VOL. 4, NO. I

JANUARY 1968

EXPERIMENTAL AGRICULTURE

Editor

PROFESSOR J. P. HUDSON

Editorial Board

PROFESSOR SIR J. B. HUTCHINSON (CHAIRMAN)

PROFESSOR D. K. BRITTON DR. E. E. CHEESMAN PROFESSOR J. D. IVINS SIR G. W. NYE

D. RHIND PROFESSOR E. W. RUSSELL DR. G. WATTS PADWICK DR. C. C. WEBSTER



CAMBRIDGE UNIVERSITY PRESS Bentley House, P.O. Box 92, 200 Euston Road, London, N.W. 1 American Branch: 32 East 57th Street, New York, N.Y. 10022

Annual Subscription £5. net (U.S.A. \$18.00) Single part 35s. net (U.S.A. \$5.00)

Expl Agric.

OVERSEAS ADVISORS

DR. J. A. ANDERSON (Canada) DR. M. A. A. ANSARI (Pakistan) DR. M. F. CHANDRARATNA (Ceylon) DR. J. MELVILLE (Australia) DR. A. H. MOSEMAN (United States) PROFESSOR M. A. NOUR (Sudan) DR. B. P. PAL (India) DR. S. J. DU PLESSIS (South Africa)

Experimental Agriculture publishes the results of experimental work in animal and crop husbandry, with an emphasis on research carried out in the warmer climates of the world. It also includes accounts of new experimental techniques, discussions of specific problems met in countries where agricultural production is developing rapidly, review articles on new developments in scientific agriculture, and occasional papers on technical, economic and sociological aspects of farming systems. The journal is the successor to *The Empire Journal of Experimental Agriculture*.

Each annual volume comprises four parts (published in January, April, July and October) plus an index.

Subscriptions may be sent to any bookseller or subscription agent or direct to the Cambridge University Press, Bentley House, P.O. Box 92, 200 Euston Road, London, N.W. 1. Subscriptions in the U.S.A. and Canada should be sent to the American branch of the Press, 32 East 57th Street, New York, N.Y. 10022. The subscription price is $\pounds 5$. net (including postage) for an annual volume (\$18.00 in the U.S.A.), payable in advance; separate parts cost 35s. net or \$5.00 each (plus postage).

Back Volumes. Inquiries for Vols. 1-32 of *The Empire Journal of Experimental Agriculture* should be addressed to Wm Dawson & Sons Ltd, 16 West Street, Farnham, Surrey. Previously published parts of *Experimental Agriculture* are available from the London or New York offices of the Cambridge University Press.

NOTES FOR CONTRIBUTORS

Contributions will be welcomed from scientists of all nationalities, particularly those working in tropical and sub-tropical countries where up-to-date techniques of agricultural experimentation are helping in the rapid development of more modern methods of farm production. Contributions, which must be written in English, should be sent to the Editor, Professor J. P. Hudson, Orchard House, Long Ashton, Bristol.

Conditions of acceptance. Submission of a paper will be taken to imply that the material has not previously been published, and is not being considered for publication elsewhere. Papers published in *Experimental Agriculture* may not be reprinted or published in translation without permission from the Editor, given on behalf of the Editorial Board.

General lay-out. Before having their manuscripts typed contributors are asked to look carefully at the lay-out of other papers published in this journal, to ensure that their own papers, as submitted, conform as closely as possible to the accepted pattern. This very much facilitates the work of the Editor and may often result in a paper being published earlier than if it requires a great deal of detailed editorial attention. Numerical data, which should only be included if they are essential to the argument, can be presented either in the form of tables or diagrams, but should never be shown in both ways. It is not the normal custom of the Journal to publish notes shorter than about 1000 words (2 pages) or longer than about 6000 words (12 pages including illustrations).

Typescripts. A top copy and one carbon copy of the script should be submitted, typed with double spacing, on

JOURNAL OF THE BRITISH GRASSLAND SOCIETY

This Journal is a medium for the publication of the results of research and practical experience in the realm of grassland husbandry.

EDITOR: A. G. G. HILL

Contents of Volume 22, No. 3, September 1967

- INTERNATIONAL EXCHANGE OF HERBAGE SEEDS AND THE O.E.C.D. HERBAGE SEED SCHEME. F. R Horne and A. F. Kelly.
- THE UTILIZATION OF GRASS FED INDOORS TO YOUNG BEEF CATTLE, WITH OR WITHOUT SUPPLEMENTARY BARLEY. T. J. Forbes, A. M. Raven, J. H. D. Irwin and K. L. Robinson.
- ABSORPTION OF RADIO-ACTIVE PHOSPHORUS FROM TAP- AND NODAL ROOTS OF WHITE CLOVER (TRIFOLIUM REPENS L.). M. Ueno and R. Dorrington Williams.
- IN VITRO AND FAECAL NITROGEN TECHNIQUES FOR PREDICTING THE VOLUNTARY INTAKE OF CHLORIS GAYANA, D. J. Minson and R. Milford.
- Some effects of soil water conditions and soil temperature on the roots of grasses. I. The effect of irrigation on the weight of root material under various swards. E. A. Garwood.
- Some effects of grazing management on the yield and its components of some pasture grasses. J. A. Agyare and B. R. Watkin.
- Second general meeting of the european grassland federation, versailles, 22–27 may 1967. R. A. Redford.
- THE EFFECTS OF LEVEL OF NITROGEN FERTILIZER ON BEEF PRODUCTION FROM GRAZED PERENNIAL RYEGRASS/WHITE-CLOVER PASTURES. PART 1. AN IRRIGATION EXPERIMENT. F. E. Alder, S. J. Cowlishaw, J. E. Newton and D. T. Chambers.
- DRYING AND CONDITIONING OF DIRECT-HARVESTED TIMOTHY SEED. PART 1. DRYING. M. E. Nellist and D. V. H. Rees.
- THE EFFECT OF THE ADDITION OF ARACHIS OIL ON THE CONSERVATION OF HEAVILY-WILTED HERBAGE SEALED IN POLYTHENE FILM. N. Jackson and W. O. Brown.

Published quarterly. The annual subscription is 60s. or \$8.40, post free. Back numbers are still available, at the following prices; Volume 1, 20s. or \$2.80; volumes 2–17, 40s. or \$5.60 each; volumes 18 onwards, 60s. or \$8.40.

Orders to: The Secretary, British Grassland Society, Grassland Research Institute, Hurley, Berkshire, England.

,

TO KEEP UP-TO-DATE

with world agricultural research on annual field crops, the simplest and best method is to consult:

FIELD CROP ABSTRACTS

If you would like to receive a free specimen copy of this quarterly journal, please send a postcard to :

COMMONWEALTH BUREAU OF PASTURES AND FIELD CROPS, HURLEY, NR. MAIDENHEAD, BERKS., ENGLAND

ANIMAL PRODUCTION

Journal of the British Society of Animal Production

Contents of Volume 10, Part 1, February 1968 include the following:

COBIC. Castration experiments with Yugoslav Simmental Cattle. I. The effect of castration on growth and live weight gains.

WILLIS and PRESTON. The performance of different breeds of beef cattle in Cuba.

MILLER. Some responses of hill ewes and lambs to artificial shelter.

SLEE and HALLIDAY. Some effects of cold exposure, nutrition and experimental handling on serum free fatty acid levels in sheep.

GALAL. Estimates of genetic parameters of growth rate in sheep with reference to the method of estimation.

OWEN and RIDGMAN. Further studies of the effect of dietary energy content on the voluntary intake of pigs.
CHAMBERLAIN and LUCAS. The nutritive value of separated milk for pigs. I. A comparison of two diets containing separated milk with a standard all-meal diet.

HINKS. The use of station and field tests for the improvement of milking performance in dairy cattle. I. Variation in milk yield and butterfat in test station records.

SYKES and SLEE. Acclimatization of Scottish Blackface sheep to cold. 2. Skin temperature, heart rate, respiration rate, shivering intensity and skinfold thickness.

KAY, BOWERS and MCKIDDIE. The protein requirements of rapidly growing steers.

RUSSELL, GUNN and DONEY. Components of weight loss in pregnant hill ewes during winter.

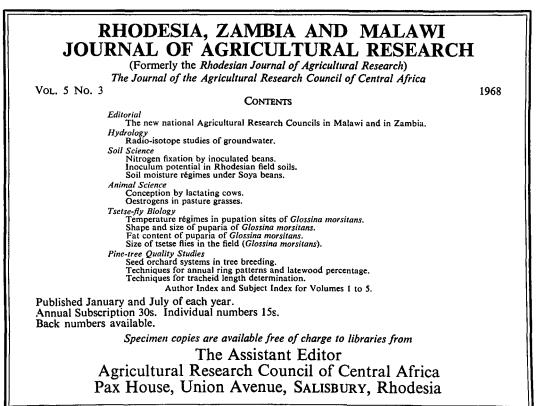
RUSSELL, GUNN, SKEDD and DONEY. Relationships between chemical and physical composition of Scottish Blackface ewes.

BURT. A note on the effect of giving milk substitute only once a day to early-weaned calves.

CRESSWELL, GILL and FRASER. A note on the use of skim-milk in the feeding of store-lambs.

OLIVER & BOYD LTD.

Tweeddale Court, 14 High Street, Edinburgh 1



Advertisement rates and data may be obtained from

Mr. D. J. French Journal Sales Promotion Cambridge University Press Bentley House, P.O. Box 92 200 Euston Road London, N.W.I, England

or

Miss Gretta Goldenman Cambridge University Press 32 East 57th Street New York, N.Y.10022, U.S.A.

CROP SCIENCE

Crop breeders, plant geneticists and physiologists, and workers in related areas will find *Crop Science* a source of valuable articles in their branches of science. This bimonthly journal carries reports of research in the genetics, physiology, ecology, breeding and management of field crops, turfgrasses, pastures and ranges, and in seed technology. It is published by the Crop Science Society of America.

\$16.00 per year in U.S. and Canada. \$17.00 per year elsewhere.

Crop Science Society of America 677 S. Segoe Rd, Madison, Wisconsin, U.S.A., 53711

The Journal of

AGRICULTURAL SCIENCE

(Established 1905)

Edited by G. D. H. Bell, K. L. Blaxter, G. W. Cooke, John Hammond, Jr., Prof. Sir J. B. Hutchinson, H. L. Penman, H. H. Rogers, E. W. Russell and F. Yates

Contents of Volume 69, No. 3, December 1967

JACKSON, J. E. Studies on the sowing dates of cotton in the Sudan Gezira. I. The influence of date of sowing on plant growth and development.

SCHULTZ, L. RAZOUX, JACKSON, J. E. and FAULKNER, R. C. Studies on the sowing date of cotton in the Sudan Gezira. II. The relationship between sowing date of cotton and the incidence of insect pests.

JACKSON, J. E., FAULKNER, R. C. and SCHULTZ, L. RAZOUX. Studies on the sowing date of cotton in the Sudan Gezira. 111. The effect of sowing date on yield and quality under different fertilizer and spraying treatments.

GUNN, R. G. Levels of first winter feeding in relation to performance of Cheviot hill ewes. IV. Body growth and development from 18 months to maturity.

GUNN, R. G. Levels of first winter feeding in relation to performance of Cheviot hill ewes. V. Dental development and persistence.

ADLER, J. H. and LOTAN, E. The relationship of circulating glucose, ketones, and F.F.A. to milk production in Awassi ewes.

GRIFFITHS, T. W. The evaluation of an improved artificial rumen technique for the study of rumen fermentation.

CRAMER, D. A., BARTON, R. A., SHORLAND, F. B. and CZOCHANSKA, Z. A comparison of the effects of white clover (*Trifolium repens*) and of perennial ryegrass (*Lolium perenne*) on fat composition and flavour of lamb.

ELLIOTT, R. C. Voluntary intake of low-protein diets by ruminants. I. Intake of food by cattle.

ELLIOTT, R. C. Voluntary intake of low-protein diets by ruminants. II. Intake of food by sheep.

BLAND, B. F. The effect of cutting frequency and root segregation on the yield from perennial ryegrass-white clover associations.

OWEN, J. B., DAVIES, D. A. R. and RIDGMAN, W. J. The efficiency of utilization of grass by lactating ewes.

LARGE, R. V. and PENNING, P. D. The artificial rearing of lambs on cold reconstituted whole milk and on milk substitute.

DONEY, J. M. and EADIE, J. The wool growth response to the annual cycle of grazing intake in Cheviot wethers.

FIELD, A. C. and SUTTLE, N. F. Retention of calcium, phosphorus, magnesium, sodium and potassium by the developing sheep foetus.

HEDDLE, R. G. Long term effects of fertilizers on herbage production. I. Yields and botanical composition.

HEDDLE, R. G. and CROOKS, P. Long term effects of fertilizers on herbage production. II. Chemical composition.

MARRABLE, A. W. and ASHDOWN, R. R. Quantitative observations on pig embryos of known ages.

SLEE, J. and RYDER, M. L. The effect of cold exposure on wool growth in Scottish Blackface and Merino × Cheviot sheep.

AUCKLAND, A. K. Soyabeans in Tanzania. II. Seasonal variation ond homeostasis in soyabeans.

BROSTER, W. H. and TUCK, VALERIE, J. Experiments on the nutrition of the dairy heifer. VI. The effect on milk production of the level of feeding during the last six months of pregnancy and the first eight weeks of lactation.

Issued at two-monthly intervals in parts of about 136 pages with plates and figures, three parts constituting a volume, 2 volumes yearly Subscription price 75s. per volume. Single parts 35s. net

CAMBRIDGE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London, N.W.1