DESCRIPTION

Aims and Scope of Field Crops Research

SCIENTIFIC NOVELTY

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

✓ Original experimental and modelling research.
✓ Re-analysis of published data (including meta-analysis) that demonstrates new scientific insight, original technologies or novel methods at crop, field, farm and landscape levels.
✓ Studies at lower level of organisation (plant to molecular) must demonstrate scaling up to crop level or higher.

FOCUS

The focus of Field Crops Research is crop ecology, crop physiology and agronomy of major field crops for food, fibre, feed and biofuel. The inclusion of yield data is encouraged to demonstrate how the field experiments contribute to the understanding of the bio-physical processes related to crop development, growth and the formation and realisation of yield.

Articles on phenotyping, genetics, breeding, quality (grain, fibre, fodder), remote and non-contact sensing, crop protection (diseases, pests, weeds), soils and climate may be considered, provided they are integrated with crop ecology, crop physiology, and/or agronomy.

SCIENTIFIC and PRESENTATION STANDARD

Manuscripts must be written in grammatically sound English. Formulate clear objectives that must flow from complete, brief, unbiased and updated review of literature. Experimental design must match objectives. Field experiments must be repeated in at least two seasons or locations. Key agronomic practices and environmental conditions (soil, weather) must be detailed, and weather information should be shown in relation to crop phenology. Data must be analysed with appropriate statistics, and results have to be concise and address objectives. A separate discussion must not repeat results but place findings in agronomic context with conclusions fully justified by data.

OUT of SCOPE
Research that is corroborative, descriptive, or only of local significance. Studies carried-out exclusively under controlled-environment conditions. Studies on natural grasslands, horticultural (i.e., vegetable and fruit species), woody perennial, medicinal and non-cultivated species. Articles at lower levels of organisation that do not scale to crop level or higher. Articles on crop storage, transportation and usage, and social studies on crops and cropping systems.

**Reviews and opinion papers**

Reviews and opinion papers are normally by invitation. However, authors may submit expressions of interest to the editors. These must include a 1-page statement of the timeliness, relevance, original aspects of the contribution, and an outline of the contents of the proposed contribution.

**AUDIENCE**

Temperate and Tropical Crop Scientists.

**IMPACT FACTOR**

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**ABSTRACTING AND INDEXING**

TROPAG/RURAL Database
Elsevier BIOBASE
EMBiology
BIOSIS Citation Index
Current Contents - Agriculture, Biology & Environmental Sciences
Ecological Abstracts
Field Crop Abstracts
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**EDITORIAL BOARD**

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**Hezhong Dong,** Shandong Academy of Agricultural Sciences, Jinan, China
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

**Jagdish K. Ladha,** University of California Davis, Davis, California, United States
Rice, conservation agriculture, Nitrogen

**Richard A. Richards,** Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia
Wheat, physiology, abiotic stress, yield potential, breeding, root biology

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**Tapan Kumar Adhya,** Kalinga Institute of Industrial Technology, Bhubaneswar, India
Crop/soil modelling, Soil fertility management, Smallholder cropping systems, Sub-Saharan Africa, Climate change adaptation

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Crop physiology, Ecology or agronomy in any crop or forage species, Crop breeding

**Antonio Hall,** Institute for Agricultural Plant Physiology and Ecology, Ciudad De Buenos Aires, Argentina
Crop physiology, Ecology or agronomy in any crop or forage species, Crop breeding

**Qingfang Han,** Northwest Agriculture and Forestry University, Yangling, Shaanxi, China
Irrigation and nutrition management, light use efficiency, semiarid regions, mulching
Amelia Henry, International Rice Research Institute, Manila, Philippines
Drought, Root, Abiotic stress, Physiology, Rice

Krishna Jagadish, Kansas State University Department of Agronomy, Manhattan, Kansas, United States
Heat and drought stress, Reproductive physiology, Source-sink relationship, Grain yield and quality, Climate change

Kurt-Christian Kersebaum, Leibniz Centre for Agricultural Landscape Research, Müncheberg, Germany
Modeling soil-crop-atmosphere interactions, Nitrogen dynamics in soils, Climate change impact assessment and adaptation, Model based evaluation of agricultural management

Jairo Palta, CSIRO Centre for Environment and Life Sciences, Floreat, Australia
Water (drought), nitrogen (NUE), Heat and climate change, Genotypes, environments and management practices, Physiology and genetics of processes, Crop yield and quality, Accumulation and utilization of C and N resources, Crop roots systems, Integrative effect of elevated CO2, High temperature and terminal drought.

Jonne Rodenburg, University of Greenwich Natural Resources Institute, Chatham, United Kingdom
Rice, Sorghum, Maize, weeds, Parasitic weeds, Striga, Vatieri screening, African cropping systems/farming systems, Sub-Saharan Africa, Smallholder farmers, Agroecology, Sustainable intensification

Daniel Rodríguez, University of Queensland, Brisbane, Queensland, Australia
Crop eco-physiology, Maize, Wheat, Sorghum, Pulses, Field agronomy, Climate variability, Climate change, farm, Profits and risks

Victor Sadrás, South Australian Research and Development Institute, Adelaide, Australia
Water, Nitrogen, Crop physiology, plant density, Ecology

Roxana Savin, University of Lleida, Lleida, Spain
Wheat, barley, crop physiology, grain quality, WUE, NUE.

Liang Tang, Nanjing Agricultural University, Nanjing, China
Crop N management; high temperature effect on rice and wheat productivity; crop modelling and climate change

Enli Wang, CSIRO Land and Water, Black Mountain, Australia
Crop modelling, Farming system modelling, Crop physiology, Yield potential, Yield gap, Wheat, Maize

Xinyou Yin, Wageningen University, Wageningen, Netherlands
Crop modelling, Photosynthesis, Genotype-environment interaction, Climate change impacts

Book Review Editor
Jeffrey 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.

Editorial Advisory Board
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Crop and pasture sequences, Water and nitrogen dynamics of crops, Cropping systems, Simulation modelling

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Cropping systems analysis, Crop productivity and sustainability, Atmosphere-crop-soil systems, Managing climate variability, Climate change impact and adaptation

Lucas Borrás, National University of Rosario, Rosario, Argentina
Crop physiology, Yield components, Seed filling, Agronomic practices, Abiotic stress

Daniel Calderini, University of Southern Chile, Valdivia, Chile
Crop physiology, Phenotyping, Physiological and molecular approaches on grain weight, Potential grain yield, Abiotic stress

Ignacio Ciampitti, Kansas State University, Manhattan, Kansas, United States
Crop eco-physiology and agronomy, Crop modelling, Corn, soybean, sorghum and oilseeds, Rainfed and Irrigated farming systems, Remote sensing

Benoit 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

Mariano Cossani, South Australian Research and Development Institute, Adelaide, Australia
Water use efficiency, Nitrogen use efficiency, Drought, Heat, temperate cereals

Fernanda Drecce, CSIRO Agricultural Production Systems Research Unit, Toowoomba, Australia
Crop physiology, crop simulation modelling, phenotyping, phenology, reproductive physiology, yield potential, heat, drought, wheat, pulses

Greg Edmeades
Crop Science and Agronomy, plant breeding, tropical maize, crop physiology

R A (Tony) Fischer, CSIRO Agriculture and Food, Canberra City, Australia
Yield physiology and agronomy of wheat, breeding for yield in wheat, farm and potential yield progress across wheat and other major commodities

**John Foulkes**, University of Nottingham School of Biosciences, Loughborough, United Kingdom

**Thomas 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

**Luis García del Moral**, University of Granada, Granada, Spain

Crop physiology, Abiotic stress, Plant growth analysis, Crop phenology, Ecophysiological and molecular approaches in plant breeding

**Donald 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

**Patricio 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

**Stephan Haefele**, The University of Adelaide, Adelaide, South Australia, Australia

Agronomy, Black carbon, Phenotyping, Rice, Soil science, Wheat

**Min Huang**, Hunan Agricultural University, School of Agronomy, Changsha, China

Rice, No-tillage, Machine transplanting, Plant density, Nitrogen management, Grain yield, Yield potential, Yield gap

**James Hunt**, La Trobe University, Department of Animal, Plant and Soil Sciences, Bundoora, Australia

Agronomy, crop physiology, farming systems, wheat

**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

**Krishna Jagadish**, Kansas State University Department of Agronomy, Manhattan, Kansas, United States

Heat and drought stress, Reproductive physiology, Source-sink relationship, Grain yield and quality, Climate change

**Dong Jiang**, Nanjing Agricultural University, Nanjing, China

Abiotic stress, quality, physiology, agronomy, temperate cereals

**Chris Johansen**, Murdoch University, Murdoch, Australia

Plant nutrition, crop physiology, drought and salinity stress, agronomy, on-farm research, grain legumes

**Eric Justes**, French Agricultural Research Centre for International Development, Department Persyst, Montpellier, France

Agronomy and Agroecology, C and N cycles in arable crops, Soil-crop modelling, Arable cropping system design and multicriteria assessment, Intercropping, Cover crops

**Yoichiro 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

**Alison Kelly**, Queensland Department of Agriculture and Fisheries, Australia

Experimental design, Linear Mixed models, Statistical Genetics, High dimensional data, High Throughput phenotyping, Near infrared spectral imaging

**Holger 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. Rebecca 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

**Gilles Lemaire**, National Research Institute for Agriculture Food and Environment Nouvelle-Aquitaine Poitiers Center, Lusignan, France

**Feng-Min 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.

**Bruce 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.

Leilei Liu, Nanjing Agricultural University Department of Agronomy, Nanjing, China
Crop growth simulation model, impact of climate change on crop yield or quality, yield gap, model uncertainty, wheat, rice

Romulo Lollato, Kansas State University Department of Agronomy, Manhattan, Kansas, United States
Agronomy, Crop modeling, Rainfed systems, Yield potential, Yield gap, Water use efficiency, Wheat.

Gustavo 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)

Daniel Miralles, University of Buenos Aires, Buenos Aires, Argentina
Crop physiology applied to management and breeding, wheat and barley.

Juan Pablo Monzon, National Scientific and Technical Research Council, Buenos Aires, Argentina
Eco-physiology, Crop modelling, farming systems, Crop yield gap analysis

Lixiao Nie, Hainan University, Haikou, China
Rice, Seed germination biology, Direct seeding rice, Aerobic rice, Ratoon rice, Nutrient management, Water productivity, Rice-based cropping system

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

Shaobing Peng, Huazhong Agricultural University College of Plant Science and Technology, Wuhan, China
Yield potential, photosynthesis, nitrogen use efficiency, stress physiology, climate change, crop management, rice production.

Hans-Peter Piepho, University of Hohenheim, Stuttgart, Germany
Linear models, mixed models, spatial statistics, design of experiments.

Cameron Pittelkow, University of California Davis Department of Plant Sciences, Davis, California, United States
Agronomy, Nutrient management, Cropping systems analysis, GHG emissions, Resource-use efficiencies, Sustainable intensification

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

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

Diego 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

Kazuki Saito, Africa Rice Center (AfricaRice), Cotonou, Benin
Agronomy, Crop physiology, Rice, Yield gap, Nutrient management, Sustainability, On-farm research

João Vasco Silva, Wageningen University, Wageningen, Netherlands
Systems agronomy, Yield gap analysis, Resource use efficiency, Yield variability, Crop modelling, Cereals and arable crops, Sustainable intensification

Yadvinder 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.

Gustavo 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.

Nese Sreenivasulu, International Rice Research Institute, Manila, Philippines
Rice grain quality, Seed biology, Double burden nutrition, Glycemic index, Micronutrients, Grain protein

Vincent Vadez, ICRISAT Crop Physiology Laboratory, Patancheru, India
Drought, symbiotic nitrogen fixation, abiotic stresses, vapor pressure deficit, salinity, low soil fertility, modelling.

Tony 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

Len Wade, The University of Queensland School of Agriculture and Food Sciences, Saint Lucia, Queensland, Australia
Farming systems, GxE interactions, Root traits, Drought avoidance, Perennial grains

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

Jing 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
Wei Wu, Hainan University College of Tropical Crops, Hainan, China
Agronomy, Soil and nutrient management, Water use efficiency, Crop lodging, Abiotic stress, wheat, canola, maize, rice

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

Xiying Zhang, Institute of Genetics and Developmental Biology Center for Agricultural Resources Research, Shijiazhuang, China
Water use efficiency, Evapotranspiration, Crop productivity, Climate change, cultivation, Soil water, Soil nutrients, Crop modelling.

Yanjun Zhang, Shandong Academy of Agricultural Sciences, Cotton Research Center, Jinan, China
Abiotic stress, crop physiology and molecular biology, as well as plastic film mulching
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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.

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. 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. Horticultural, medicinal and non-cultivated species are outside the scope of the journal.

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. Papers on crop protection (diseases, pests, weeds) 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; 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.

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.

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4. Short Communications
5. Book Reviews

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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.).

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