

Copying. No contents may be reproduced by any means without the permission of Cambridge University Press. This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Organizations in the USA who are also registered with the C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the per-copy fee of \$5.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0021-8596/94 \$5.00+0.00. *ISI Tear Sheet Service*, 3501 Market Street, Philadelphia, PA 19106, USA, is authorized to supply single copies of separate articles for private use only. Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions. *For all other use*, permission should be sought from Cambridge or the American Branch of Cambridge University Press.

Continued from back cover

INOUE, T., BROOKES, I. M., JOHN, A., KOLVER, E. S. and BARRY, T. N. Effects of leaf shear breaking load on the feeding value of perennial ryegrass (<i>Lolium perenne</i>) for sheep. II. Effects on feed intake, particle breakdown, rumen digesta outflow and animal performance	137
ABSTRACTS	
Proceedings of the Twenty-Fifth Meeting of the Agricultural Research Modellers' Group	149
BOOK REVIEWS	155

CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
40 West 20th Street, New York, NY 10011-4211, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

Printed in Great Britain by the University Press, Cambridge

CONTENTS

	PAGE
Instructions to Authors	
REVIEW	
KYLE, R. New species for meat production	1
CROPS AND SOILS	
WRIGHT, E., CARR, M. K. V. and HAMER, P. J. C. Crop production and water-use. I. A model for estimating crop water-use with limited data	9
HAMER, P. J. C., CARR, M. K. V. and WRIGHT, E. Crop production and water-use. II. The development and validation of a water-use model for sugarbeet	15
KOESMARNÓ, H. K. and SEDCOLE, J. R. A method for the analysis of barley kernel growth data from designed experiments	25
SENANAYAKE, N., NAYLOR, R. E. L., DE DATTA, S. K. and THOMSON, W. J. Variation in development of contrasting rice cultivars	35
GAO, Y. and WILMAN, D. Leaf development in eight related grasses	41
AUMONT, G., SAMINADIN, G., CERNEAU, P. and XANDÉ, A. Effects of sample preparation on nitrogen degradability of pangola grass (<i>Digitaria decumbens</i>) and tropical tree legumes	47
TARAWALI, S. A. Evaluating selected forage legumes for livestock and crop production in the subhumid zone of Nigeria	55
ALLISON, M. F., JAGGARD, K. W. and ARMSTRONG, M. J. Time of application and chemical form of potassium, phosphorus, magnesium and sodium fertilizers and effects on the growth, yield and quality of sugarbeet (<i>Beta vulgaris</i>)	61
NOBLE, R. and GAZE, R. H. Controlled environment composting for mushroom cultivation: substrates based on wheat and barley straw and deep litter poultry manure	71
FRANCIS, G. S., HAYNES, R. J. and WILLIAMS, P. H. Nitrogen mineralization, nitrate leaching and crop growth after ploughing-in leguminous and non-leguminous grain crop residues	81
ANIMALS	
SEMIADI, G., BARRY, T. N., STAFFORD, K. J., MUIR, P. D. and REID, C. S. W. Comparison of digestive and chewing efficiency and time spent eating and ruminating in sambar deer (<i>Cervus unicolor</i>) and red deer (<i>Cervus elaphus</i>)	89
WAGHORN, G. C., SHELTON, I. D. and McNABB, W. C. Effects of condensed tannins in <i>Lotus pedunculatus</i> on its nutritive value for sheep. 1. Non-nitrogenous aspects	99
WAGHORN, G. C., SHELTON, I. D., McNABB, W. C. and McCUTCHEON, S. N. Effects of condensed tannins in <i>Lotus pedunculatus</i> on its nutritive value for sheep. 2. Nitrogenous aspects	109
OBARA, Y., FUSE, H., TERADA, F., SHIBATA, M., KAWABATA, A., SUTOH, M., HODATE, K. and MATSUMOTO, M. Influence of sucrose supplementation on nitrogen kinetics and energy metabolism in sheep fed with lucerne hay cubes	121
INOUE, T., BROOKES, I. M., JOHN, A., HUNT, W. F. and BARRY, T. N. Effects of leaf shear breaking load on the feeding value of perennial ryegrass (<i>Lolium perenne</i>) for sheep. I. Effects on leaf anatomy and morphology	129

Continued on inside back cover

CAMBRIDGE
UNIVERSITY PRESS



0021-8596(199408)123:1;1-7