# TROPICAL AGRICULTURE

## The journal of the Faculty of Agriculture (Imperial College of Tropical Agriculture), University of the West Indies

Editor in Chief: Professor F. W. Cope

the quarterly journal devoted to agriculture in tropical and sub-tropical countries for research workers, extension workers and crop and livestock managers.

#### Coverage includes:

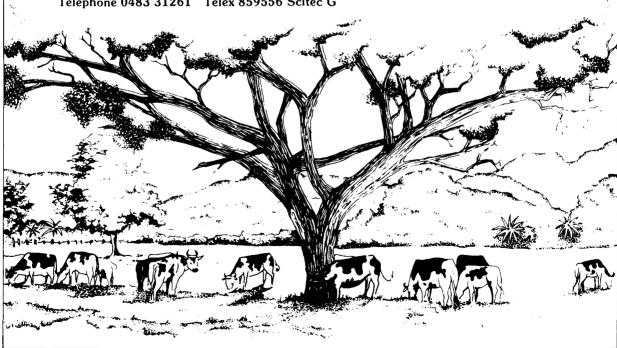
- agronomy
- biology
- crop protection
- ecology

- economics
- energy
- horticulture
- livestock studies
- physiology
- post-harvest technology
- soil science

#### recent special issues have featured

- Biological Nitrogen Fixation
- Management of Clay Soils

for further information or sample copy, contact:
Mrs Sheila King
Butterworth Scientific Limited PO Box 63 Westbury House Bury Street
Guildford Surrey GU2 5BH England
Telephone 0483 31261 Telex 859556 Scitec G



### Insect Science and its Application

#### The International Journal of Tropical Insect Science

#### Aims and Scope

Insect Science and its Application deals comprehensively with all aspects of scientific research targeted on tropical insects (and related arthropods), and the application of new discoveries to such diverse fields as pest and vector management and the use of insects for human welfare.

A distinctive feature of the journal is its multi- and interdisciplinary nature, which transcends the traditional boundaries of entomology.

Its second feature is its concentration on the recording and reviewing of the progress of insect science in the tropical and subtropical regions of the world. Thus, without excluding any area of the wide field encompassed by insect science, the journal will accept manuscripts in environmental physiology, the regulation of development and reproduction, population modelling, chemical ecology, natural products chemistry, plant resistance, host/insect relations, behaviour of tropical pest species, epidemiology of tropical diseases, vector biology, pest and vector management research, entomo-meteorology, insects in relation to farming systems, forest entomology, insect pathology, social insects and arthropods, and the use of insects. It is the intention of the Editors to have manuscripts published rapidly, consistent with the needs of quality control.

In addition to articles of original research, the journal also publishes book reviews, announcements and reports of meetings and mini-reviews. Each regular issue of the journal usually contains a short review article on a critical or rapidly developing area of tropical insect science; normally the Editors will have invited an author to contribute such a mini-review.

#### **Information for Contributors**

- 1. All papers for publication in *Insect Science and Its Application* should be submitted directly to the Editor-in-Chief, Professor Thomas R. Odhiambo, Scientific Editorial Services, P.O. Box 59900, Nairobi, Kenya. Papers should be mailed in a strong, preferably linen, envelope, as they may otherwise arrive in a damaged condition.
- 2. Papers should be in English or French and be original contributions in the field of tropical insect science. Each paper should have a summary in the form of an abstract in both English and French.
- 3. Submission of a paper implies that it has not been published previously, that it is not under consideration for publication elsewhere, and that if accepted for *Insect Science and Its Application* the authors will transfer copyright to Pergamon Press as is customary. Articles and illustrations become the property of the journal. There is no page charge for papers accepted for publication.
- 4. Manuscripts and illustrations must be submitted in triplicate to ensure efficient refereeing, and the author should retain a copy. In the case of multiple authorship the authors should indicate who is to receive correspondence.
- 5. Manuscripts must be typewritten with double spacing (including the reference list), and with wide margins on one side of the paper only. Authors are requested to keep their communications as concise as possible. Footnotes should be avoided, and italics should not be used for emphasis. A running head of not more than 30 letters should be supplied.
- 6. Twenty-five free reprints will be supplied to the first-named author of each paper published in the journal. Detailed Instructions to Authors for the preparation of manuscripts are available from the Editor-in-Chief or the Publishing Office.

# Insect Science and its Application

The International Journal of Tropical Insect Science

#### **VOLUME 6 NUMBER 4**

1985

#### **CONTENTS**

C. W. Baliddawa	479	Mini-Review Article Plant species diversity and crop pest control. An analytical review
LEAH R. S. AWITI, THOMAS R. ODHIAMBO and Nelson T. Ogoma	489	Research Articles An electron microscopic study of the aortic wall and corpus cardiacum in relation to their neurohaemal function in the tsetse, Glossina morsitans morsitans Westwood
H. S. SALAMA and A. SHARABY	503	Histopathological changes in <i>Heliothis armigera</i> infected with <i>Bacillus thuringiensis</i> as detected by electron microscopy
G. C. Unnithan and A. G. L. Delobel	513	Effects of temperature on longevity, fecundity and fertility of the sorghum shootfly, <i>Atherigona soccata</i> Rondani
A. K. Chakravarthy	517	Distribution patterns, sample-size and sampling Earias spp. on cotton in Ludhiana (Punjab)
A. K. Chakravarthy, A. S. Sidhu and Joginder Singh	521	Effect of plant phenology and related factors on insect pest infestations in <i>Arboreum</i> and <i>Hirsutum</i> cotton varieties
N. K. Krishna Kumar and K. Srinivasan	533	Studies on the seasonal abundance and control of okra stemfly, Melanagromyza hibisci Spencer (Diptera: Agromyzidae) in India
W. Lwande, A. Hassanali, P. W. Njoroge, M. D. Bentley, F. Delle Monache and J. I. Jondiko	537	A new 6a-hydroxypterocarpan with insect antifeedant and antifungal properties from the roots of <i>Tephrosia hildebrandtii</i> Vatke
F. K. EWETE and E. O. OSISANYA	543	Effect of various diets (seeds) on development, longevity and fecundity of the cotton seed bug, <i>Oxycarenus gossypinus</i> Distant (Heteroptera: Lygaeidae)
FANINDRA P. NEUPANE, H. C. COPPEL and R. K. CHAPMAN	547	Bionomics of the maize borer, Chilo partellus (Swinhoe), in Nepal
J. W. CHIERA, R. M. NEWSON and M. P. CUNNINGHAM	555	The effect of size on feeding and breeding performance of Rhi- picephalus appendiculatus Neumann
Editorial: Software Survey Section	I	
Questionnaire	II	
New Patents	i	

Insect Sci. Applic. is Indexed/Abstracted in Current Contents, CABS, BIOSIS Database.

ISSN 0191-9040 ISIADL 6(4) 479-560 (1985)