Continued from back cover

HEGAZI, E. M. and SHABAAN, M. A. Competition and the superparasitism of Spodoptera littoralis (Boisd.) larvae by Microplitis rufiventris Kok	181
Goss, M. J., Howse, K. R., VAUGHAN-WILLIAMS, JUDITH M., WARD, M. A. and JENKINS, W. Water use by winter wheat as affected by soil management	189
WILMAN, D. and PEARSE, P. JOY. Effects of applied nitrogen on grass yield, nitrogen content, tillers and leaves in field swards	201
KHALIFA, F. M. Effect of spacing on growth and yield of sunflower (<i>Helianthus annuus</i> L.) under two systems of dry farming in Sudan .	213
WELLER, R. F., PHIPPS, R. H. and GRIFFITH, E. S. The nutritive value of normal and brown midrib-3 maize.	223
TOWNER, G. D. The redistribution of a surface layer of solute during the drainage of a soil profile to field capacity.	229
ELLIOTT, R., BRANDON, JANELLE R., KENNY, G. J. and EVANS, T. R. Excretion patterns of 3-hydroxy-4(1H) pyridone (DHP) by steers fed a high energy and a high-fibre diet supplemented with Leucaena leucocephala.	239
SHORT NOTES	
FRANCE, J. and DHANOA, M. S. On estimating lactation yield	245
CHAUHAN, Y. S. and BHARGAVA, S. C. Physiological analysis of growth and yield variation of rapeseed and mustard	249
POWELL, W. and WOOD, W. An assessment of the <i>hap</i> initiator gene for haploid production in <i>Hordeum vulgare</i>	253

THE JOURNAL OF AGRICULTURAL SCIENCE

CONTENTS

Vol. 103 Part 1 August 1984

NEAL, HEATHER D. ST C., THOMAS, C. and COBBY, J. M. Comparison of equations for predicting voluntary intake by dairy cows	1
LIN, C. S. and BINNS, M. R. Working rules for determining the plot size and numbers of plots per block in field experiments	11
BUTLER-HOGG, B. W. Growth patterns in sheep: changes in the chemical composition of the empty body and its constituent parts during weight loss and compensatory growth	17
McGRATH, S. P. Metal concentrations in sludges and soil from a long-term field trial	25
MACKIE, R. I., GILCHRIST, FRANCES M. C. and HEATH, SUZETTE. An in vivo study of ruminal micro-organisms influencing lactate turnover and its contribution to volatile fatty acid production	37
SINGH, R. P. and SINGH, S. A study of interaction of additive, dominance and epistatic gene effects with micro- and macro-environments in two tomato triple test crosses	53
BARRACLOUGH, P. B. and LEIGH, R. A. The growth and activity of winter wheat roots in the field: the effect of sowing date and soil type on root growth of high-yielding crops	59
IQTIDAR, A. and REHMAN, S. F. Effect of boron on the protein and amino acid composition of wheat grain	75
SUTTLE, N. F., ABRAHAMS, P. and THORNTON, I. The role of a soil × dietary sulphur interaction in the impairment of copper absorption by ingested soil in sheep	81
SAITO, SIU M. T., MONTANHEIRO, MARIA NAZARETH S., VICTÓRIA, R. L. and REICHARDT, K. The effects of N fertilizer and soil moisture on the nodulation and growth of <i>Phaseolus vulgaris</i>	87
BONETTI, R., MONTANHEIRO, MARIA NAZARETH S. and SAITO, SIU M. T. The effects of phosphate and soil moisture on the nodulation and growth of <i>Phaseolus vulgaris</i>	95
ABRAHAM, C. T. and SINGH, S. P. Weed management in sorghum-legume intercropping systems	103
IREMIREN, G. O. The growth and nutrient content of polybag oil-palm seedlings as affected by mulch materials and time of their application	117
KEMPTON, R. A. The use of biplots in interpreting variety by environment interactions	123
FRISCH, J. E. and VERCOE, J. E. An analysis of growth of different cattle genotypes reared in different environments	137
AMIR, D., ROSENBERG, MIRIAM and SCHINDLER, H. Oestrous and ovarian activities of Finn-cross ewes during the post-partum and the seasonal anoestrous periods	155
JENNINGS, P. G. and HOLMES, W. Supplementary feeding of dairy cows on continuously stocked pasture	161
PHIPPS, R. H., BINES, J. A., FULFORD, ROSEMARY J. and WELLER, R. F. Complete diets for dairy cows: a comparison between complete diets and separate ingredients	171

Continued on inside back cover

Cambridge University Press 1984

COPYING. This journal is registered with the Copyright Clearance Center, 21 Congress Street, Salem, Mass. 01970. Organizations in the U.S.A. who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of U.S. copyright law) subject to payment to C.C.C. of the per-copy fee of \$05.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0021-8596/84/2828-0001 \$05.00.

ISI Tear Service, 3501 Market Street, Philadelphia, Pennsylvania 19106, U.S.A., is authorized to supply single copies of separate articles for private use only.

For all other use, permission should be sought from the Cambridge or New York offices of the Cambridge University Press.

Printed in Great Britain at the University Press, Cambridge