

Copying. This journal is registered with the Copyright Clearance Center, 21 Congress Street, Salem, Mass. 01970. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of the US 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 0007-1145/83/0049-0050 \$05.00.

ISI Tear Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, 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.

The Proceedings of the Nutrition Society, published by the Cambridge University Press, in part record meetings of the Symposium type, at which experts in a particular field are invited by Council to make contributions on specific parts of it and at which general discussion follows these invited contributions. The contributions will be published *in extenso*; such summaries of the ensuing discussions as circumstances warrant may also be published. The Society also holds scientific meetings at which papers are communicated by members and others on original work carried out by them. It is proposed at present to publish summaries of the papers read at each meeting, each communication being recorded in the Society's *Proceedings* by means of an abstract not exceeding in length 400 words or the equivalent space in print. The *Proceedings* are published three times a year.

The subscription to the *Proceedings* is £48.00 net (US \$125.00 in USA and Canada). Single issues are £18.50 (US \$48.00 in USA and Canada) each; postage extra.

Continued from back cover

SKLAN DAVID. Carotene-cleavage activity in chick intestinal mucosa cytosol: association with a high-molecular-weight lipid-protein aggregate fraction and partial characterization of the activity	417-425
SALTER D. N., SMITH R. H. & HEWITT D. Factors affecting the capture of dietary nitrogen by micro-organisms in the forestomachs of the young steer. Experiments with [¹⁵ N]urea	427-435
XU GUANG-LU & DIPLOCK ANTHONY T. Glutathione peroxidase (EC 1.11.1.9), glutathione-S-transferase (EC 2.5.1.13), superoxide dismutase (EC 1.15.1.1) and catalase (EC 1.11.1.6) activities in tissues of ducklings deprived of vitamin E and selenium	437-444
MCALLAN A. B. & SMITH R. H. Factors influencing the digestion of dietary carbohydrates between the mouth and abomasum of steers	445-454
NITSAN ZAFRIRA, DVORIN A. & NIR I. Protein, essential amino acids and glycine requirements of the growing gosling (<i>Anser cireneus</i>)	455-461
STORM E. & ØRSKOV, E. R. The nutritive value of rumen micro-organisms in ruminants. 1. Large-scale isolation and chemical composition of rumen micro-organisms	463-470
STORM E., ØRSKOV E. R. & SMART R. The nutritive value of rumen micro-organisms in ruminants. 2. The apparent digestibility and net utilization of microbial N for growing lambs	471-478
STORM E., BROWN D. S. & ØRSKOV E. R. The nutritive value of rumen micro-organisms in ruminants. 3. The digestion of microbial amino and nucleic acids in, and losses of endogenous nitrogen from, the small intestine of sheep	479-485
HARGROVE DIANE M., ROGERS QUINTON R. & MORRIS JAMES G. The tryptophan requirement of the kitten	487-493

The British Journal of Nutrition

Volume 50 No. 2 September 1983

CONTENTS

Papers of direct relevance to CLINICAL AND HUMAN NUTRITION

- HILLMAN LYBUS, PETERS SUE, FISHER ANNE & POMARE E. W. Differing effects of pectin, cellulose and lignin on stool pH, transit time and weight 189-195
- EGGUM B. O., PEDERSEN BIRTHE & JACOBSEN INGEBOG. The influence of dietary tea, coffee and cocoa on protein and energy utilization of soya-bean meal and barley in rats 197-205
- GRANI GEORGE, MORE LINDA J., MCKENZIE NORMA H., STEWART JAMES C. & PUSZTAI ARPAD. A survey of the nutritional and haemagglutination properties of legume seeds generally available in the UK 207-214
- GEE JENNIFER M., BLACKBURN, N. A. & JOHNSON, I. T. The influence of guar gum on intestinal cholesterol transport in the rat 215-224

Papers on GENERAL NUTRITION

- SINNETT-SMITH PATRICK A., DUMELOW NICOLA W. & BUTTERY PETER J. Effects of trenbolone acetate and zeranol on protein metabolism in male castrate and female lambs 225-234
- DONOGHUE SUSAN, KRONFELD DAVID S. & SKLAN DAVID. Retinol homeostasis in lambs given low and high intakes of vitamin A 235-248
- BAIRD, G. D., VAN DER WALT J. G. & BERGMAN E. N. Whole-body metabolism of glucose and lactate in productive sheep and cows 249-265
- VAN DER WALT J. G., BAIRD G. D. & BERGMAN E. N. Tissue glucose and lactate metabolism and interconversions in pregnant and lactating sheep 267-280
- BARRY T. N., MILLAR K. R., BOND G. & DUNCAN S. J. Copper metabolism in growing sheep given kale (*Brassica oleracea*) and ryegrass (*Lolium perenne*)-clover (*Trifolium repens*) fresh forage diets 281-289
- BANNISTER D. W., O'NEILL IRIS E. & WHITEHEAD C. C. The effect of biotin deficiency and dietary protein content on lipogenesis, gluconeogenesis and related enzyme activities in chick liver 291-302
- WILSON STEPHEN, MACRAE J. C. & BUTTERY P. J. Glucose production and utilization in non-pregnant, pregnant and lactating ewes 303-316
- SEAL C. J. & HEATON F. W. Chemical factors affecting the intestinal absorption of zinc in vitro and in vivo 317-324
- VAN DER WESTHUYZEN J. & METZ J. Tissue S-adenosylmethionine levels in fruit bats (*Rousettus aegyptiacus*) with nitrous oxide-induced neuropathy 325-330
- HOVELL F. D., DEB., ØRSKOV E. R., MACLEOD N. A. & McDONALD I. The effect of changes in the amount of energy infused as volatile fatty acids on the nitrogen retention and creatinine excretion of lambs wholly nourished by intragastric infusion 331-343
- WALLACE R. J. Hydrolysis of ¹⁴C-labelled proteins by rumen micro-organisms and by proteolytic enzymes prepared from rumen bacteria 345-355
- NUGENT J. H. A., JONES W. T., JORDAN D. J. & MANGAN J. L. Rates of proteolysis in the rumen of the soluble proteins casein, Fraction I (18S) leaf protein, bovine serum albumin and bovine submaxillary mucoprotein 357-368
- KIM KYU-IL, McMILLAN IAN & BAYLEY HENRY S. Determination of amino acid requirements of young pigs using an indicator amino acid 369-382
- KIM KYU-IL & BAYLEY HENRY S. Amino acid oxidation by young pigs receiving diets with varying levels of sulphur amino acids 383-390
- KIM KYU-IL, ELLIOTT JAMES I. & BAYLEY HENRY S. Oxidation of an indicator amino acid by young pigs receiving diets with varying levels of lysine or threonine, and an assessment of amino acid requirements 391-399
- SKLAN DAVID. Vitamin A absorption and metabolism in the chick: response to high dietary intake and to tocopherol 401-407
- SKLAN DAVID. Effect of high vitamin A or tocopherol intake on hepatic lipid metabolism and intestinal absorption and secretion of lipids and bile acids in the chick 409-416

Continued on inside back cover

© The Nutrition Society 1983

For Index of Authors see page facing inside back cover

CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP

32 East 57th Street, New York, N.Y. 10022

Printed in Great Britain at the University Press, Cambridge