THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED FOR THE PLANT BREEDING AND ANIMAL NUTRITION RESEARCH INSTITUTES AT CAMBRIDGE,
AND THE ROTHAMSTED RESEARCH INSTITUTES 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

- SIR A. D. HALL, K.C.B., M.A., LL.D., F.R.S., John Innes Horticultural Institution, Merton Park, London, S.W. 19
- 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., Rothamsted Experimental Station, Harpenden

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
- SIR T. H. MIDDLETON, K.C.I.E., K.B.E., C.B., M.A., F.R.S., The Development Commission, and Agricultural Research Council, London
- DR A. E. V. RICHARDSON, M.A., Waite Agricultural Research Institute, Glen Osmond, South Australia
- DR FRANK T. SHUTT, F.I.C., Experimental Farms, Ottawa, Canada
- DR H. J. WHEELER, American Agricultural Chemical Co., Agricultural Service Bureau, 419 Fourth Avenue, New York, U.S.A.

VOLUME XXIX 1939

CAMBRIDGE
AT THE UNIVERSITY PRESS
1939

PRINTED IN GREAT BRITAIN

Contents vii

	PAGE
PARKER-RHODES, A. F. Investigations on certain toxic substances obtained from the wheat plant which inhibit the germination of the uredospores of various wheat rusts. (With six graphs)	399
MacDonald, D., Fielding, W. L. and Ruston, D. F. Experimental methods with cotton. II. A study of the effects of seed rate and time of thinning on the development and yield of cotton plants in hand-planted cotton trials. (With Plate III and one text-figure)	418
DEIGHTON, THOMAS. A study of the metabolism of fowls. I. A calorimeter for the direct determination of the metabolism of fowls. (With nine text-figures)	431
YATES, F. and WATSON, D. J. Factors influencing the percentage of nitrogen in the barley grain of Hoosfield .	452
DAY, F. T. Ovulation and the descent of the ovum in the Fallopian tube of the mare after treatment with gonado- trophic hormones. (With Plate IV and one text-figure).	459
DAY, F. T. The oestrous cycle of the mare following removal of the foetus at various stages of pregnancy	470
PART 4 (OCTOBER 1939)	
NAGELSCHMIDT, G. The identification of minerals in soil colloids. (With five text-figures)	477
WOODMAN, H. E. and EVANS, R. E. Nutrition of the bacon pig. IV. The influence on growth, conformation and carcass quality of including meat meals of widely-differing fat content in the rations of bacon pigs	502
Moon, F. E. The influence of manurial treatment on the carotene content of pasture grass, and on the relationship of this constituent to the ash and organic fractions	524
PALSSON, H. Meat qualities in the sheep with special reference to Scottish breeds and crosses. I. (With Plates V-XII and ten text-figures)	544