

Journal of Reproduction & Fertility

The *Journal of Reproduction and Fertility* publishes original papers, reviews and bibliographies on the morphology, physiology, biochemistry and pathology of reproduction in man and other animals, and on the biological, medical and veterinary problems of fertility and lactation.

Volume 70, No. 1 (January 1984)

- R. Gaiani, F. Chiesa, M. Mattioli, G. Nannetti & G. Galeati.** Androstenedione and testosterone concentrations in plasma and milk of the cow throughout pregnancy
R. N. Kirkwood, K. R. Lapwood, W. C. Smith & I. L. Anderson. Plasma concentrations of LH, prolactin, oestradiol-17 β and progesterone in sows weaned after lactation for 10 or 35 days
A. Lahlou-Kassi, D. Schams & P. Glatzel. Plasma gonadotrophin concentrations during the oestrous cycle and after ovariectomy in two breeds of sheep with low and high fecundity

Volume 70, No. 2 (March 1984)

- B. Vigier, D. Tran, L. Legeai, J. Bézard & N. Joso.** Origin of anti-Müllerian hormone in bovine freemartin fetuses
Y. Kanai & H. Shimizu. Plasma concentrations of LH, progesterone and oestradiol during the oestrous cycle in swamp buffaloes (*Bubalus bubalis*)
I. J. Clarke, P. J. Wright, W. A. Chamley & K. Burman. Differences in the reproductive endocrine status of ewes in the early post-partum period and during seasonal anoestrus
C. G. Tsonis, L. P. Cahill, R. S. Carson & J. K. Findlay. Identification at the onset of luteolysis of follicles capable of ovulation in the ewe

Volume 71, No. 1 (May 1984)

- D. T. Armstrong & G. Evans.** Intrauterine insemination enhances fertility of frozen semen in superovulated ewes
D. M. Robertson, S. Ellis, L. M. Foulds, J. K. Findlay & B. M. Bindon. Pituitary gonadotrophins in Booroola and control Merino sheep
D. C. Wathes. Review: Possible actions of gonadal oxytocin and vasopressin

The *Journal of Reproduction and Fertility* is published every 2 months, two issues forming one volume. The subscription rate for 1984 is £100.00 (US \$200.00) per annum, post free, by surface mail to overseas addresses. The price for single issues is £19.00 (US \$38.00).

Order through your local bookseller or agent or directly from:

**Journals of Reproduction & Fertility Ltd, P.O. Box 32,
Commerce Way, Colchester CO2 8HP, Essex, U.K.**

THE JOURNAL OF AGRICULTURAL SCIENCE

EDITED BY

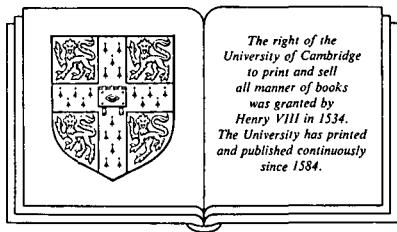
- R. B. AUSTIN, D.Sc., Plant Breeding Institute, Cambridge
B. W. BACHE, M.A., Ph.D., C.CHEM., F.R.S.C., Macaulay Institute for Soil Research, Aberdeen
PROF. SIR J. W. L. BEAMENT, Sc.D., F.R.S., Department of Applied Biology, Cambridge
G. D. H. BELL, C.B.E., Ph.D., Sc.D.(h.c.), D.Sc.(h.c.), F.R.S., 6 Worts Causeway, Cambridge
SIR K. L. BLAXTER, Ph.D., N.D.A. (HONS.), D.Sc., F.R.S.E., F.R.S., Rowett Research Institute, Bucksburn, Aberdeen
PROF. A. D. CARE, D.Sc., M.R.C.v.s., Department of Animal Physiology and Nutrition, Leeds
J. A. CURRIE, Ph.D., Rothamsted Experimental Station, Harpenden
S. K. ELTRINGHAM, Ph.D., Department of Applied Biology, Cambridge
PROF. J. L. JINKS, C.B.E., D.Sc., F.I.BIOL., F.R.S., Department of Genetics, Birmingham
D. B. LINDSAY, B.Sc., M.A., D.PHIL., Agricultural Research Council, Institute of Animal Physiology, Babraham, Cambridge
PROF. J. B. OWEN, B.Sc., Ph.D., M.A., Department of Agriculture, Bangor
W. J. RIDGMAN, M.A., Department of Applied Biology, Cambridge
PROF. E. W. RUSSELL, C.M.G., D.Sc., F.INST.P., Department of Soil Science, University of Reading
F. YATES, C.B.E., Sc.D., F.R.S., Rothamsted Experimental Station, Harpenden

VOLUME 102

CAMBRIDGE UNIVERSITY PRESS
CAMBRIDGE

LONDON NEW YORK NEW ROCHELLE
MELBOURNE SYDNEY

1984



PUBLISHED BY

THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, N.Y.10022

© Cambridge University Press 1984

Printed in Great Britain at the University Press, Cambridge

Contents

PART 1 (FEBRUARY 1984)

	PAGE
RUNDLE, H. L., CALCROFT, MARIAN and HOLT, C. An assessment of accumulation of Cd, Cr, Cu, Ni and Zn in the tissues of British Friesian steers fed on the products of land which has received heavy applications of sewage sludge	1
PAL, U. R., MURARI, K. and MALIK, H. S. Yield response of sorghum cultivars to inorganic nitrogen fertilizer	7
OLLERENSHAW, J. H. and HAYCOCK, R. Variation in the low temperature growth and frost tolerance of natural genotypes of <i>Trifolium repens</i> L. from Britain and Norway	11
CHAPMAN, J. F., DANIELS, R. W. and SCARISBRICK, D. H. Field studies on ¹⁴ C assimilate fixation and movement in oil-seed rape (<i>B. napus</i>)	23
JOHN, A. and ULYATT, M. J. Measurement of protozoa, using phosphatidyl choline, and bacteria, using nucleic acids, in the duodenal digesta of sheep fed chaffed lucerne hay (<i>Medicago sativa</i> L.) diets	33
JOHN, A. Effects of feeding frequency and level of feed intake on chemical composition of rumen bacteria	45
PATTERSON, H. D. and WEATHERUP, S. T. C. Statistical criteria for distinctness between varieties of herbage crops	59
BENJAMIN, L. R. The relative importance of some sources of root-weight variation in a carrot crop	69
CHAUDHARY, M. R. and AGGARWAL, G. C. A simple technique to evaluate the effect of mechanical stress on root growth	79
MAHEY, R. K. and CHEEMA, S. S. Evaluating methods of nitrogen application for efficiency of water use and yield of rainfed barley	81
ELLIS, R. P. and RUSSELL, G. Plant development and grain yield in spring and winter barley	85
WOOLFORD, M. K. and WILKIE, ANN C. Investigations into the role of specific micro-organisms in the aerobic deterioration of maize silage	97
BUTLER-HOGG, B. W. Growth patterns in sheep: wool growth during weight loss and subsequent compensatory growth	105
EL ATTAL, Z. M., MOUSTAFA, OMAYMA K. and DIAB, SAMIHA A. Influence of foliar fertilizers on the toxicity and tolerance to some insecticides in the cotton leafworm	111
MOUSTAFA, OMAYMA K., EL ATTAL, Z. M. and DOBAN, AMAL F. The role of foliar fertilizers in tolerance of the cotton leafworm to certain insecticides	115
ROBINSON, DOROTHY L. A study of sequential variety selection systems	119
CLUTTERBUCK, B. J. and HODGSON, D. R. Direct drilling and shallow cultivation compared with ploughing for spring barley on a clay loam in northern England	127
BRAITHWAITE, G. D. Changes in phosphorus metabolism of sheep in response to the increased demands for P associated with an intravenous infusion of calcium	135
FINCH, VIRGINIA A., BENNETT, I. L. and HOLMES, C. R. Coat colour in cattle: effect on thermal balance, behaviour and growth, and relationship with coat type	141
LOUDON, A. S. I., DARROCH, A. D. and MILNE, J. A. The lactation performance of red deer on hill and improved species pastures	149

	PAGE
GERRITSE, R. G. and VRIESEMA, R. Phosphate distribution in animal waste slurries	159
GORDON, F. J. The effect of level concentrate supplementation given with grass silage during the winter on the total lactation performance of autumn-calving dairy cows	163
BROWN, N. J. and NORTH, P. F. Tillage under controlled conditions: its effect on emergence and yield of spring barley	181
FRISCH, J. E., O'NEILL, C. J. and BURROW, H. M. The incidence and effect of poisoning with <i>Lantana camara</i> in different cattle breeds	191
WALKEY, D. G. A. and PINK, D. A. C. Resistance in vegetable marrow and other <i>Cucurbita</i> spp. to two British strains of cucumber mosaic virus	197
HUNTER, E. A., GLASBEY, C. A. and NAYLOR, R. E. L. The analysis of data from germination tests	207
SHARMA, K. N., SINGH, BIJAY, RANA, D. S., KAPUR, M. L. and SODHI, J. S. Changes in soil fertility status as influenced by continuous cropping and fertilizer application	215
ADAMS, S. N. Some effects of lime, nitrogen and soluble and insoluble phosphate on the yield and mineral composition of established grassland	219
ILORI, J. O. The effect of different proportions of protein and antibiotic in the diet on reproductive performance of indigenous pigs in Nigeria	227

SHORT NOTES

MAXWELL, W. M. C., BUTLER, L. G. and WILSON, H. R. Intra-uterine insemination of ewes with frozen semen	233
CHAUHAN, R. P. S., CHAUHAN, C. P. S. and CHAUHAN, S. K. Effect of boronated saline irrigation water on linseed	237
OLOGHOBO, A. D. and FETUGA, B. L. Haemagglutinin extracts from raw, sprouting and differently processed limabeans	241
PRASAD, J. and RAM, H. Varietal response to rhizobial strains for nodule character, chlorophyll and protein content in green gram (<i>Vigna radiata</i>)	245
HAILE, A. A study of the effects of oak defoliation on understory plants	247
HAILE, A. Effect of stage of maturity of forage oats on crude protein content and dry-matter yield	251
SINGH, B. and BADHORIA, B. S. Response of green gram to potassium and zinc application .	253

PART 2 (APRIL 1984)

THOMAS, D. and DE ANDRADE, R. P. The persistence of tropical grass-legume associations under grazing in Brazil	257
EBERSOHN, J. P. and MOIR, K. W. Effect of pasture growth rate on live-weight gain of grazing beef cattle	265
BILASPURI, G. S. and GURAYA, S. S. Histochemical localization of enzymes of various metabolic pathways in the testes of buffaloes, goats and rams	269
SPEEDY, A. W., BLACK, W. J. M. and FITZSIMONS, J. The effects of timing of management actions on the performance of a grassland sheep flock	275
SINGH, V. P., SINGH, M. and KAIRON, M. S. Physiological maturity in <i>Aestivum</i> wheat: visual determination	285
DROUSHIOTIS, D. N. The effect of variety and harvesting stage on forage production of barley in a low-rainfall environment	289

Contents

v

	PAGE
BRAITHWAITE, G. D. Some observations on phosphorus homoeostasis and requirements of sheep	295
SHARMA, R. C., SAHOTA, T. S., SHARMA, U. C. and SHARMA, A. K. Phosphorus economy in potato cultivation by soaking mother seed tubers in a solution of urea and phosphate	307
TALBOT, M. Yield variability of crop varieties in the U.K.	315
WOOLLEY, J. N. and EVANS, ALICE M. The use of two mating systems in breeding for resistance to <i>Maruca testulalis</i> Gey. in cow pea <i>Vigna unguiculata</i> (L.) Walp.	323
HAYCOCK, R. Dry-matter distribution and seasonal yield changes in five contrasting genotypes of white clover	333
INNES, P., BLACKWELL, R. D. and QUARRIE, S. A. Some effects of genetic variation in drought-induced abscisic acid accumulation on the yield and water use of spring wheat	341
CHESTNUTT, D. M. B. Effect of weight change on the performance of autumn-calving suckler cows	353
YADAV, R. L., MOHAN, R., SINGH, R. and VERMA, R. K. The effect of application of nitrogen fertilizer on the growth of opium poppy in north central India	361
HEYS, VIVIENNE and HILL, R. The selenium concentration of cereal grain and conserved and fresh herbage from farms in England and Wales	367
WEIR, A. H., BRAGG, P. L., PORTER, J. R. and RAYNER, J. H. A winter wheat crop simulation without water or nutrient limitations	371
PORTER, J. R. A model of canopy development in winter wheat	383
GANESHAMURTHY, A. N. and BISWAS, C. R. Movement of potassium in an Ustochrept soil profile in a long-term fertilizer experiment	393
RAI, R. and PRASAD, V. Studies on growth and symbiotic nitrogen fixation of <i>Rhizobium</i> of <i>Vigna radiata</i> under stress conditions	399
CRISP, P. Factors causing small curds in cauliflower crops	405
McGOWAN, M., BLANCH, P., GREGORY, P. J. and HAYCOCK, D. Water relations of winter wheat. 5. The root system and osmotic adjustment in relation to crop evaporation	415
WICKHAM, LYNDY D., PASSAM, H. C. and WILSON, L. A. Dormancy responses to post-harvest application of growth regulators in <i>Dioscorea</i> species. 1. Responses of bulbils, tubers and tuber pieces of three <i>Dioscorea</i> species	427
WICKHAM, LYNDY D., PASSAM, H. C. and WILSON, L. A. Dormancy responses to post-harvest application of growth regulators in <i>Dioscorea</i> species. 2. Dormancy responses in ware tubers of <i>D. alata</i> and <i>D. esculenta</i>	433
WICKHAM, LYNDY D., PASSAM, H. C. and WILSON, L. A. Tuber development, storage and germination in yams (<i>Dioscorea</i> spp.) in response to pre-harvest application of plant growth regulators	437
PHIPPS, R. H., McALLAN, A. B. and WELLER, R. F. The development of plant components in isogenic sterile and fertile forage maize and their effects on carbohydrate composition, nutritive value, <i>in vivo</i> digestibility values and animal performance with fresh and ensiled crops	443
MYTON, L. R. and HUGHES, D. M. Inoculation of white clover with different strains of <i>Rhizobium trifolii</i> on a mineral hill soil	455
FINCH-SAVAGE, W. E. Effects of fluid drilling germinating onion seeds on seedling emergence and subsequent plant growth	461
PHILLIPS, M. S. and POWELL, W. The effect of natural selection on composite cross populations of oats (<i>Avena sativa</i>) grown at contrasting sites in Scotland	469

	PAGE
SEKHON, H. S., KAUL, J. N. and DHINGRA, K. K. Effect of <i>Rhizobium</i> inoculation, mulch and nitrogen and phosphorus fertilizers on soya bean (<i>Glycine max</i> (L.) Merrill)	475
BARRY, T. N., MANLEY, T. R. and DUNCAN, S. J. Quantitative digestion by sheep of carbohydrates, nitrogen and S-methyl-L-cysteine sulphoxide in diets of fresh kale (<i>Brassica oleracea</i>)	479
LOWE, H. J. B. The assessment of populations of the aphid <i>Sitobion avenae</i> in field trials	487
SHORT NOTES	
PRAKASA RAO, E. V. S., SINGH, MUNNU, GANESHA RAO, R. S. and RAJESWARA RAO, B. R. Intercropping studies in geranium (<i>Pelargonium graveolens</i> L. Her. ex Ait)	499
LINDBERG, J. E., KASPERSSON, A. and CISZUK, P. Studies on pH, number of protozoa and microbial ATP concentrations in rumen-incubated nylon bags with different pore sizes	501
BHATIA, V. S., BHARGAVA, S. C. and SINHA, S. K. Effect of irrigation on reproductive efficiency of bunch and spreading types of groundnut (<i>Arachis hypogaea</i> L.)	505
MCARDLE, R. N. The relationship of number and position of seeds to fruit size and curvature in <i>Capsicum annuum</i> L.	509

PART 3 (JUNE 1984)

JOHNSON, E. R. and VIDYADARAN, M. K. Prediction of beef carcass composition from organs and tissues of the non-carcass parts	511
BEN-GHEDALIA, D. and MIRON, J. The digestibility of wheat straw treated with sulphur dioxide	517
RAI, R., PRASAD, V. and SHULKA, I. C. Interaction between finger millet (<i>Eleusine coracana</i>) genotypes and drug-resistant mutants of <i>Azospirillum brasiliense</i> in calcareous soil	521
SINCLAIR, D. F. and GLEESON, A. C. On the analysis of replacement series diallel experiments	531
CANNELL, R. Q., GOSS, M. J., HARRIS, G. L., JARVIS, M. G., DOUGLAS, J. T., HOWSE, K. R. and LE GRICE, S. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 1. Background, experiment and site details, drainage systems, measurement of drainflow and summary of results, 1978-80	539
HARRIS, G. L., GOSS, M. J., DOWDELL, R. J., HOWSE, K. R. and MORGAN, P. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 2. Soil water regimes, water balances and nutrient loss in drain water, 1978-80	561
ELLIS, F. B., CHRISTIAN, D. G., BRAGG, P. L., HENDERSON, F. K. G., PREW, R. D. and CANNELL, R. Q. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 3. Agronomy, root and shoot growth of winter wheat, 1978-80	583
WALTERS, D. E. and ROWELL, J. G. A missing value technique for the analysis of data with repeated measurements on each experimental unit	595
ECONOMIDES, S. Calcium metabolism in dairy sheep	601
LENG, R. A., NOLAN, J. V., CUMMING, G., EDWARDS, S. R. and GRAHAM, C. A. The effects of monensin on the pool size and turnover rate of protozoa in the rumen of sheep	609
DOWKER, B. D., HOROBIN, J. F., CROWTHER, T. C. and FENNELL, J. F. M. Breeding of improved open-pollinated populations of spring-sown onions	615
SMITH, M. W. Effect of postnatal development and weaning upon the capacity of pig intestinal villi to transport alanine	625

BARRY, T. N., MANLEY, T. R., MILLAR, K. R. and SMITH, R. H. The relative feeding value of kale (<i>Brassica oleracea</i>) containing normal and low concentrations of S-methyl-L-cysteine sulphoxide (SMCO)	635
ULYATT, M. J., WAGHORN, G. C., JOHN, A., REID, C. S. W. and MONRO, J. Effect of intake and feeding frequency on feeding behaviour and quantitative aspects of digestion in sheep fed chaffed lucerne hay	645
SAKAL, R., SINGH, A. P., SINGH, B. P. and SINHA, R. B. Evaluation of some chemical extractants for predicting response of wheat grown in pots to copper in Sub-Himalayan soils	659
ASHBELL, G., THEUNE, H. H. and SKLAN, D. Changes in amino acid compounds of wheat plants during ensiling and aerobic exposure: the influence of propionic acid and urea phosphate-calcium propionate	667
EASSON, D. L. The timing of nitrogen application for spring barley	673
JENKYN, J. F. and FINNEY, M. E. Experiments to examine the significance of ammonia evolution from barley seedlings infected with the powdery mildew fungus, <i>Erysiphe graminis</i> f.sp. <i>hordei</i>	679
PAEZ, ALEJANDRA., HELLMERS, H. and STRAIN, B. R. Carbon dioxide enrichment and water stress interaction on growth of two tomato cultivars	687
ROOKE, J. A., GREIFE, H. A. and ARMSTRONG, D. G. The effect of <i>in sacco</i> rumen incubation of a grass silage upon the total and D-amino acid composition of the residual silage dry matter	695
HUTCHINGS, N. J. The availability of nitrogen in liquid sewage sludges applied to grassland	703
RICHARDS, J. I. and LAWRENCE, P. R. The estimation of energy expenditure from heart rate measurements in working oxen and buffalo	711
HALL, I. R. Effect of inoculant endomycorrhizal fungi on white clover growth in soil cores	719
HALL, I. R. Field trials assessing the effect of inoculating agricultural soils with endomycorrhizal fungi	725
WURR, D. C. E. and FELLOWS, JANE R. The growth of three crisp lettuce varieties from different sowing dates	733
SHORT NOTE	
BUNTING, L. D., RICHARDSON, C. R. and TOCK, R. W. Digestibility of ozone-treated sorghum stover by ruminants	747

Continued from back cover

	PAGE
EASSON, D. L. The timing of nitrogen application for spring barley	673
JENKYN, J. F. and FINNEY, M. E. Experiments to examine the significance of ammonia evolution from barley seedlings infected with the powdery mildew fungus, <i>Erysiphe graminis</i> f.sp. <i>hordei</i>	679
PAEZ, ALEJANDRA, HELLMERS, H. and STRAIN, B. R. Carbon dioxide enrichment and water stress interaction on growth of two tomato cultivars	687
ROOKE, J. A., GREIFE, H. A. and ARMSTRONG, D. G. The effect of <i>in sacco</i> rumen incubation of a grass silage upon the total and D-amino acid composition of the residual silage dry matter	695
HUTCHINGS, N. J. The availability of nitrogen in liquid sewage sludges applied to grassland	703
RICHARDS, J. I. and LAWRENCE, P. R. The estimation of energy expenditure from heart rate measurements in working oxen and buffalo	711
HALL, I. R. Effect of inoculant endomycorrhizal fungi on white clover growth in soil cores	719
HALL, I. R. Field trials assessing the effect of inoculating agricultural soils with endomycorrhizal fungi	725
WURR, D. C. E. and FELLOWS, JANE R. The growth of three crisp lettuce varieties from different sowing dates	733
SHORT NOTE	
BUNTING, L. D., RICHARDSON, C. R. and TOCK, R. W. Digestibility of ozone-treated sorghum stover by ruminants	747

CONTENTS

Vol. 102 Part 3 June 1984

	PAGE
JOHNSON, E. R. and VIDYADARAN, M. K. Prediction of beef carcass composition from organs and tissues of the non-carcass parts	511
BEN-GHEDALIA, D. and MIRON, J. The digestibility of wheat straw treated with sulphur dioxide	517
RAI, R., PRASAD, V. and SHUKLA, I. C. Interaction between finger millet (<i>Eleusine coracana</i>) genotypes and drug-resistant mutants of <i>Azospirillum brasiliense</i> in calcareous soil	521
SINCLAIR, D. F. and GLEESON, A. C. On the analysis of replacement series diallel experiments	531
CANNELL, R. Q., GOSS, M. J., HARRIS, G. L., JARVIS, M. G., DOUGLAS, J. T., HOWSE, K. R. and LE GRICE, S. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 1. Background, experiment and site details, drainage systems, measurement of drainflow and summary of results, 1978-80	539
HARRIS, G. L., GOSS, M. J., DOWDELL, R. J., HOWSE, K. R. and MORGAN, P. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 2. Soil water regimes, water balances and nutrient loss in drain water, 1978-80	561
ELLIS, F. B., CHRISTIAN, D. G., BRAGG, P. L., HENDERSON, F. K. G., PREW, R. D. and CANNELL, R. Q. A study of mole drainage with simplified cultivation for autumn-sown crops on a clay soil. 3. Agronomy, root and shoot growth of winter wheat, 1978-80	583
WALTERS, D. E. and ROWELL, J. G. A missing value technique for the analysis of data with repeated measurements on each experimental unit	595
ECONOMIDES, S. Calcium metabolism in dairy sheep	601
LENG, R. A., NOLAN, J. V., CUMMING, G., EDWARDS, S. R. and GRAHAM, C. A. The effects of monensin on the pool size and turnover rate of protozoa in the rumen of sheep	609
DOWKER, B. D., HOROBIN, J. F., CROWTHER, T. C. and FENNELL, J. F. M. Breeding of improved open-pollinated populations of spring-sown onions	615
SMITH, M. W. Effect of postnatal development and weaning upon the capacity of pig intestinal villi to transport alanine	625
BARRY, T. N., MANLEY, T. R., MILLAR, K. R. and SMITH, R. H. The relative feeding value of kale (<i>Brassica oleracea</i>) containing normal and low concentrations of S-methyl-L-cysteine sulphoxide (SMCO)	635
ULYATT, M. J., WAGHORN, G. C., JOHN, A., REID, C. S. W. and MONRO, J. Effect of intake and feeding frequency on feeding behaviour and quantitative aspects of digestion in sheep fed chaffed lucerne hay	645
SAKAL, R., SINGH, A. P., SINGH, B. P. and SINHA, R. B. Evaluation of some chemical extractants for predicting response of wheat grown in pots to copper in Sub-Himalayan soils	659
ASHBELL, G., THEUNE, H. H. and SKLAN, D. Changes in amino acid compounds of wheat plants during ensiling and aerobic exposure: the influence of propionic acid and urea phosphate-calcium propionate	667

Continued on inside back cover

© Cambridge University Press 1984

SUBSCRIPTIONS. Two volumes of three parts are published annually. All orders must be accompanied by payment. The subscription price of volumes 102 and 103, 1984, is £51.00 net (U.S.A. and Canada US \$130.00) per volume (post free); single parts are available at £19.50 net (U.S.A. and Canada US \$51.00) plus postage. Orders or enquiries may be sent to any bookseller or subscription agent, or Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU (U.S.A. and Canada, Cambridge University Press, 32 East 57th Street, New York, N.Y. 10022, U.S.A.). Second class postage paid at New York, N.Y., and at additional mailing offices.

Printed in Great Britain at the University Press, Cambridge