DESCRIPTION

Aims and Scope of Field Crops Research

Field Crops Research is an international journal publishing scientific articles on:

√ experimental and modelling research at field, farm and landscape levels on temperate and tropical crops and cropping systems, with a focus on crop ecology and physiology, agronomy, and plant genetics and breeding.

√ Articles on plant genetics and breeding need to be integrated with crop ecology and physiology, and/or agronomy.

√ An economic analysis may be included if appropriate.

Papers must demonstrate new scientific insight, original technologies or novel methods that have general application and relevance to field crops.

× Research findings of a purely corroborative nature, descriptive or of only local significance will not be considered.

The journal's focus is major field crops for food and feed. This focus includes species used for cultivated pastures, but excludes natural grasslands. Other species, including important biofuel crops, could be considered if they contribute to the basic understanding of processes related to development, growth and yield of field crops.

Field experiments on which manuscripts are based should, unless exceptional circumstances apply, include at least two seasons and/or multiple locations/environments. The inclusion of yield data is highly encouraged to demonstrate how the field experiments contribute to a better understanding of the bio-physical processes related to crop growth and yield.

Papers on crop protection (diseases, pests, weeds) and soil processes/properties can be accepted provided they have a strong focus on crop processes, including consequences for yield.

Experiments under controlled conditions (glasshouse, growth chamber) are only acceptable as complementary to field work.
Papers on remote sensing will only be considered if their focus is the use of these techniques to understand crop processes and their links to crop yield.

Reviews and Opinion Papers covering the various subject areas are solicited; authors should contact one of the Editors-in-Chief before submission of a review or an opinion paper in order to establish the journal's interest in the topic and nature of the paper. Contributions dealing with emerging topics are especially welcomed.

Out-of-scope submissions:
- Horticultural (i.e., vegetable and fruit species), woody perennial, medicinal and non-cultivated species are outside the scope of the journal.
- Studies carried-out exclusively under controlled conditions are outside the scope of the journal.
- Articles on crop storage, transportation and usage, and social studies on crops and cropping systems, are outside the scope of the journal.

AUDIENCE
Temperate and Tropical Crop Scientists.

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Agronomy and physiology of major field crops under monoculture or multi cropping, with a focus on cotton under or without abiotic stresses like salinity, drought, waterlogging and shading
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Wheat, physiology, abiotic stress, yield potential, breeding, root biology

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Q. Han, Northwest Agriculture and Forestry University, Yangling, Shaanxi, China
Irrigation and nutrition management, light use efficiency, semiarid regions, mulching

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Drought, Root, Abiotic stress, Physiology, Rice

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Crop eco-physiology, Maize, Wheat, Sorghum, Pulses, Field agronomy, Climate variability, Climate change, farm, Profits and risks

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Crop modelling, Abiotic stresses, Water and nitrogen dynamics, Assessing climate change impact, Adaptation and mitigation, Agronomy of maize, wheat, barley, Europe and Africa

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Water, Nitrogen, Crop physiology, plant density, Ecology

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Wheat, barley, crop physiology, grain quality, WUE, NUE.

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Crop N management; high temperature effect on rice and wheat productivity; crop modelling and climate change

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Crop modelling, Farming system modelling, Crop physiology, Yield potential, Yield gap, Wheat, Maize

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Crop modelling, Photosynthesis, Genotype-environment interaction, Climate change impacts

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Crop eco-physiology and agronomy, Crop modelling, Corn, soybean, sorghum and oilseeds, Rainfed and Irrigated farming systems, Remote sensing

B. Clerget, CIRAD Montpellier-Occitanie Research Centre, Montpellier, France
Agronomy; Crop physiology; Traditional plant breeding; Rice, maize, sorghum and pearl millet; Rice production systems in the tropical, and sub-tropical regions of Asia

G.O. Edmeades
Crop Science and Agronomy, plant breeding, tropical maize, crop physiology

F. Ewert, University of Bonn, Bonn, Germany
Climate change (impacts); Agroecosystems (ecophysiology); Resource use and management (land, water); Systems analysis and modelling; Agricultural sustainability assessment

G. Fitzgerald, Victoria Department of Jobs Precincts and Regions, Melbourne, Australia
Remote sensing of abiotic and biotic crop stresses; Field level phenotyping; Climate change impacts to crops using FACE technologies, including water use and trait selection under elevated CO2.

J. Foulkes, University of Nottingham School of Biosciences, Loughborough, United Kingdom

T. Gaiser, University of Bonn, Bonn, Germany
Modelling of crop-soil interface; Crop water uptake; Nutrient turnover and nutrient uptake; Soil carbon and nitrogen turnover; Tropical cereal and tuber crops; Soil salinity; Pollution of surface and ground waters from agricultural activities

L.F. Garcia del Moral, University of Granada, Granada, Spain
Crop physiology; Abiotic stress; Plant growth analysis; Crop phenology; Ecophysiological and molecular approaches in plant breeding

D.S. Gaydon, CSIRO Queensland Bioscience Precinct Agriculture and Food Unit, St Lucia, Australia
Cropping systems modelling; APSIM; Rice; Rice-wheat systems; Conservation agriculture; Irrigation; Water productivity; Climate change adaptation

P. Grassini, University of Nebraska-Lincoln Department of Agronomy and Horticulture, Lincoln, Nebraska, United States
Agronomy; Yield potential; Yield-gap analysis; Resource-use efficiency; Crop simulation models; Crop Ecophysiology

S.M. Haefele, The University of Adelaide, Adelaide, South Australia, Australia
Agronomy; Black carbon; Phenotyping; Rice; Soil science; Wheat

J. Hunt, La Trobe University, Bundoora, Victoria, Australia

G. Inman-Bamber, CSIRO Townsville Australian Tropical Sciences and Innovation Precinct, Townsville, Australia
Sugarcane physiology, agrometerology and water relations, controlled environment studies including CO2, crop model development

K. Jagadish, International Rice Research Institute, Manila, Philippines
Heat stress; combined heat and drought stress; rice reproductive physiology.

C. Johansen, Murdoch University, Murdoch, Australia
Plant nutrition, crop physiology, drought and salinity stress, agronomy, on-farm research, grain legumes

Y. Kato, The University of Tokyo, Tokyo, Japan
Crop physiology and agronomy; Rice; Rainfed and irrigated rice production systems in the tropical, sub-tropical and temperate regions of Asia

H. Kirchmann, Swedish University of Agricultural Sciences, Uppsala, Sweden
Turnover, decomposition and nutrient losses from organic manures in soil; Reactions of plant nutrients in soil (nitrogen and phosphorus); Changes in soil fertility in long-term field experiments; Recycling of plant nutrients from wastes; Effects of trace metals on yield and quality of crops; Methods to improve nutrient use efficiency.

M.R.C. Laza, International Rice Research Institute, Manila, Philippines
Crop Physiology and Agronomy; morpho-physiological bases of yield increase; source-sink relationship on yield formation; high night temperature effect on rice productivity, field phenomics for lodging resistance and yield component traits; SPAD-based N management; whole-plant physiological measurement

F-M. Li, Lanzhou University, Lanzhou, China
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 China and other similar regions in the world.

B. Linquist, University of California Davis, Davis, California, United States
Rice systems, nutrient and carbon cycling; nutrient management; productivity; greenhouse gas emissions; water quality; water use.

G. Maddonni, University of Buenos Aires, Buenos Aires, Argentina
Dry-land summer crop agronomy; Canopy structure of maize crops (sowing date, plant population density, row spacing, and genotype)

D. Miralles, University of Buenos Aires, Buenos Aires, Argentina
Crop physiology applied to management and breeding; wheat and barley.
J.P. Monzon, National Scientific and Technical Research Council, Buenos Aires, Argentina
Eco-physiology; Crop modelling; farming systems; Crop yield gap analysis

L. Nie, Huazhong Agriculture University, Wuhan, China
Rice; Seed germination biology; Direct seeding rice; Aerobic rice; Ratoon rice; Nutrient management;
Water productivity; Rice-based cropping system

M. Otegui, University of Buenos Aires, Buenos Aires, Argentina
Crop physiology; Abiotic stress; Crop Modelling; Agronomy.

S. Peng, Huazhong Agriculture University, Wuhan, China
Yield potential; photosynthesis; nitrogen use efficiency; stress physiology; climate change; crop
management; rice production.

H-P. Piepho, University of Hohenheim, Stuttgart, Germany
Linear models; mixed models; spatial statistics; design of experiments.

C. Pittelkow, University of California Davis Department of Plant Sciences, Davis, California, United States
Agronomy, nitrogen, crop nutrition, intensification, cropping system, greenhouse gas emission

G. Rebetzke, Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia
Plant breeding; quantitative genetics; statistics; physiology.

M. Robertson, Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia
Farming systems, agronomy, modelling, food systems, digital agriculture

D. Rubiales, Institute for Sustainable Agriculture, Cordoba, Spain
plant breeding; disease resistance; genetic resources utilization; mechanisms of resistance; legumes;
cereals; rust; parasitic weed; powdery mildew; ascochyta blight; fusarium wilt

Y. Singh, Punjab Agricultural University, Ludhiana, India
conservation agriculture, Crop productivity and sustainability, crop residue management, integrated
nutrient management, nutrient use efficiency, rice, soil science, soil quality, wheat.

G.A. Slafer, University of Lleida, Lleida, Spain
Wheat; Barley; Cereals; Crop-Physiology; Yield; Yield components; Water use efficiency; Nitrogen
use efficiency; trait useful for breeding.

M. Tollenaar, The Climate Corporation, San Francisco, California, United States
Drought, symbiotic nitrogen fixation, abiotic stresses, vapor pressure deficit, salinity, low soil fertility,
modelling,

T.J. Vyn, Purdue University, West Lafayette, Indiana, United States
Cropping systems; Conservation tillage; Maize hybrid/plant density/nitrogen interactions;
Greenhouse gas emissions; Soil quality; Nutrient management; Crop rotation systems; Crop
physiology; Pest management interactions with tillage systems; Maize; Soybean

L.J. Wade, Charles Sturt University E H Graham Centre for Agricultural Innovation, Wagga Wagga, Australia
Farming systems; GxE interactions; Root traits; Drought avoidance; Perennial grains

F. Walley, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
Agronomy, soil microbiology (N2 fixation) and cropping systems, with an emphasis on nutrient cycling.

J. Wang, China Agricultural University, Beijing, China
Agrometeorology; Crop modelling; Climate change impact and adaptation; Crop yield gap analysis
based on crop growth model; agro-meteorological disaster assessment

J.W. White, USDA-ARS Arid Land Agricultural Research Center, Maricopa, Arizona, United States
Crop modeling and global change; tillage; conservation agriculture and zero Tillage sites; carbon
sequestration and agriculture; data management; phenomics.

J. Yang, Yangzhou University Agricultural College, Yangzhou, China
Grain filling of cereals; water-saving irrigation; high-yielding production; abiotic stress.

X. Zhang, Institute of Genetics and Developmental Biology Center for Agricultural Resources Research,
Shijiazhuang, China
Agro-meteorology; Crop-water relationship; Crop root growth and soil water use; Deficit irrigation
scheduling; Cultivars characters related to drought resistance; Improving crop water use efficiency
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INTRODUCTION
Field Crops Research is an international journal publishing scientific articles on both experimental and modelling research at the field, farm and landscape level on temperate and tropical crops and cropping systems, with a focus on crop ecology and physiology, agronomy, and plant genetics and breeding. Articles on plant genetics and breeding need to be integrated with crop ecology and physiology, and/or agronomy. An economic analysis may be included if appropriate.

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The journal of Field Crops Research would like to inform you of a significant change in our editorial process: all new submissions to Field Crops Research will first be assigned on an ad random basis to the Editors-in-Chief for initial evaluation; manuscripts that are within the scope of the journal and meet the quality standards, will be assigned to the Associate Editors who handle the peer-review process and make the final editorial decision to accept or reject the manuscript for publication.

Reviews covering the various subject areas are solicited. Authors should contact the Editors-in-Chief before the submission of a review article in order to establish the journal's interest in the topic and nature of the proposed review.

Types of paper
1. Original full papers (Regular Papers)
2. Review articles
3. Opinion Papers
4. Short Communications
5. Book Reviews

Original papers should report the results of original research. The material should not have been previously published elsewhere, except in a preliminary form.

Reviews and Opinion Papers covering the various subject areas are solicited; authors should contact the Editors-in-Chief before submission in order to establish the journal's interest in the topic and nature of the paper.
A Short Communication is a concise, but complete, description of a limited investigation, which will not be included in a later paper. Short Communications should be as completely documented, both by reference to the literature and description of the experimental procedures employed, as a regular paper. They should not occupy more than 6 printed pages (about 12 manuscript pages, including figures, etc.).

Book reviews will be included in the journal on a range of relevant books which are no more than 2 years old. Book reviews will be solicited by the Book Review editor. Unsolicited reviews will not usually be accepted, but suggestions for appropriate books for review may be sent to: Dr. J.W. White, USDA-ARS, US Arid-Land Agricultural Research Center, 21881 North Cardon Lane, Maricopa, 85138, USA, Email: Jeffrey.White@ars.usda.gov

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For experiments, both the treatment and the design structure, including blocking units, randomization units and observational units, should be clearly identified. When repeated measurements are taken on the same unit, this needs to be explicitly stated. Methods used for statistical analysis should be described with sufficient detail so that a reader, if equipped with the paper, the raw data and the same software, could reproduce all results reported. For example, if an experiment is analysed by a linear mixed model, all fitted terms should be explicitly stated, either in the text or in an equation, specifying which effects are fixed and which are random. For a review of statistical problems frequently encountered with papers submitted to this journal, and how to avoid them, see


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Results should be clear and concise and must be separate from the Discussion section.

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