

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 XXXV 1945

CAMBRIDGE
AT THE UNIVERSITY PRESS

1945

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 1945)

	PAGE
RUTLEDGE, W. A. and COMMON, R. H. The composition and digestibility of Northern Irish ryegrass seed and ryegrass seed cleanings. II. Data for 'flatweed', 'hairgrass', and commercial Yorkshire fog seed, with a note on inorganic constituents	123
SNOW, DOUGLAS and WRIGHT, NORMAN C. The respiration rate and loss of dry matter from stored bran. (With One Text-figure)	126
WOODMAN, H. E. and EVANS, R. E. Nutrition of the bacon pig. XI. The minimum level of protein intake consistent with quick growth and satisfactory carcass quality (Part IV)	133
DAY, F. T. and HAMMOND, J. Lactation in heifers induced by oestrogen implants. (With Three Text-figures)	150
BOLTON, W. and HALE, W. Dried potato products for egg production: statistical analysis of a laying experiment. (With One Text-figure)	158
BRAUDE, R. Some observations on the need for copper in the diet of fattening pigs	163
TYLER, CYRIL. The porosity of egg shells and the influence of different levels of dietary calcium upon porosity. (With One Text-figure)	168
HATCHER, E. S. J. and PURVIS, O. N. On the behaviour in the field of small grain obtained by premature harvesting	177
ANDERSON, J. Seasonal variation in the reproductive capacity of the bull. (With 17 Text-figures)	184

PART 4 (OCTOBER 1945)

COWIE, G. A. Study of the effects of fertilizers and rainfall on yields of crops grown in rotation. (With Three Text-figures)	197
BARTON MANN, T. Chick rearing. V. The influence of diet on epidemic bacillary white diarrhoea (<i>pullorum</i> disease)	207
BARTON MANN, T. Chick rearing. VI. The bacterial syndrome encountered in epidemic bacillary white diarrhoea of chicks (<i>pullorum</i> disease). (With Plate 6)	214
BARTON MANN, T. Chick rearing. VII. The control of epidemic bacillary white diarrhoea. (With Plate 7)	225
BARTON MANN, T. Chick rearing. VIII. The preparation of a sensitive and diagnostic stained antigen for the rapid whole blood test for bacillary white diarrhoea of chicks. (With Plate 8)	232
INNES, R. F. and BIRCH, H. F. A comparison of four methods for the estimation of the exchangeable hydrogen content of soils	236
DILLON WESTON, W. A. R. and TAYLOR, R. ERIC. Seed disinfection. VII. Mechanical principles. (With One Text-figure)	239
CHANG, M. C. The sperm production of adult rams in relation to frequency of semen collection. (With One Text-figure)	243
HUMPHRIES, E. C. and RODRIGUES, G. Decomposition of cacao leaves under natural conditions. (With Two Text-figures)	247
WALSH, THOMAS and O'DONOHUE, F. Magnesium deficiency in some crop plants in relation to the level of potassium nutrition. (With Plate 9)	254
JEWITT, T. N. Nitrification in Sudan Gezira soil. (With Sixteen Text-figures)	264