THE JOURNAL OF

AGRICULTURAL SCIENCE

EDITED BY

Professor R. H. BIFFEN, M.A., F.R.S., Cambridge SIR A. D. HALL, K.C.B., M.A., F.R.S., Ministry of Agriculture, London E. J. RUSSELL, D.Sc., F.R.S., Rothamsted Experimental Station, Harpenden Professor T. B. WOOD, C.B.E., M.A., F.R.S., 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, School of Agriculture, Cambridge

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

SIR T. H. MIDDLETON, K.B.E., C.B., M.A., The Development Commission, 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, U.S.A.

VOLUME X 1920

CAMBRIDGE
AT THE UNIVERSITY PRESS
1920

CONTENTS

Part 1 (January 1920)

WOODMAN, H. E. Notes on the extraction of milk sugar from	PAGI
whey	1
CAMER, Dr J. Investigations of the hair of different breeds of cattle	12
RUSSELL, E. J. and RICHARDS, E. H. The washing out of nitrates by drainage water from uncropped and unmanured land. (Based on analyses made by the late N. H. J. MILLER.) (Seven figures in text)	22
KEEN, BERNARD A. The relations existing between the soil and its water content. (Two figures in text).	44
MATTHEWS, DONALD J. The determination of ammonia in soil. (Two figures in text)	72
GEAKE, ARTHUR. A new method of testing cheeses	86
STAPLEDON, R. G. Seed studies: Red clover with special reference to the country of origin of the seed	90
Part 2 (April 1920)	
ROBERTS, HERBERT F. The relation of protein content to variety types in American wheat	121
CUTLER, D. W. A method for estimating the number of active protozoa in the soil	135
Bewley, W. F. and Hutchinson, H. B. On the changes through which the nodule organism (<i>Ps. radicicola</i>) passes under cultural conditions. (Plates I-III and one figure in text)	144
COWIE, G. A. The mechanism of the decomposition of cyanamide in the soil. (Five figures in text)	163