Agricultural Production Economics and Resource Use

Martin Upton

The theories presented in this introductory text are relevant to both tropical and temperate climates, and also to most economic systems. The approach is new in that it draws together the classical theory of the firm with the modern concepts and methods of operational research. The book deals with production theory under constant prices, from both the classical and the modern linear points of view, and with the four main groups of resources: land, labour, capital and management. £10 paper covers £5

Crop Production in Europe

Maurice Eddowes

Scientific research and technological developments have revolutionized crop-production methods during the last fifteen years. This textbook provides a straightforward and up-to-date account of the production and utilization of temperate crops in Western Europe, with particular reference to the EEC and its Common Agricultural Policy. Written for students taking a wide range of agriculture courses, it will also be useful to commercial organizations in Britain and Europe, and to interested farmers. Illustrated £8 paper covers £4

Crop Husbandry

R. W. Park and Maurice Eddowes

Scientific, technical, and economic developments have completely changed the practice of crop husbandry since the first edition of this book was published in 1961. This new edition is a straightforward, practical, comprehensive, and up-to-date survey of the subject for students at agricultural colleges, for rural studies classes in schools, and for commercial farmers and agricultural advisers. Second edition illustrated £7.50 paper covers £3.75

Biochemical Analysis in Crop Science

Simon R. Draper

This is an introductory textbook for undergraduates and research workers wishing to use biochemical techniques in the study of crop plants. It deals with the technical procedures associated with the sampling and analysis of temperate and tropical crops and their products, and with the major constituents of plant tissues. The importance of the major and trace elements in plant nutrition is outlined, and procedures for the estimation of inorganic constituents discussed. £5.50 paper covers £2.75

Grassland Ecology

C. R. W. Spedding

This paperback edition replaces the one in hard covers, first published in 1971. Paper covers £4.50

Oxford University Press
Agricultural Research for Development
The Namulonge Contribution
Edited by M. H. ARNOLD
A case study of agricultural research in relation to development and an excellent account of the factors involved in the concentrating of research for development into centres using the Namulonge Cotton Research Station as an example.

£13.00 net

Studies in Biological Control
Edited by V. L. DELUCCHI
A synthesis of results from collaborative studies carried out by entomologists in more than thirty countries covering five pest groups of major importance to primary crop productivity and human welfare.

International Biological Programme Volume 9

£13.00 net

Tropical Soils and Soil Survey
ANTHONY YOUNG
A book about tropical soils written from the point of view of the field soil scientist but which will also be useful to the non-specialist, including agriculturalists, who wish to understand the significance of soils in agricultural and economic development.

About £15.00 net

Cambridge Geographical Studies No. 9
Forthcoming (October 1976)

CAMBRIDGE UNIVERSITY PRESS
Continued from back page

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baldwin, J. P.</td>
<td>Competition for plant nutrients in soil; a theoretical approach</td>
<td>341</td>
</tr>
<tr>
<td>Kaiser, A. G.</td>
<td>The effects of milk feeding on the pre- and post-weaning growth of calves, and on stomach development at weaning</td>
<td>357</td>
</tr>
<tr>
<td>Böhm, W.</td>
<td><em>In situ</em> estimation of root length at natural soil profiles</td>
<td>365</td>
</tr>
<tr>
<td>Singh, Sudama and Reddy, M. Sanjiva</td>
<td>Effect of inhibition of flowering on improvement of cane yield and juice quality under Coimbatore conditions</td>
<td>375</td>
</tr>
<tr>
<td>Addiscott, T. M. and Cox, D.</td>
<td>Winter leaching of nitrate from autumn-applied calcium nitrate, ammonium sulphate, urea and sulphur-coated urea in bare soil</td>
<td>381</td>
</tr>
<tr>
<td>Singh, R. P., Nair, K. P. P. and Sharma, K. C.</td>
<td>A note on leaf removal in hybrid maize</td>
<td>391</td>
</tr>
<tr>
<td>Free, J. B. and Williams, Ingrid H.</td>
<td>Pollination as a factor limiting the yield of field beans (<em>Vicia faba</em> L.)</td>
<td>395</td>
</tr>
<tr>
<td>Jones, D. G. and Rowling, R. D. W.</td>
<td>The reaction of two spring wheat varieties exposed to epidemics of <em>Septoria nodorum</em> and <em>S. tritici</em> of varying intensity and duration</td>
<td>401</td>
</tr>
<tr>
<td>Herriman, I. D., Heitzman, R. J., Priestley, I. and Sandhu, G. S.</td>
<td>Concentrations of intermediate metabolites in the blood and hepatic tissues of pregnant and non-pregnant ewes</td>
<td>407</td>
</tr>
<tr>
<td>Onwueme, I. C.</td>
<td>Performance of yam (<em>Dioscorea</em> spp.) sets planted without water</td>
<td>413</td>
</tr>
<tr>
<td>Ranaweera, Anoma and Ford, E. J. H.</td>
<td>The effect of two synthetic steroids on plasma glucose concentration and total entry rate of glucose in sheep</td>
<td>417</td>
</tr>
<tr>
<td>Rowell, J. G. and Walters, D. E.</td>
<td>Analysing data with repeated observations on each experimental unit</td>
<td>423</td>
</tr>
<tr>
<td>Denton, O. A. and Whittington, W. J.</td>
<td>Genetic variation amongst swede varieties and their hybrids and their response to soil fertility</td>
<td>443</td>
</tr>
</tbody>
</table>

**Short Notes**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soh, A. C., Yap, T. C. and Graham, K. M.</td>
<td>Heterosis and combining ability in a diallel cross of chilli (<em>Capsicum annum</em> L.)</td>
<td>447</td>
</tr>
<tr>
<td>Youssef, S. A. M. and Abdel-Rahman, A. Y.</td>
<td>Effect of nitrogen and zinc on yield, protein content and quality of wheat in Egypt</td>
<td>451</td>
</tr>
<tr>
<td>Louda, F. and Doney, J. M.</td>
<td>Persistency of lactation in the Improved Valachian breed of sheep</td>
<td>455</td>
</tr>
<tr>
<td>Mayee, C. D. and Rattan, B. K.</td>
<td>A factor in the break-down of resistance of ‘Basmati-370’ rice to stem-rot disease</td>
<td>459</td>
</tr>
<tr>
<td>Board, P. G., Peter, D. W. and Morris, R. J. H.</td>
<td>Seasonal variations in sheep erythrocyte reduced glutathione</td>
<td>461</td>
</tr>
</tbody>
</table>
THE JOURNAL OF AGRICULTURAL SCIENCE

CONTENTS

Vol. 87 Part 2 October 1976

PAGE

ASIF, M. I. and KHAN, A. A. Absorption and movement of 14C-labelled MH and 2,4-D in onions 241

GATELY, T. F. and McALEES, D. M. Effects of fertilizer N and number of years in tillage on the protein and non-protein content of feeding barley grain (cv. Nessa) and on N uptake and recovery 243

GATELY, T. F. Effects of fertilizer N and number of years in tillage on the protein content of feeding barley straw (cv. Nessa) and on N uptake and recovery 251

FENLON, J. S. and BEEVER, D. E. An examination of the net changes in amino-acid composition within the rumen of mature wether sheep using canonical variate analysis 255

HARRICHARAN, H., MAHADEVAN, P. and SPRINGER, B. G. F. The performance of Santa Gertrudis, Sahiwal, Brahman and cross-bred animals in the intermediate savannahs of Guyana. 2. Birth weight and preweaning performance 269

ASIF, M. I., KHAN, A. A. and AJAKAIYE, M. N. Zinc nutrition of onions as influenced by phosphorus 277

PUSHMAN, FIONA M. and BINGHAM, J. The effects of a granular nitrogen fertilizer and a foliar spray of urea on the yield and breadmaking quality of ten winter wheats 281

GUPTA, A. and SAXENA, M. C. Total nitrogen concentration in leaves of potatoes (Solanum tuberosum L.) as an index of nutritional status 293

HODGSON, J. C., THOMAS, P. C. and WILSON, AGNES G. The influence of the level of feeding on fermentation in the rumen of sheep receiving a diet of ground barley, ground hay and flaked maize 297

DYKE, G. V. and SHELLEY, CHRISTINE F. Serial designs balanced for effects of neighbours on both sides 303

JESSOP, R. S. and PALMER, B. Seasonal dependence of wheat variety response to superphosphate 307

TUCKER, ELIZABETH M., KILGOUR, L. and YOUNG, J. D. The genetic control of red cell glutathione deficiencies in Finnish Landrace and Tasmanian Merino sheep and on crosses between these breeds 315

SINGH, BIJAY, HUNDAL, H. S. and SEKHON, G. S. Evaluation of nitric phosphates differing in water solubility of their phosphorus fraction 325

PROCTOR, J. M. and SMARTT, A. Effects of seed size and spacing of seed tubers and stems on yields of early and canning potatoes 331

RICHARDS, I. R., WOLTON, K. M. and IVINS, J. D. A note on the effect of sheep grazing on the yield of grass swards 344

Continued on inside back cover

© Cambridge University Press 1976

Subscriptions. Two volumes of three parts are published annually. The subscription price of volumes 86 and 87, 1976, is £17.50 net (U.S.A. and Canada US $47.50) per volume (post free); single parts are available at £7.00 net (U.S.A. and Canada US $18.50) plus postage. Orders or enquiries may be sent to any bookseller or subscription agent, or to Cambridge University Press, P.O. Box 92, London NW1 2DB (U.S.A. and Canada, Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022, U.S.A.).

Printed in Great Britain at the University Printing House, Cambridge