

# THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED BY

PROFESSOR SIR R. H. BIFFEN, M.A., F.R.S., School of Agriculture, Cambridge  
E. M. CROWTHER, D.Sc., F.I.C., Rothamsted Experimental Station,  
Harpenden

J. HAMMOND, M.A., D.Sc., F.R.S., School of Agriculture, Cambridge

H. HUNTER, M.A., D.Sc., School of Agriculture, Cambridge

B. A. KEEN, D.Sc., F.R.S., Rothamsted Experimental Station, Harpenden

F. H. A. MARSHALL, C.B.E., Sc.D., LL.D., F.R.S., School of Agriculture,  
Cambridge

SIR E. J. RUSSELL, D.Sc., F.R.S., Campsfield Wood, Woodstock, Oxon.

IN CONSULTATION WITH

PROFESSOR B. T. P. BARKER, M.A., Agricultural and Horticultural Research Station, Long  
Ashton, Bristol

DR I. B. POLE-EVANS, C.M.G., Department of Agriculture, Pretoria, South Africa

PROFESSOR J. HENDRICK, B.Sc., F.I.C., Marischal College, Aberdeen

DR A. E. V. RICHARDSON, C.M.G., M.A., Commonwealth Council for Scientific and Industrial  
Research, Melbourne, Australia

DR H. J. WHEELER, American Agricultural Chemical Co., Agricultural Service Bureau,  
419 Fourth Avenue, New York, U.S.A.

VOLUME XXXIII 1943

CAMBRIDGE  
AT THE UNIVERSITY PRESS

1943

Cambridge University Press  
LONDON: BENTLEY HOUSE

CHICAGO

The University of Chicago Press  
(Agents for the United States)

BOMBAY · CALCUTTA · MADRAS

Macmillan

*All rights reserved*

PRINTED IN GREAT BRITAIN

## PART 3 (JULY 1943)

	PAGE
BONDI, A. H. and MEYER, H. On the chemical nature and digestibility of roughage carbohydrates . . . . .	123
DUDLEY, F. J. and KING WILSON, W. Carcass investigations with rabbits. Some observations on the weights of rabbits at time of killing . . . . .	129
CHILDS, E. C. Studies in mole-draining. Interim report on an experimental drainage field. (With Seven Text-figures) . . . . .	136
RUSSELL, E. W. The subdivision of the clay fraction in mechanical analysis . . . . .	147
WOODMAN, H. E. and EVANS, R. E. The nutrition of the bacon pig. IX. The Lehmann method of pig feeding, with particular reference to the balance of the basal meal and the use of cooked potatoes and molassed beet pulp as the supplemental foods . . . . .	155
LEWIS, A. H. The uptake of nutrients by flax . . . . .	169
FERGUSON, W. S. The digestibility of straw pulp . . . . .	174

## PART 4 (OCTOBER 1943)

WILLIAMS, E. G. and STEWART, A. B. Studies on phosphate fixation in Scottish soils. I. The recovery of added phosphate from a soil of the acid igneous group. (With Two Text-figures) . . . . .	179
DUCKWORTH, JOHN, GODDEN, WILLIAM and THOMSON, WILLIAM. The relation between rates of growth and rickets in sheep on diets deficient in vitamin D. (With Two Text-figures) . . . . .	190
GALLAGHER, PATRICK H. and WALSH, THOMAS. The susceptibility of cereal varieties to manganese deficiency. (With Plate 8) . . . . .	197
TEMPERTON, H. and DUDLEY, F. J. The feeding of raw and cooked potatoes and sugar beet to laying pullets . . . . .	204
MANN, HAROLD H. The influence of fallowing on the yield of wheat or barley on very exhausted land . . . . .	207
COMMON, R. H. Observations on the mineral metabolism of pullets. VII. The calcium requirement of the laying bird. (With Two Text-figures) . . . . .	213