# THE JOURNAL OF AGRICULTURAL SCIENCE

#### EDITED BY

PROFESSOR R. H. BIFFEN, M.A., Cambridge A. D. HALL, M.A., F.R.S., Development Commission, London 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 DR J. W. LEATHER, Agricultural Research Institute, Pusa, Bengal 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., 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 V 1912-13



Cambridge University Press C. F. CLAY, Manager LONDON: Fetter Lane, E.C. EDINBURCH: 100, Princes Street also H. K. LEWIS, 136, Gower Street, London, W.C. and WILLIAM WESLEY & Son, 28, Essex Street, London, W.C. BERLIN: A. Asher and Co. LEIPSIC: F. A. Brockhaus CHICAGO: The University of Chicago Press BOMBAY AND CALCUTTA: Macmillan and Co., Ltd. Entered at the New York Post Office as Second Class Matter

[All Rights reserved]

### Cambridge :

PRINTED BY JOHN CLAY, M.A. At the University press.

### Contents

# Part 3 (June, 1913).

	PAGE
SPINKS, G. T. Factors Affecting Susceptibility to Disease in Plants.	
Part I. (Plate VII)	231
RUSSELL, EDWARD JOHN, and PETHERBRIDGE, FREDERICK ROBERT.	
On the Growth of Plants in Partially Sterilised Soils. (One	
Figure in Text. Plates VIII—XI)	248
BROOKS, F. T. Silver-leaf Disease (II). (Plates XII, XIII)	288
GAVIN, WILLIAM. Studies in Milk Records: The Influence of	
Foetal Growth on Yield. (Four Figures in Text)	309
HUTCHINSON, H. B. The Partial Sterilisation of the Soil by means	
of Caustic Lime. (Plate XIV)	320
COOPER, W. F., NUTTALL, W. H., and FREAK, G. A. Observations	
on the Fat Globules in Milk. (Six Figures in Text) .	331
COOPER, W. F., NUTTALL, W. H., and FREAK, G. A. The	
Enumeration and Measurement of Fat Globules in Milk.	
(Two Figures in Text)	357

# Part 4 (October, 1913).

GAVIN, WILLIAM. Studies in Milk Records: On the Accuracy of	
Estimating a Cow's Milking Capability by her First Lactation	
Yield. (Five Diagrams in Text)	377
CROWTHER, CHARLES, and STEUART, DAN W. The Distribution	
of Atmospheric Impurities in the Neighbourhood of an In-	
dustrial City. (Two Diagrams in Text)	391
AULD, S. J. M. Cyanogenesis under Digestive Conditions	409
MACKENZIE, K. J. J., and MARSHALL, F. H. A. On Ovariotomy	
in Sows; with Observations on the Mammary Glands and	
Internal Genital Organs. (Plate XV)	418
JONES, J. S., and COLVER, C. W. The Composition of Irrigated	
and Non-irrigated Apples	424
AULD, S. J. M. Digestibility Experiments with Sheep. Para	
Rubber Seed Cake	429
DAVIS, WILLIAM A. A Simple Laboratory Apparatus for the	
Continuous Evaporation of Large Volumes of Liquid in vacuo.	
(One Diagram in Text)	434
DAVIS, WILLIAM A., and DAISH, ARTHUR JOHN. A Study of the	
Methods of Estimation of Carbohydrates, especially in Plant-	
extracts. (Two Figures in Text)	437
BALLS, W. LAWRENCE. The Movements of Soil-water in an	
Egyptian Cotton-field. (Three Figures in Text)	469
PICKERING, SPENCER UMPREVILLE, and RUSSELL, E. J. The Effect	
of Bastard Trenching on the Soil and on Plant Growth .	483
	100