

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., Cambridge
SIR A. D. HALL, K.C.B., M.A., LL.D., F.R.S., Ministry of Agriculture, London
B. A. KEEN, D.Sc., F.INST.P., Rothamsted Experimental Station, Harpenden
F. H. A. MARSHALL, Sc.D., F.R.S., Cambridge
SIR E. J. RUSSELL, D.Sc., F.R.S., Rothamsted Experimental Station, Harpenden
PROFESSOR T. B. WOOD, C.B.E., M.A., LL.D., F.I.C., F.R.S., Cambridge

IN CONSULTATION WITH

B. C. ASTON, Department of Agriculture, Wellington, New Zealand
DR C. A. BARBER, C.I.E., School of Agriculture, Cambridge
PROFESSOR B. T. P. BARKER, M.A., Agricultural and Horticultural Research Station, Long
Ashton, Bristol
J. R. CAMPBELL, B.Sc., Department of Agriculture, Dublin
I. B. POLE EVANS, Department of Agriculture, Pretoria, South Africa
F. B. GUTHRIE, Department of Agriculture, Sydney, N.S.W.
PROFESSOR J. HENDRICK, B.Sc., Marischal College, Aberdeen
SIR T. H. MIDDLETON, K.B.E., C.B., M.A., The Development Commission, London
DR FRANK T. SHUTT, F.I.C., Experimental Farms, Ottawa, Canada
SIR WILLIAM SOMERVILLE, M.A., D.Sc., Oxford
DR A. C. TRUE, Department of Agriculture, Washington, D.C., U.S.A.
SIR FRANCIS WATTS, K.C.M.G., Barbados
DR H. J. WHEELER, American Agricultural Chemical Co., Boston, Mass., U.S.A.

VOLUME XVII 1927

CAMBRIDGE
AT THE UNIVERSITY PRESS

1927

PRINTED IN GREAT BRITAIN

THE JOURNAL OF
AGRICULTURAL SCIENCE

CAMBRIDGE UNIVERSITY PRESS

LONDON: FETTER LANE, E.C. 4



H. K. LEWIS & CO., LTD., 136, GOWER STREET, LONDON, W.C. 1
WHELDON & WESLEY, LTD., 2-4, ARTHUR STREET, NEW OXFORD
STREET, LONDON, W.C. 2

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS
(Agent for the United States)

BOMBAY, CALCUTTA, MADRAS: MACMILLAN & CO., LTD.

TOKYO: THE MARUZEN-KABUSHIKI-KAISHA

All rights reserved

CONTENTS

PART 1 (JANUARY 1927)

	PAGE
JOSEPH, A. F. and WHITEFIELD, B. W. The organic matter in heavy alkaline soils	1
JOSEPH, A. F. The moisture equivalent of heavy soils. II	12
SANDERS, H. G. The length of the interval between calvings	21
DAVIES, W. L. The proteins of green forage plants. III. The proteins of forage plants of the natural order Cruciferae (genus <i>Brassica</i>). Comparison with colzalin, a globulin from rapeseed	33
DAVIES, W. L. The proteins of green forage plants. IV. The proteins of some plants of the natural order Umbelliferae	41
WOODMAN, R. M. The solubility of some likely spray substances in solvents containing soap. The preparation of spraying emulsions	44
WOODMAN, H. E. and STEWART, J. The composition of flaked maize	60
CRANFIELD, H. T., GRIFFITHS, D. G. and LING, E. R. The composition of milk. Part I. Variation in the solids not fat, fat and protein content of cow's milk, and their relationship. (With three charts)	62
CRANFIELD, H. T., GRIFFITHS, D. G. and LING, E. R. The composition of milk. Part II. Variation in the percentage of mineral constituents in cow's milk, and their relationship with the solids not fat and protein content. (With ten charts)	72
ROBINSON, G. W. and JONES, J. O. Losses of added phosphate by leaching from N. Welsh soils	94
JONES, G. H. GETHIN. Note on the action of hydrogen peroxide on farmyard manure in different stages of decomposition	104
CUNNINGHAM, ANDREW and JENKINS, HERMIMA. Studies on <i>Bacillus amylobacter</i> , A. M. et Bredemann. (With one Plate)	109
DRAKELEY, T. J. and WHITE, MARGARET K. The influence of the stage of lactation and the breed of the cow on the yield and quality of the milk. (With one text-figure)	118
Preliminary announcement of the first International Congress of Soil Science	140

PART 2 (APRIL 1927)

VANSTONE, ERNEST. The chemistry of basic slags	143
PYNE, GERALD T. The determination of nitrates in plant materials	153
GIMINGHAM, C. T. and TATTERSFIELD, F. Laboratory and field experiments on the use of 3 : 5-dinitro- <i>o</i> -cresol and the sodium salt for winter spraying. (With one text-figure)	162