

THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED BY

PROFESSOR R. H. BIFFEN, M.A., F.R.S., Cambridge
A. D. HALL, M.A., F.R.S., Board of Agriculture, London
E. J. RUSSELL, D.Sc., F.R.S., Rothamsted Experimental Station, Harpenden
PROFESSOR T. B. WOOD, M.A., Cambridge

IN CONSULTATION WITH

DR H. P. ARMSBY, State College, Pennsylvania, U.S.A.
B. C. ASTON, Department of Agriculture, Wellington, New Zealand
DR C. A. BARBER, Agricultural College, Coimbatore, India
PROFESSOR B. T. P. BARKER, M.A., National Fruit and Cider Institute, Long Ashton, Bristol
W. BATESON, M.A., F.R.S., John Innes Horticultural Institute, Merton, Surrey
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
MAJOR J. W. LEATHER, V.D., F.I.C.
T. H. MIDDLETON, C.B., M.A., Board of Agriculture, London
F. T. SHUTT, M.A., F.I.C., Experimental Farms, Ottawa, Canada
PROFESSOR W. SOMERVILLE, M.A., D.Sc., School of Rural Economy, Oxford
DR A. C. TRUE, Department of Agriculture, Washington, D.C., U.S.A.
DR FRANCIS WATTS, C.M.G., Barbados
DR H. J. WHEELER, American Agricultural Chemical Co., Boston, Mass.

Volume VIII 1916-17



Cambridge University Press

C. F. CLAY, Manager

LONDON: Fetter Lane, E.C. 4

EDINBURGH: 100, Princes Street

also H. K. LEWIS & Co., Ltd., 136, Gower Street, London, W.C. 1
and WILLIAM WESLEY & SON, 28, Essex Street, London, W.C. 2

CHICAGO: The University of Chicago Press

BOMBAY, CALCUTTA AND MADRAS: Macmillan and Co., Ltd.

TORONTO: J. M. Dent and Sons, Ltd.

TOKYO: The Maruzen-Kabushiki-Kaisha

[All rights reserved]

CONTENTS

Part 1 (September, 1916)

	PAGE
ELLIS, J. C. B., and MORISON, C. G. T. The ammoniacal nitrogen of peats and humus soils. Part I	1
DAVIS, WILLIAM A. The estimation of carbohydrates. V. The supposed precipitation of reducing sugars by basic lead acetate	7
ROBERTSON, G. S. Notes on the nature of the phosphates contained in mineral phosphates. (Two figures in text)	16
STAPLEDON, R. G., and JENKIN, T. J. Pasture problems: indigenous plants in relation to habitat and sown species	26
RUSSELL, EDWARD JOHN, and PRESCOTT, JAMES ARTHUR. The reaction between dilute acids and the phosphorus compounds of the soil. (Twenty figures in text)	65
PRESCOTT, JAMES ARTHUR. The phenomenon of absorption in its relation to soils. A résumé of the subject. (One figure in text)	111
PICKERING, SPENCER. The fruiting of trees in consecutive seasons	131
DAVIS, WILLIAM A., and PRESCOTT, JAMES ARTHUR. Note on the loss of phosphoric acid during fusion with ammonium fluoride	136

Part 2 (March, 1917)

HAMMOND, J., and HAWK, J. C. Studies in milk secretion. I. The effect of nutrition on yield and composition. (Two figures in text)	139
HAMMOND, J., and HAWK, J. C. Studies in milk secretion. II. The relation of the glands of internal secretion to milk production	147
WILD, LEONARD JOHN. Some soils of the Southern Island of New Zealand with special reference to their lime requirements. (Two figures in text)	154
MOSSCROP, T. DUNCAN. Some conditions affecting the value of calcium cyanamide as a manure	178
WILLIAMS, GWILYM. Hydrolysis of the soluble protein of swede turnips	182
WORMALD, H. The celery-rot bacillus. (Plates I and II)	216
TAYLOR, A. M. Black currant eelworm. (Plate III, and One figure in text)	246

Part 3 (June, 1917)

	PAGE
RAMSAY, A. A. The solubility of calcium phosphates in citric acid	277
RICHARDS, ERIC HANNAFORD. The fixation of nitrogen in fæces. (Two figures in text)	299
TEMPANY, H. A. The shrinkage of soils. (Four figures in text)	312
RICHARDS, ERIC HANNAFORD. Dissolved oxygen in rain-water. (Two figures in text)	331
ROBINSON, GILBERT WOODING. Studies on the palæozoic soils of North Wales. (Two figures in text)	338
RUSSELL, E. J., and APPELYARD, A. The influence of soil condi- tions on the decomposition of organic matter in the soil. (Nine figures in text)	385

Part 4 (December, 1917)

GODDEN, WILLIAM. The comparative keeping qualities of palm kernel, coconut, ground-nut and other oil-cakes	419
CROWTHER, CHARLES, and WOODMAN, HERBERT ERNEST. The comparative digestibility of palm kernel cake, extracted palm kernel meal and undecorticated. cottonseed cake. (Two figures in text)	429
CROWTHER, CHARLES, and WOODMAN, HERBERT ERNEST. The digestibility of dried yeast	448
CROWTHER, CHARLES, and WOODHOUSE, HILDA. The influence of palm kernel cake upon the composition of milk-fat	451
SALMON, E. S. On forms of the hop (<i>Humulus lupulus</i> L.) resistant to mildew (<i>Sphaerotheca humuli</i> (DC.) Burr.)	455
CAYLEY, DOROTHY M. Bacterial disease of <i>Pisum sativum</i> . (Plates IV—VII)	461
PAINÉ, SYDNEY G. Studies in bacteriosis. I. "Blackleg" of the potato	480
RUSSELL, E. J., and RICHARDS, E. H. The changes taking place during the storage of farmyard manure. (Ten figures in text)	495