

EXPERIMENTAL AGRICULTURE

Editor

PROFESSOR J. P. HUDSON

Book Review Editor

PROFESSOR N. W. SIMMONDS

Editorial Board

PROFESSOR E. W. RUSSELL (CHAIRMAN)

PROFESSOR D. K. BRITTON

PROFESSOR J. D. IVINS

PROFESSOR A. H. BUNTING

A. R. MELVILLE

DR. R. K. CUNNINGHAM

DR. R. D. STERN

DR. G. WATTS PADWICK



CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge, CB2 1RP

Bentley House, 200 Euston Road, London NW1 2DB

32 East 57th Street, New York, N.Y. 10022

Expl Agric.

Experimental Agriculture publishes the results of general agronomic work on crops, herbage and forage, with the main emphasis on field experiments relevant to husbandry in the warmer climates of the world. It also includes papers on agronomic aspects of plant breeding, and welcomes accounts of new experimental techniques, discussions of specific problems met in countries where agricultural production is developing rapidly, articles on new developments in experimental crop husbandry, and occasional papers on technical, economic and sociological aspects of farming systems. The journal is the successor to *The Empire Journal of Experimental Agriculture*.

Experimental Agriculture is published quarterly. Four parts form a volume.

Subscriptions may be sent to any bookseller or subscription agent or direct to Cambridge University Press, P.O. Box 110, Cambridge CB2 3RC, or in the U.S.A. and Canada, 32 East 57th Street, New York, N.Y. 10022. The subscription price of volume 14, 1978, is £22.00 net (including postage) for a volume (US\$49.00 in the U.S.A. and Canada), payable in advance; separate parts cost £7.00 net or \$15.50 each (plus postage). Second class postage paid at New York, N.Y.

Back Volumes. Inquiries for Vols. 1-32 of *The Empire Journal of Experimental Agriculture* should be addressed to Wm Dawson & Sons Ltd, Cannon House, Folkestone, Kent. Previously published parts of *Experimental Agriculture* are available from the Cambridge or New York offices of Cambridge University Press.

© Cambridge University Press 1978

Permissions. For permission to reproduce material from *Experimental Agriculture*, please apply to the Cambridge or New York office of Cambridge University Press.

ISI Tear Service, 325 Chestnut Street, Philadelphia, Pennsylvania 19106, U.S.A., is authorized to supply single copies of separate articles for private use only.

NOTES FOR CONTRIBUTORS

Contributions will be welcomed from scientists of all nationalities, particularly those working in tropical and sub-tropical countries where up-to-date techniques of agricultural experimentation are helping in the development of more effective methods of farm production. Contributions, which must be written in English, should be sent to the Editor, Professor J. P. Hudson, The Spinney, Wrington, Bristol BS18 7LB, England.

Conditions of acceptance. Submission of a paper will be taken to imply that the material has not previously been published, and is not being submitted for publication elsewhere. Papers published in *Experimental Agriculture* may not be reprinted or published in translation without permission from the Editor, given on behalf of the Editorial Board.

General lay-out. Before having manuscripts typed contributors are asked to look carefully at the lay-out of other papers published in a recent number of this journal, to ensure that their own papers, as submitted, conform as closely as possible to the accepted pattern. This very much facilitates the work of the Editor and may often result in a paper being published earlier than if it requires a great deal of detailed editorial attention. It may also avoid the need for the paper to be referred

back to the author. Numerical data can be presented in the form of tables or diagrams, but not both ways. **The economics of publishing make it necessary to impose a limit on the length of papers, which should not normally exceed eight pages (including diagrams and tables) as set for printing. Tables should not be more than 80 typewriter characters wide, including spaces between words, figures and columns.**

Typescripts. The top copy and one carbon copy of the script should be submitted, typed with double spacing, on one side of the paper only and with margins of about 1½ inches at the left-hand side and head of each sheet. Quarto or A4 sizes are preferred to foolscap.

Title. The development of automatic bibliographic methods, based on indexing the significant words in the title, make it essential that the title of each paper should contain the maximum of useful information. It is particularly important, for example, that the title should contain references, where relevant, to the crop, the character of the investigation, the factors under review, and the climatic or geographic area in which the work was done.



NEW

The scientific, technical and medical division of Associated Book Publishers Ltd, 11 New Fetter Lane, London, EC4P 4EE.

The Potato Crop

The Scientific Basis for Improvement
Edited by P.M. HARRIS

A review which presents an analysis of the genetics, structure and physiology of the potato crop as a basis for considering ways in which the environment of the crop may be adjusted to improve crop yield and quality. These analyses are also used to consider the methods by which the crop may be adapted culturally or genetically to exploit its environment more effectively and to reduce the harmful effects of weeds, pests and diseases. A subsidiary objective is to place the present state of knowledge within its historical context and to discuss the current and potential international importance of the potato in the world's food economy.

The Potato Crop will have an international appeal owing to its fundamental basis and the absence of geographical restriction in the treatment of most of the more applied aspects with which it deals. Major academic and institutional biological libraries, senior undergraduates and postgraduates in agronomy, crop production and crop science will find the book an invaluable addition to their bookshelves.

June 744 pages Illustrated
Hardback 0412 12830 6 £25.00

Barley

D.E. BRIGGS

A unique attempt to give a broad documented and critical account of a crop of immense usage and world-wide importance. The text provides an integrated introductory explanation of the morphology, biochemistry, physiology, technology and agronomy relating to the barley plant and its grain.

Pests and diseases which cause losses in the field and during storage are examined and the genetics of the plant, methods for seeking improvement and actual and potential uses of the plant in human foodstuffs and industry are all considered. Where possible, information has been drawn from different parts of the world which serves to emphasize the similarities and diversities that occur within these areas.

Barley will be of interest to agricultural scientists and research workers in departments of botany, agriculture, food science and chemistry and to industrialists concerned with barley products.

July 688 pages Illustrated
Hardback 0412 11870 X £25.00

Outline Studies in Biology

Cellular Degradative Processes

R.T. DEAN

Components of cells in all living organisms undergo continual breakdown and re-synthesis. The specialized mechanisms involved in these degradative processes are discussed and limited degradation, as in the processing of nucleic acids and of precursor proteins, is given full coverage.

July 80 pages
Paperback 0412 15190 1 £1.75

Transport Phenomena in Plants

D.A. BAKER

This short account of transport phenomena is focused on those areas in which our knowledge is rapidly advancing or in which considerable research effort is being concentrated. It will be useful to senior undergraduate and graduate students of biology, ecology and agriculture and of particular interest to researchers in plant physiology.

May 80 pages
Paperback 0412 15360 2 £1.75

Prices are net in the UK only.

TROPICAL AGRICULTURE

THE JOURNAL OF THE FACULTY OF AGRICULTURE
(IMPERIAL COLLEGE OF TROPICAL AGRICULTURE)
UNIVERSITY OF THE WEST INDIES

Volume 55

Number 3

July 1978

The relationship of *Dioscorea cayenensis* and *D. rotundata*
F. W. Martin and A. M. Rhodes

The respiration of yam tubers and its contribution to storage losses
H. C. Passam, S. J. Read and J. E. Rickard

Potassium fertilizer studies on *Brachiaria mutica*/*Centrosema pubescens* pastures grown on soils derived from coral limestone, Malaita, Solomon Islands. I—Effect of rates of potassium on yield and botanical composition
R. C. Gutteridge and P. C. Whiteman

Effect of 1, 2-dibromo-3-chloropropane (DBCP) vapour on the nutrient status of a sandy clay loam soil
A. P. Elliott and J. E. Edmunds

Effect of 1, 2-dibromo-3-chloropropane (DBCP) on the nutrient uptake and growth of banana plants (*Musa acuminata* Colla) grown in a vermiculite medium
A. P. Elliott and J. E. Edmunds

Effect of time and method of application of gibberellic acid on the growth and promotion of flowering in tannia (*Xanthosoma sagittifolium*)
S. Alamu and C. R. McDavid

Nutrient balance and organic matter production in the *Trachypogon* savannas of Venezuela
E. Medina, A. Mendoza and R. Montes

The influence of soil fertility on crop performance in Uganda. I—Cotton
H. L. Foster

Natural incidence of canker on Amelonado and hybrid cocoa in Fiji and results from artificial inoculation with *Phytophthora palmivora*
I. D. Firman

Cassava (*Manihot esculenta* Crantz) as a feed for pigs and poultry—a review
D. C. Creswell

Annual subscription: £20 (U.K.), £27 (overseas)

Published on behalf of the Faculty by
IPC Science and Technology Press Limited
IPC House, 32 High Street, Guildford, Surrey GU1 3EW, England

**THE RHODESIAN
JOURNAL OF AGRICULTURAL RESEARCH**

Vol 16, No. 2

1978

CONTENTS

Animal Production

The pre-weaning and post-weaning growth of beef calves in relation to the amounts of milk and solid food consumed during the suckling period, by F. D. Richardson, J. Oliver and G. P. Y. Clarke
The effect of potassium cyanide on the occurrence of nutritional myopathy in lambs, by C. P. Rudert and A. R. Lewis

Pastures

Patterns of defoliation during continuous and rotational grazing of the Matopos sandveld of Rhodesia, by D. M. Gammon and B. R. Roberts
1. Selectivity of grazing
2. Severity of defoliation
3. Frequency of defoliation

Tobacco

Uptake from foliar sprays of carbendazim and benomyl into tobacco leaves, by Desirée L. Cole

Maize

Effects of water stress on the growth of maize (*Zea mays* L.) by J. H. H. Wilson and J. C. S. Allison

Groundnuts

The effect of weather and genotype × environment interaction on the yields of groundnuts (*Arachis hypogaea* L.) by J. H. Williams, G. L. Hildebrand and J. R. Tattersfield

Pesticide Residues

Residues in soyabean plants (*Glycine max* (L.) Merr.) of aldrin and dieldrin following soil application and of endosulfan and DDT following foliar application, by Carol L. Wessels

Tsetse-fly Control

Field observations on the environmental effect of large-scale aerial applications of endosulfan in the eradication of *Glossina morsitans centralis* Westw. in the Western Province of Zambia in 1968, by C. H. D. Magadza

The Journal is published twice yearly. The annual subscription is R.\$6.00 (single copies R.\$3.00) for subscribers in Rhodesia, South Africa and adjoining territories and U.S.\$10.00 (single copies U.S.\$5.00) for subscribers elsewhere. These rates include all charges.

Specimen copies are available free of charge to libraries from: THE EDITOR, RHODESIAN JOURNAL OF AGRICULTURAL RESEARCH, P.O. BOX 8108, CAUSEWAY, SALISBURY, RHODESIA.