Printed in Great Britain at the University Press, Cambridge
(Brooke Crutchley, University Printer)
and published by the Cambridge University Press

London: Bentley House, N.W.1

American Branch: New York

Agents for Canada, India, and Pakistan: Macmillan

CONTENTS

Parts 1 & 2 (January and April 1952)

	PAGE
Pálsson, H. and Vergés, Juan B. Effects of the plane of nutrition on growth and the development of carcass quality in lambs. Part I. The effects of High and Low Planes of nutrition at different ages. (With Plates 1-19 and Forty-four Text-figures)	1
Pálsson, H. and Vergés, Juan B. Effects of the plane of nutrition on growth and the development of carcass quality in lambs. Part II. Effects on lambs of 30 lb. carcass weight. (With Plates 20–30 and Twelve Text-figures)	93
CAMPBELL, I. L. and Flux, D. S. Body weights of some New Zealand Jersey and Friesian	150
cattle. (With Eight Text-figures)	150 155
GOODALL, A. MYFANWAY and YANG, S. H. Myoepithelial cells in bovine sweat glands. (With	100
Plate 33)	159
DOAK, B. W. Some chemical changes in the nitrogenous constituents of urine when voided	
on pasture. (With Seven Text-figures)	162
Anderson, J. The pH change in bull semen and fertility	172
Castle, M. E., Foot, A. S. and Rowland, S. J. American hybrid maize for silage in the south of England. Part II. Composition, nutritive value and losses in the silo	175
Bhattacharya, P. and Hammond, John. The lamb's tail in relation to wool type in British breeds and crosses of sheep. (With Plate 34 and One Text-figure)	180
LINDAHL, P. E., KIHLSTRÖM, JE. and STRÖM, B. On the relationship between fertility and light-reflecting power in bull spermatozoa. (With Two Text-figures)	184
Part 3 (July 1952)	
HAFEZ, E. S. E. Studies on the breeding season and reproduction of the ewe. Part I. The breeding season in different environments. Part II. The breeding season in one locality. (With Twenty-four Text-figures)	189
HAFEZ, E. S. E. Studies on the breeding season and reproduction of the ewe. Part III. The breeding season and artificial light. Part IV. Studies on the reproduction of the ewe. Part V. Mating behaviour and pregnancy diagnosis. (With Plate 35 and Seven Text-figures)	232
Wager, H. G., Burton, W. G. and Mann, G. The storage of ware potatoes in permanent buildings. I. Storage in bins in an uninsulated store, 1946-7. (With Seven Text-figures)	266
BIRCH, H. F. The relationship between phosphate response and base saturation in acid soils. (With Three Text-figures)	276
Penman, H. L. Experiments on irrigation of sugar beet. (With Three Text-figures)	286
HAMMOND, J., JR. Control of reproductive and pelt changes in ferrets: some experiments with animals kept entirely upon artificial light. (With Three Text-figures)	293

iv Contents

	PAGE
Holmes, W., Waite, R., Fergusson, D. L. and MacLusky, D. S. Studies in grazing management. IV. A comparison of close-folding and rotational grazing of dairy cows on intensively fertilized pasture. (With Two Text-figures)	304
Waite, R., Holmes, W. and Boyd, J. Studies in grazing management. V. Further determination of the nutrient intake of dairy cows under close-folding and rotational methods	
of grazing. (With Four Text-figures)	314
Part 4 (October 1952)	
CEMBROWICZ, H. J. Fertility levels of bulls kept at an artificial insemination centre. (With	
Ten Text-figures)	323
SOPER, M. H. R. A study of the principal factors affecting the establishment and development of the field bean (<i>Vicia faba</i>). (With Seven Text-figures)	335
Hale, R. W. Experimental errors in laying experiments	347
OXLEY, C. D. and GRAY, E. A. The microbiology of four steamed soils. (With Two Text-	
figures)	353
Brown, W. O. and Robinson, K. L. The composition and digestibility of Northern Irish hays. III. Factors influencing the production of high-quality hays	362
Wilson, P. N. Growth analysis of the domestic fowl. I. Effect of plane of nutrition and sex on live-weights and external measurements. (With Five Text-figures)	369
Baker, C. J. L., Heimberg, M., Alderman, G. and Eden, A. Studies of the composition of sainfoin	382
Dodsworth, T. L. and Campbell, W. H. McK. Report on an experiment to compare the fattening values, for beef cattle, of silages made from grass cut at different stages of growth. (With Nine Text-figures)	39!
CHANDA, R. and OWEN, E. C. The partition of phosphorus and aneurin in relation to phosphatase in the colostrum and milk of the cow. (With Six Text-figures)	403
Hughes, G. Pearson. The comparative seasonal output of ultra-simple and general-purpose seeds mixtures. (With One Text-figure)	413
EVANS, R. E. Nutrition of the bacon pig. XV. The relative supplemental value of the proteins in dried brewers' yeast and in white-fish meal	422
Evans, R. E. Nutrition of the bacon pig. XVI. The relative supplemental value of the proteins in extracted soya-bean meal and in white-fish meal	438
Armstrong, R. H. and Thomas, Brynmor. The availability of calcium in three legumes of grassland	
THOMAS, BRYNMOR and ARMSTRONG, D. G. The nutritive value of common heather (Calluna vulgaris). I. The preparation of samples of Calluna vulgaris for analytical purposes and for digestibility studies	46
YANG, S. H. A method of assessing cutaneous pigmentation in bovine skin. (With Plate 36)	46
Nicholas, D. J. D. The potassium status of barley in relation to yields of grain. (With Five Text-figures)	468
Bathurst, N. O. The amino-acids of sheep and cow urine	470
Brook Helen and Rowson I. F. The production of viable having ava	470

CROWN AGENTS FOR THE COLONIES

LABORATORY SUPERINTENDENT required by the Government of Nigeria, Agricultural Department for one tour of 18-24 months in the first instance. Salary in the scales shown which include expatriation pay and temporary increase either (a) on temporary terms in scale £771 rising to £926 a year, with gratuity of £25 for each completed period of three months service payable on final completion of service or (b) with prospects of permanent pensionable employment in scale £711 rising to £860 a year. In certain circumstances allowance for war service will be made in determining the point of entry in the scale. Outfit allowance £60. Free passages for officer and wife and assistance towards cost of children's passages or their maintenance in this country. Liberal leave on full salary. Candidates, who must be male and under 35 years of age, should possess the Diploma of the Science Technologists Association or have similar qualifications. They should be highly trained in laboratory technique and capable of relieving fully qualified Research Officers of such routine work as the preparation of mycological and entomological specimens, the initial phases of histological and microbiological work, and plant propagation.

Apply at once by letter stating age, full names in block letters, and full particulars of qualifications and experience and mentioning this paper to the CROWN AGENTS FOR THE COLONIES, 4 MILLBANK, LONDON, S.W. I, quoting on letter M. 28293. A. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

The British Journal of

NUTRITION

published for THE NUTRITION SOCIETY



Subscription price
£3 per volume of
4 parts

Single quarterly parts
20s. each



CAMBRIDGE UNIVERSITY PRESS

The Journal of Agricultural Science is issued in quarterly parts of about 120 pages with plates and figures, four parts constituting a volume.

Volumes XVI-XX (1926-1930) are out of print. Quotations can be given for other back volumes and parts.

Quotations can also be given for buckram binding cases. (Suspended.)

Papers for publication should be typewritten or written in a very legible hand, and may be sent to DR J. HAMMOND, School of Agriculture, Cambridge, or to the associate Editors. Other communications should be addressed to the University Press, Cambridge.

If Plates in excess of one per 24 pages of text are submitted the author may be asked to bear the cost of such Plates.

Bibliography should be given under the heading of "References" in the following form:

Surname of authors (in alphabetical order), initials, date of publication (in brackets), title of Journal (abbreviated according to the World List of Scientific Periodicals), volume and pages of reference. In the text a reference should be quoted by the author's name and date (in brackets).

All names of Journals and books should be in italics.

Contributors will receive twenty-five copies of their papers free.

The subscription price for each volume after volume 42, payable in advance, is 60s. net per volume (post free); single numbers 20s. net. Subscriptions may be sent to any bookseller, or to The Cambridge University Press, Bentley House, 200 Euston Road, London, N.W. 1.

Subscription price in the U.S.A. is \$10.50 per volume; single numbers \$3.50. Enquiries should be addressed to the Cambridge University Press American Branch, 32 East 57th Street, New York, 22.

CONTENTS

CEMBROWICZ, H. J. Fertility levels of bulls kept at an artificial insemina-	PAGE
tion centre. (With Ten Text-figures)	323
SOPER, M. H. R. A study of the principal factors affecting the establishment and development of the field bean (Vicia faba). (With Seven	
Text-figures)	335
HALE, R. W. Experimental errors in laying experiments	347
OXLEY, C. D. and GRAY, E. A. The microbiology of four steamed soils. (With Two Text-figures)	353
Brown, W. O. and Robinson, K. L. The composition and digestibility of Northern Irish hays. III. Factors influencing the production of high-quality hays	362
WILSON, P. N. Growth analysis of the domestic fowl. I. Effect of plane of nutrition and sex on live-weights and external measurements.	
(With Five Text-figures)	369
BAKER, C. J. L., HEIMBERG, M., ALDERMAN, G. and EDEN, A. Studies of the composition of sainfoin	382
Dodsworth, T. L. and Campbell, W. H. McK. Report on an experiment to compare the fattening values, for beef cattle, of silages made from grass cut at different stages of growth. (With Nine Text-	
figures)	395
CHANDA, R. and OWEN, E. C. The partition of phosphorus and aneurin in relation to phosphatase in the colostrum and milk of the cow. (With Six Text-figures)	403
HUGHES, G. PEARSON. The comparative seasonal output of ultra-simple and general-purpose seeds mixtures. (With One Text-figure)	413
EVANS, R. E. Nutrition of the bacon pig. XV. The relative supplemental value of the proteins in dried brewers' yeast and in white-	
fish meal	422
Evans, R. E. Nutrition of the bacon pig. XVI. The relative supplemental value of the proteins in extracted soya-bean meal and in	
white-fish meal	438
ARMSTRONG, R. H. and THOMAS, BRYNMOR. The availability of calcium in three legumes of grassland	454
THOMAS, BRYNMOR and ARMSTRONG, D. G. The nutritive value of common heather (Calluna vulgaris). I. The preparation of samples of Calluna vulgaris for analytical purposes and for digestibility studies	461
YANG, S. H. A method of assessing cutaneous pigmentation in bovine skin. (With Plate 36)	465
NICHOLAS, D. J. D. The potassium status of barley in relation to yields of grain. (With Five Text-figures)	468
BATHURST, N. O. The amino-acids of sheep and cow urine	476
Proce Herey and Powson I E The production of viable having ava	470