Orders, which must be accompanied by payment, may be sent to a bookseller, subscription agent or direct to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, UK; or in the USA, Canada and Mexico: Cambridge University Press, 40 West 20th Street, New York, NY 10011-4211, USA. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for Institutions (including ASP delivery) are available from Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan.

Copies of the Journal for subscribers in the USA, Canada and Mexico are sent by air to New York to arrive with minimum delay. Second class postage paid at New York, NY, and at additional mailing offices. Postmaster: send address changes in the USA, Canada and Mexico to: *The Journal of Agricultural Science*, Cambridge University Press, 110 Midland Avenue, Port Chester, New York, NY 10573-4930. Claims for missing issues should be made immediately on receipt of the subsequent issue.

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, USA. 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 \$11.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0021–8596/96 \$11.00+0.10. 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.

CAMBRIDGE UNIVERSITY PRESS

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

ISSN: 0021-8596

The Journal of Agricultural Science

VOLUME 126 PART 2 MARCH 1996

CONTENTS

CROPS AND SOILS	
SEN, S. and CHALK, P. M. Stimulation of root growth and soil nitrogen uptake by foliar appli-	
cation of urea to wheat and sunflower	12

ORPHANOS, P. I. Direct and residual effect of phosphorus on dryland barley	
SAHRAWAT, K. L., MULBAH, C. K., DIATTA, S., DELAUNE, R. D., PATRICK, W. H.,	
SINGH, B. N. and JONES, M. P. The role of tolerant genotypes and plant nutrients in management of iron toxicity in lowland rice	the

WONG, C. C. and STÜR, W. W. Persistence of tropical forage grasses in shaded environments	151
PORQUEDDU, C., LOI, A. and COCKS, P. S. Hardseededness and pattern of hard seed	
breakdown in Sardinian populations of Medicago polymorpha under field conditions	161

GUTIÉRREZ BOEM, F. H. and	LAVADO, R. S. The effects	of soil sodicity on emergence,	
growth, development and yie	eld of oilseed rape (Brassica no	apus)	169

LINNEMANN, A. R. Filehological development in bambara grounding (vigna subjervanea)	
transferred from 14 to 11 h photoperiods	175

SIVAKUMAR, M. V.	K., NTARE, B. R. and	d ROBERTS, J. M.	Growth, yield	and plant—water
relations of four c	owpea (Vigna unguici	ulata) cultivars in the	he Sahel	183

THOMSEN, I. K. and CHRISTENSEN, B. T. Availability to subsequent crops and leaching of	
nitrogen in ¹⁵ N-labelled sugarbeet tops and oilseed rape residues	19

ANIMALS

Instructions to Authors

PIKE, D. J., OWEN, E. and SAID, A. N. The dacron bag technique for comp	aring rumen
degradability of untreated and ammonia-treated barley straw - effect of part	icle size and
degree of replication	201

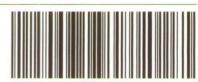
MARAIS,	J.	P.,	FIC	BEN	ISC	CH	OU,	D.	L.,	ESCO	T	r-W	AT	SOI	N,	P.	L.	and	WEBB	ER,	L.	N.
Admin	istr	ation	in	sus	pe	nsi	on-	form	of	n-alka	nė	exte	erna	l m	ark	ers	for	dry	matter	intal	ke a	and
diet sel	ect	ion s	tud	ies	•																	

DIVERIO, S., GODDARD, P. J. and GORDON, I. J. Physiological responses of farmed red dee	ľ
to management practices and their modulation by long-acting neuroleptics	

SEMIADI, G., HOLMES, C. W., BARRY, T. N. and MUIR, P. D. Effects of cold conditions on	
heat production by young sambar (Cervus unicolor) and red deer (Cervus elaphus)	22
noover and vivous part Courses of varieties in the analysis behaviour of dainy source	22

ROOK, A. J. and HUCKLE, C. A. Sources of variation in the grazing behaviour of dairy cow	S
NSAHLAI, I. V. and UMUNNA, N. N. Comparison between reconstituted sheep faeces a	nd
rumen fluid inocula and between in vitro and in sacco digestibility methods as predictors	of
intake and in vivo digestibility	

BOOK REVIEWS	24	49)



PAGE

137

143

207

211

235

0021-8596(199603)126:2:1-6