CROP PROTECTION
The Official Journal of the International Association for the Plant Protection Sciences

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DESCRIPTION

The Editors of Crop Protection especially welcome papers describing an interdisciplinary approach showing how different control strategies can be integrated into practical pest management programs, covering high and low input agricultural systems worldwide. Crop Protection particularly emphasizes the practical aspects of control in the field and for protected crops, and includes work which may lead in the near future to more effective control. The journal does not duplicate the many existing excellent biological science journals, which deal mainly with the more fundamental aspects of plant pathology, applied zoology and weed science. Crop Protection covers all practical aspects of pest, disease and weed control, including the following topics:

Abiotic damage Agronomic control methods Assessment of pest and disease damage Molecular methods for the detection and assessment of pests and diseases Biological control Biorational pesticides Control of animal pests of world crops Control of diseases of crop plants caused by microorganisms Control of weeds and integrated management Economic and social considerations Effects of plant growth regulators Environmental benefits of reduced pesticide use Environmental effects of pesticides Epidemiology of pests and diseases in relation to control GM Crops, and genetic engineering applications Importance and control of postharvest crop losses Integrated control Interrelationships and compatibility among different control strategies Invasive species as they relate to implications for crop protection Pesticide application methods Pest management Plant bioms: for pest and disease control Resistance management Sampling and monitoring schemes for diseases, nematodes, pests and weeds.

The editors of Crop Protection invite workers concerned with pest, disease and weed control to submit suitable contributions on any topic falling within the aims and scope of the journal.

AUDIENCE

Research workers, project planners, commercial producers.

IMPACT FACTOR

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ABSTRACTING AND INDEXING

AGRICOLA
Agricultural Engineering Abstracts
Biotechnology Research Abstracts
Elsevier BIOBASE
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Current Contents/Agriculture, Biology & Environmental Sciences
Index to Scientific Reviews
Index to South African Periodicals
Irrigation and Drainage Abstracts
Field Crop Abstracts
Engineering Village - GEOBASE
Helmintological Abstracts
Horticultural Abstracts
Plant Breeding Abstracts
Review of Applied Entomology
Review of Plant Pathology
Risk Abstracts
Science Citation Index
Soils and Fertilizers
Scopus
EMBiology

EDITORIAL BOARD

Chair Editor
S.N. Wegulo, Dept. of Plant Pathology, University of Nebraska at Lincoln, Lincoln, USA
Crop pathogens such as fungi; oomycetes; bacteria; viruses; other microbes and nematodes.

Editors
J. Correll, University of Arkansas, Fayetteville, Arkansas, USA
Crop pathogens such as fungi, oomycetes, bacteria, viruses, other microbes.
J.V. Cross, East Malling Research, East Malling, Kent, UK
Pesticide applications, entomology, integrated pest management, tropical pest management.
Invertebrate crop pests including insects, mites and molluscs. Vertebrate crop pests including mammals and birds. Pesticides and crop protection agents application technology (spraying methodology)
L Korsten, University of Pretoria, Pretoria, South Africa
Food Safety, Food security, Postharvest pathology, biological control, Plant pathology, citrus black spot, Penicillium, water quality, food borne pathogens, plant pathogens, microbial ecology, phytosanitary issues
F.P.F. Reay-Jones, Clemson University, Florence, South Carolina, USA
Invertebrate crop pests including insects, mites and molluscs. Vertebrate crop pests including mammals and birds. Knowledge and technology transfer in crop protection. Integrated Pest Management in Field Crop Systems
C. Zhang, Chinese Academy of Agricultural Sciences, Beijing, China
Weed Biology and Management, Herbicide Resistance and Management, Herbicide Application.

Associate Editor
M. T. Rahman, Dept. of Primary Industries and Regional Development, Plant Biosecurity, Agriculture and Food, Government of Western Australia, South Perth, Australia
Insect Biology & Ecology, Behavior, Population Demography, Insecticide Toxicology, Integrated Pest Management, Insecticide Resistance Management, Biological Control, Post-Harvest Disinfestation

Statistical Consultant:
C. Ritz, University of Copenhagen, Frederiksberg C, Denmark

Editorial Board:
X. Chen, Washington State University, Pullman, Washington, USA
Epidemiology and control of rusts, including cultural, chemical, and disease resistance; disease forecasting models; virulence, population structures, and functional genomics; genetics and molecular mapping of disease resistance genes; molecular mechanisms of plant-pathogen interactions.

**C.A. Edwards**, The Ohio State University, Columbus, Ohio, USA

Applied soil ecology and ecotoxicology

**W. Elmer**, Connecticut Agricultural Experimental Station, New Haven, Connecticut, USA

Management of Fusarium diseases; biological control on Soilborne plant pathogens; mineral nutrition effects on Soilborne plant pathogens.

**L. Gatehouse**, HortResearch Palmerston North, Palmerston North, New Zealand

Molecular Biology, particularly of insects and plants. This covers straight molecular biology and extends to plant and some insect transgenesis together with the expression and analysis of the expression of introduced genes. I have some experience of Biochemistry but do not consider myself an expert. I have a blind spot with Statistics and am most definitely not an expert. I have worked with insect viruses, insect symbionts and insect cell lines for baculovirus expression and other studies. Most of my work has been in the field of Plant Insect interactions looking at this from both sides and usually with a focus on crop protection.

**D.P. Giga**, Bulawayo, Zimbabwe

Stored Products Entomology (crop storage)

**L. Godfrey**, University of California, Davis, Davis, California, USA

Entomology, crop response, integrated pest management, cotton, rice, field crops

**A.R. Hardy**, Central Science Laboratory, York, UK

Soilborne, pathogens, soil solarisation, soil disinfestation.

**J.R. Lamichhane**, French National Institute for Agricultural Research (INRA), Thiverval Grignon, France

Plant disease epidemiology and management; Biological control; Climate change and pest evolution; Yield losses due to pests (pathogens, animal pests and weeds); Integrated pest management.

**S. Liu**, Nat.Pingtung University of Sci.& Tech., Pingtung Hsien, Taiwan, ROC

Crop eco-physiological adaptation to arid environment; field crops management; ecosystem sustainable designing and the role of human being in restoring and conserving the structure and function of integrated ecosystem especially in the arid and semiarid regions in northwest of China and other similar regions in the world.

**G Mahajan**, Punjab Agricultural University, Ludhiana, India

**G.A. Matthews**, Imperial College London, Ascot, UK

Pesticides and their application; entomology ; integrated pest/ crop management (IPM); crops esp Cotton; control of vectors of human diseases eg malaria but that has only to do with farmers' health and not crop protection.

**P.D. Mitchell**, University of Wisconsin at Madison, Madison, Wisconsin, USA

Crop economics; production economics; farm management; risk management; insect management; weed management; resistance management; transgenic crops; biotechnology; agricultural sustainability metrics.

**S.E. Naranjo**, USDA-ARS, Arid-Land Agricultural Research Center, Maricopa, , Arizona, USA

IPM of arthropod pests, Insect biological control, insect population ecology, sampling and economic thresholds, risk assessment in GM crops

**R.E.L. Naylor**, University of Aberdeen, Aberdeen, Scotland, UK

Soilborne plant pathogens – ecology and epidemiology (cotton and vegetable crops) Fungicide resistance and resistance management Integrated pest management Mycology Epidemiology and management of plant disease

**P.C. Stevenson**, University of Greenwich, Chatham, UK

Plant chemistry; phytochemistry; pollinators; bees; pesticidal plants; botanical insecticides; crop resistance.

**J.C. Streibig**, University of Copenhagen, Taastrup, Denmark

Weed science and vegetation management.

**M.E. Tobin**, U.S. Department of Agriculture (USDA), Fort Collins, Colorado, USA
human-wildlife conflicts, wildlife crop damage, wildlife damage control

P. Trematerra, Università degli Studi del Molise, Campobasso, Italy
Applied entomology; integrated pest management; insect crop pests; stored product pests; pheromones and application technology; stored products protection.

A. van der Meulen, Queensland Government, TooWoomba, Queensland, Australia

J. van der Waals, University of Pretoria, Pretoria, South Africa

D. Wright, Imperial College London, Ascot, UK

Entomology Plant nematology Integrated Pest Management Biological control Biopesticides Pheromones Multitrophic interactions
GUIDE FOR AUTHORS

Your Paper Your Way
We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

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INTRODUCTION

The Editors of *Crop Protection* especially welcome papers describing an interdisciplinary approach showing how different control strategies can be integrated into practical pest management programmes, covering high and low input agricultural systems worldwide. *Crop Protection* particularly emphasizes the practical aspects of control in the field and for protected crops, and includes work which may lead in the near future to more effective control. The journal does not duplicate the many existing excellent biological science journals, which deal mainly with the more fundamental aspects of plant pathology, applied zoology and weed science. *Crop Protection* covers all practical aspects of pest, disease and weed control, including the following topics:

Abiotic damage  
Agronomic control methods  
Assessment of pest and disease damage  
Biological control  
Biorational pesticides  
Control of animal pests of crops  
Control of diseases of crop plants caused by microorganisms  
Control of weeds and integrated management  
Economic and social considerations  
Effects of plant growth regulators  
Environmental benefits of reduced pesticide use  
Environmental effects of pesticides  
Epidemiology of pests and diseases in relation to control  
Food safety  
GM Crops, and genetic engineering applications  
Importance and control of postharvest crop losses  
Integrated control  
Interrelationships and compatibility among different control strategies  
Invasive species as they relate to implications for crop protection  
Pesticide application methods  
Pest management  
Resistance management  
Sampling and monitoring schemes for diseases, nematodes, pests and weeds.

The editors of *Crop Protection* invite workers concerned with pest disease and weed control to submit suitable contributions on any topic falling within the aims and scope of the journal.

**Types of paper**
Contributions falling into the following categories will be considered for publication:

- Perspectives in Crop Protection articles - The editors and members of the editorial board will invite commentary/insight papers on topical issues. Authors should contact the Editors-in-Chief with potential ideas. New data will not be published in commentary papers, but one table or figure to illustrate key points may be included (e.g., pesticide use or crop yield trends). The papers should range from 2000-3000 words or 6-8 double-line spaced manuscript pages (including references cited). The articles will be peer-reviewed with emphasis given to rapid publication.
- State of the art Review articles - Authors should contact the relevant Editor-in-Chief with proposals before submitting.
- Original high-quality Research papers - Preferably no more than 20 double-line spaced manuscript pages, including tables and illustrations.
• Short communications - These should not exceed 6-8 double-line spaced manuscript pages excluding references and legends. Results reported must be based on repeated trials or experiments. Submissions should include a short Abstract not exceeding 10% of the length of the communication and which summarizes briefly the main findings of the work to be reported. The bulk of the text may be in a continuous form but generally will follow the usual format that does not require numbered sections such as Introduction, Materials and Methods, Results, and Discussion. However, a Cover page, Abstract and a list of Keywords are required at the beginning of the communication and Acknowledgements and References at the end. These components are to be prepared in the same format as used for full-length research papers. Occasionally authors may use sub-titles of their own choice to highlight sections of the text.
• Correspondence - Authors should contact the relevant Editor-in-Chief with a proposal before submitting. Correspondence should focus on the scientific basis for comment or disagreement with a recently published article in the Crop Protection journal, and be a maximum of 4-5 pages with double-line spacing, and a limited number of relevant citations. Correspondence will be peer-reviewed, but processed in a timely manner. Upon receipt of a correspondence that is critical of a previous article in Crop Protection, the author(s) of the previous article will also be invited to submit a rebuttal article; both the original letter and rebuttal letter will be published in the same issue.
• Crop Protection also publishes, book reviews, conference reports and a calendar of forthcoming events. Please contact one of the Editors-in-Chief.

For all article formats, also review recent published examples.

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You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

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Papers will be assigned to the Editors by subject:

Prof. J. Correll - Crop pathogens such as fungi, oomycetes, bacteria, viruses, other microbes

Prof. J.V. Cross - Invertebrate crop pests including insects, mites and molluscs. Vertebrate crop pests including mammals and birds, pesticides and crop protection agents application technology (spraying methodology)

Assoc.Prof. F.P.F. Reay-Jones - Invertebrate crop pests including insects, mites and molluscs. Vertebrate crop pests including mammals and birds. Knowledge and technology transfer in crop protection

Prof. J.C. Streibig - Weed science and vegetation management

Prof. S.N. Wegulo - Crop pathogens such as fungi, oomycetes, bacteria, viruses, other microbes and nematodes

Papers in agricultural economics and vertebrate control will be handled by one of the above Editors.

Repeat experiments. Repeat experiments. Manuscripts that report original research should not be submitted unless experiments have been conducted at least twice or, in the case of field experiments, relate to two seasons. In most cases, three or more replications will be necessary for appropriate statistical analysis. In exceptional circumstances, studies that do not meet these criteria may be acceptable, but the relevant Editor-in-Chief should be consulted prior to submission.

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Referees
Please submit, with the manuscript, the names, addresses and e-mail addresses of 4 potential referees. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional information
Review process
All contributions are reviewed by two or more referees to ensure both accuracy and relevance, and revisions to the manuscript may thus be required. On acceptance, contributions are subject to editorial amendment to suit house style. When a manuscript is returned for revision prior to final acceptance, the revised version must be submitted as soon as possible after the author's receipt of the referee's reports. Revised manuscripts returned after four months will be considered as new submissions subject to full re-review.

**PREPARATION**

**NEW SUBMISSIONS**

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process. As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

**References**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

**Formatting requirements**

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

Please ensure the text of your paper is double-spaced and has consecutive line numbering - this is an essential peer review requirement.

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Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

**Peer review**

This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

**REVISED SUBMISSIONS**

**Use of word processing software**

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the ‘spell-check’ and ‘grammar-check’ functions of your word processor.

Line numbering, page numbering, and double line spacing are mandatory for submissions.

**Article structure**
Subdivision - numbered sections
Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

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Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Results
Results should be clear and concise.

Discussion
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

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A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

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Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use ‘Highlights’ in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). You can view example Highlights on our information site.

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Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

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Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

**Acknowledgements**
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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