

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

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 XVI 1926

CAMBRIDGE
AT THE UNIVERSITY PRESS
1926

PRINTED IN GREAT BRITAIN

CONTENTS

PART 1 (JANUARY 1926)

	PAGE
VILJOEN, J. A., FRED, E. B. and PETERSON, W. H. The fermentation of cellulose by thermophilic bacteria. (With two text-figures)	1
WRIGHT, C. H. The relations between certain soil moisture constants and the determination of the vesicular coefficients of soils	18
WOODMAN, HERBERT ERNEST and HANLEY, FREDERICK. A study of the process of making stack silage. (With one graph)	24
SANSOME, F. W. Dry matter of swedes. I. (With one text-figure)	51
ELLIOT, WALTER, ORR, J. B. and WOOD, T. B. Investigation on the mineral content of pasture grass and its effect on herbivora. I. General Report. By WALTER ELLIOT	59
ELLIOT, WALTER, ORR, J. B. and WOOD, T. B. Investigation on the mineral content of pasture grass and its effect on herbivora. II. Report on the effect of the addition of mineral salts to the ration of sheep. By WALTER ELLIOT and ARTHUR CRICHTON	65
ELLIOT, WALTER, ORR, J. B. and WOOD, T. B. Investigation on the mineral content of pasture grass and its effect on herbivora. III. Report on the chemical analyses of samples of pasture from various areas in the British Isles. By WILLIAM GODDEN	78
ELLIOT, WALTER, ORR, J. B. and WOOD, T. B. Investigation on the mineral content of pasture grass and its effect on herbivora. IV. Report on the seasonal variations in the mineral content of pastures. By ETHEL M. CRUICKSHANK. (With one graph)	89
ELLIOT, WALTER, ORR, J. B. and WOOD, T. B. Investigation on the mineral content of pasture grass and its effect on herbivora. V. Report on the effect of fertilisers on the mineral content of pastures. By WILLIAM GODDEN	98
KEEN, BERNARD A., CROWTHER, EDWARD M. and COUTTS, JOHN R. H. The evaporation of water from soil. III. A critical study of the Technique. (With five text-figures)	105
A SUB-COMMITTEE OF THE AGRICULTURAL EDUCATION ASSOCIATION. The mechanical analysis of soils: A report on the present position, and recommendations for a new official method	123
PROCTER, F. and MATTICK, A. T. R. Alkaline milk and its detection by the brom cresol purple test—I	145
MCLEAN, W. The control of leaf-roll disease in potatoes by the diagnosis of "primarily infected" tubers. Preliminary note. (With two text-figures)	149