the more commonly used abbreviations in FSHS (ASHS) literature citations (note the words that are not abbreviated). When the proper abbreviation is in doubt, spell out the word; production editors will abbreviate if appropriate. Generally, any word ending in “ology” is abbreviated “ol.” and any word ending in “culture” is abbreviated “cult.” See p. 36 for state and province abbreviations.

### Abbreviations for Literature Cited

Abstract	Abstr.	Colloquium	Colloq.
Academy	Acad.	Commonwealth	Cmwlth.
Acta	Acta	Communication	Commun.
Advances	Adv.	Conference	Conf.
Agriculture	Agr.	Congress	Congr.
Agronomy	Agron.	Contribution(s)	Contrib.
America, -an	Amer.	Cooperative	Coop.
Analytical	Anal.	Culture	Cult.
Annals	Ann.	Cytology, -ical	Cytol.
Annual	Annu.	Department	Dept.
Applied	Appl.	Development	Dev.
Archives	Arch.	Digest	Dig.
Associate(s), -ed	Assoc.	Disease	Dis.
Association	Assn.	Dissertation	Diss.
Australian	Austral.	Distribution	Distrib.
Austrian	Aust.	Division	Div.
Biochemistry	Biochem.	Ecology, -ical	Ecol.
Biology	Biol.	Economy	Econ.
Biotechnology	Biotechnol.	Education	Educ.
Botany	Bot.	Encyclopedia	Encycl.
Breeding	Breeding	Engineers, -ring	Eng.
British, Britain	Brit.	Enology	Enol.
Bulletin	Bul.	Entomology, -ical	Entomol.
Bureau	Bur.	Environment	Environ.
Canada, -ian	Can.	Experiment	Expt.
Center	Ctr.	Extension	Ext.
Chemical, -istry	Chem.	Fertilizer	Fert.
Circular	Circ.	Forestry	For.
Citriculture	Citricult.	Gazette	Gaz.
Climatology, -ical	Climatol.	General	Gen.
College	College	Genetics	Genet.

Government	Govt.	Phytopathology, -ical	Phytopathol.
Handbook	Hdbk.	Planta	Planta
Heredity	Hered.	Plantae, -arum	Plant.
Horticulture, -ae, -al	Hort.	Pomology, -ical	Pomol.
Industry, -ial	Ind.	Proceedings	Proc.
Information	Info.	Products	Proc.
Institute, -ion	Inst.	Progress	Prog.
International	Intl.	Propagation	Prop.
Irrigation	Irr.	Protection	Protection
Japanese	Jpn.	Publication(s)	Publ.
Journal	J.	Quarterly	Qrtly.
Laboratory, -ies	Lab.	Region	Reg.
Leaflet	Lflt.	Regulator, -ion, -y	Regulat.
Letters	Lett.	Report(s)	Rpt.
Magazine	Mag.	Reporter	Rptr.
Management	Mgt.	Research	Res.
Market	Mkt.	Resources	Resources
Marketing	Mktg.	Review(s), Revue(s)	Rev.
Meeting	Mtg.	Science(s)	Sci.
Meteorology, -ical	Meteorol.	Scientia	Scientia
Microscopy	Microsc.	Scientific	Scientific
Molecular	Mol.	Series	Ser.
Monograph	Monogr.	Service	Serv.
Mycology, -ical	Mycol.	Society	Soc.
National	Natl.	Soil	Soil
Nematology, -ical	Nematol.	Special	Spec.
Netherlands	Neth.	Standard	Stnd.
New Zealand	N.Z.	Station	Sta.
Newsletter	Nwsl.	Statistics, -ical	Stat.
Nucleic	Nucl.	Supplement(s)	Suppl.
Nutrition, -al	Nutr.	Symposium	Symp.
Official	Offic.	Technical, -que	Tech.
Pathology, -ical	Pathol.	Technology, -ical	Technol.
Photosynthesis	Photosyn	Temperature	Temp.
Physics, -ical	Phys.	Thesis	Thesis
Physiology, -ical, -ia	Physiol.	Transactions	Trans.
Phytology, -ical	Phytol.		
Tropical	Trop.	Vegetable(s)	Veg.
United States (modifier)	U.S.	Virology	Virol.
U.S. Department of Agriculture	U.S. Dept. Agr.	Viticulture	Viticult.
University	Univ.	Volume (bibliographic)	Vol.
Variety, -ies	Var.	Workshop	Wkshp.
		Yearbook	Yrbk.

## H. Tables

Tables should document but not duplicate data already given in the text. **Make a separate table for each data set; that is, do not design a table that contains another table.**

Start each table (with all parts double-spaced) on a separate page and number each table with Arabic numerals (e.g., Table 1, Table 2, etc.). Place tables after Literature Cited. The title, column and row headings, and footnotes of each table should be self-explanatory. Capitalize only the first letter of the first word of each column and row heading.

To identify tabular footnotes, use lowercase letters starting from the end of the alphabet (sequence z, y, x...). If letters or symbols are used to indicate statistical significance at different levels, use (with explanatory footnotes) either lowercase letters from the beginning of the alphabet (a, b, c...) or a single asterisk (\*) for  $P \leq 0.05$ , either uppercase letters from the beginning of the alphabet (A, B, C...) or a double asterisk (\*\*) for  $P \leq 0.01$ , and a triple asterisk (\*\*\*) for  $P \leq 0.001$ .

As an example, the following footnote adequately identifies letters in mean separation tests: <sup>z</sup>Mean separation (in rows, columns, etc.) by Duncan's multiple range test at  $P \leq 0.05$  (lowercase letters) or 0.01 (uppercase letters).

The following footnote is suitable when symbols are used to designate significance: <sup>ns, \*, \*\*</sup>  
\*\*\*Nonsignificant or significant at  $P \leq 0.05$ , 0.01, or 0.001, respectively.

## I. Figures

Illustrations are often the best means for presenting scientific data, revealing trends, or recording natural appearance. Data presented in tables should not be duplicated in figures.

Identify all graphs, line drawings, and photographs with consecutive Arabic numerals (e.g., Fig. 1, 2, or 3).

Number the figures in the sequence in which they are cited in the text. All figures must be cited. **Cite figures in text in the following manner:**

...as shown in Fig. 1

...as shown in Figs. 1–3

...as shown in Fig. 1A (but Fig. 1A and B, or Fig. 1A–C, **NOT Figs. 1A and B**)

Information in captions should be clear and concise and understood independently from the text (all acronyms and abbreviations should be spelled out as in the text).

Legends and equations may be in the figure. Symbols used in graphs and charts should be keyed. If symbols are necessary for reference in the text, then choose standard symbols, such as the triangle, box, or circle. Complex symbols do not translate from disks and cannot be replicated easily.

Black-and-white photographs must be clear, with sharp focus and good density.



For graphs or photographs that are grouped as one composite figure, place letters on each frame to correspond to the caption. Assign letters from left to right, then top to bottom. Be sure that letters are of uniform height and density and that they will be legible when reproduced (e.g., if the background in a photograph is dark, do not use black letters).

For electronic graphics, you may embed them in the text file. If submitting them as separate files, TIFF, EPS, JPG, or PDF formats are preferred.

Lettering should be of a consistent size and style. Size and boldness of lettering on figures should be gauged for legibility in the final production size; letters or numerals 3 mm high or higher generally are satisfactory.

Abbreviations and symbols used in figures must conform to the style used in the text. Acronyms used in the figure should be spelled out in the caption.

Use of perspective or three-dimensional graphics is discouraged in bar and line graphs.

Use single quotation marks for cultivar names within captions but not when they are placed on the axes of a graph. Make all symbols and scatter-plot dots large enough to reproduce clearly without blurring.

Figures with similar types of data and the same horizontal scales should be stacked, when feasible.