British Society of Animal Production OCCASIONAL PUBLICATIONS

The British Society of Animal Production's Occasional Publication Series contains the full papers presented at certain symposia organized by the Society.

Copies may be obtained from the British Society of Animal Production, c/o Farms Division Office, Bush Estate, Penicuik, Midlothian EH26 0PH, Scotland.

- No. 1. THE USE OF BLOOD METABOLITES IN ANIMAL PRODUCTION (1976). Published 1978. 166 pp. Price £2.50 (\$4.00) + £2.00 (\$3.20) airmail supplement.
- No. 2. THE MECHANIZATION AND AUTOMATION OF CATTLE PRODUCTION (1977). Published 1980. 206 pp. Price £2.50 (\$4.00) + £2.00 (\$3.20) airmail supplement.
- No. 3. BY-PRODUCTS AND WASTES IN ANIMAL FEEDING (1978). Published 1980. 118 pp. Price £2·50 (\$4·00) + £2·00 (\$3·20) airmail supplement.
- No. 4. INTENSIVE ANIMAL PRODUCTION IN DEVELOPING COUNTRIES (1979). Published 1981. 481 pp. Price £10·00 (\$16·00) + £5·00 (\$8·00) airmail supplement.
- No. 5. COMPUTERS IN ANIMAL PRODUCTION (1980). Published 1981. 155 pp. Price £5.00 (\$8.00) + £3.00 (\$4.80) airmail supplement.
- No. 6. FORAGE PROTEIN IN RUMINANT ANIMAL PRODUCTION (1981). Published 1982. 193 pp. Price £10·00 (\$16·00) + £3·50 (\$5·60) airmail supplement.
- No. 7. TRACE ELEMENTS IN ANIMAL PRODUCTION AND VETERINARY PRACTICE (1982). Published 1983. 155 pp. Price £12·00 (\$19·20) + £3·50 (\$5·60) airmail supplement.
- No. 8. MATCHING PRODUCTION TO THE MARKETS FOR MEAT (1983). Published 1984. 127 pp. Price £12·00 (\$19·20) + £3·50 (\$5·60) airmail supplement.
- No. 9. MILK COMPOSITIONAL QUALITY AND ITS IMPORTANCE IN FUTURE MARKETS (1984). Published 1984. 115 pp. Price £12.00 (\$19.20) + £3.50 (\$5.60) airmail supplement.

Illustrations. The same material should not normally be presented in tables and figures. Legends should be typed on a separate sheet.

- (a) Diagrams should be drawn in Indian ink, about twice the size of the finished block, on Bristol board, stout tracing paper or plastic film. Photographed diagrams are also accepted. Lettering inside the framework of the diagram should be avoided as far as possible but if unavoidable it should be included on a fly-leaf. Marginal lettering should be inserted lightly in pencil on the original diagram or on a fly-leaf.
- (b) Photographs intended for half-tone reproduction should be on glossy paper. They will be accepted only if found necessary by the Editors.
- (c) Colour plates are unlikely to be accepted unless authors bear the cost.

Tables should be as simple and as few as possible. Each table should be typed on a separate sheet.

Abstract. Every article should have a short abstract (not more than 250 words) complete in itself and understandable without reference to the paper. The abstract will be printed at the beginning of the paper.

References. Only papers closely related to the author's work should be referred to; exhaustive lists should be avoided. The arrangement of references should be as in recent papers in *Animal Production*; details are given in the notes for guidance.

Proofs are supplied once and must be returned corrected to the Editors within 3 days. Only essential corrections should be made.

Reprints. Twenty-five reprints of each paper will be supplied free to authors on request. Further copies may be purchased if the order is sent at the proof-stage.

Animal Production is published six times a year in two volumes. Annual subscription is £65.00 (or \$135.00 in the USA and Canada) and the price for a single part is £12.00 (or \$25.00) net.

Proceedings of the British Society of Animal Production (New Series) ceased publication in 1975 and the material is now published as a separate section in the June issue of Animal Production.

Correspondence regarding subscriptions and sales (current and back numbers of the Journal and the Proceedings), should be addressed to: Scottish Academic Press Ltd, 33 Montgomery Street, Edinburgh, Scotland EH7 5JX.

Other enquiries, including those concerning copyright, should be addressed to: Durrant Periodicals, Winton Lea, Pencaitland, East Lothian, Scotland EH34 5AY.

Senior Editor

T. L. J. Lawrence, University of Liverpool

Editors

- J. A. Bines, National Institute for Research in Dairying
- R. C. Campling, Wye College, University of London
- M. F. Fuller, Rowett Research Institute
- J. P. Hanrahan, Agricultural Institute
- W. Haresign, University of Nottingham
- A. J. Kempster, Meat and Livestock Commission
- J. H. B. Roy, National Institute for Research in Dairying
- R. Thompson, Animal Breeding Research Organisation
- A. J. F. Webster, University of Bristol

Technical Editors

Hilary Davies

Marie C. Pitkethly

CONTENTS

	PAGE
GOODALL, E. A. and SPREVAK, D. A Bayesian estimation of the lactation curve of a dairy cow	189
ASCARELLI, I., EDELMAN, Z., ROSENBERG, MIRIAM and FOLMAN, Y. Effect of	
dietary carotene on fertility of high-yielding dairy cows	195
cows. 3. A comparison of two flat-rate feeding systems at two amounts of concentrates	209
Kunz, P. L., Blum, J. W., Hart, I. C., Bickell, H. and Landis, J. Effects of different energy intakes before and after calving on food intake,	
performance and blood hormones and metabolites in dairy cows Korver, S., Van Arendonk, J. A. M. and Koops, W. J. A function for	219
live-weight change between two calvings in dairy cattle	233
or infusing low doses of bovine growth hormone on milk yield, milk composition and the quantity of hormone in the milk serum of cows	243
HIRONAKA, R., SONNTAG, B. H. and KOZUB, G. C. Efficiency of food utilization and carcass characteristics of steers marketed at different weights	251
ENGLAND, P. and GILL, MARGARET. The effect of fish meal and sucrose supplementation on the voluntary intake of grass silage and live-weight	
gain of young cattle	
clover/grass, white clover/grass and high nitrogen grass swards for beef production	267
VACCARO, R. and RIVERO, S. Growth of Holstein Friesian females in the Venezuelan tropics	279
APOLANT, S. M. and CHESTNUTT, D. M. B. The effect of mechanical treatment of silage on intake and production of sheep	287
VIPOND, J. E., HUNTER, E. A. and KING, MARGARET E. The utilization of whole and rolled cereals by ewes	297
CAMERON, N. D. and SMITH, C. Estimation of carcass leanness in young rams. ELIMAM, M. E. and ØRSKOV, E. R. Factors affecting the fractional outflow of	303
protein supplements from the rumen. 3. Effects of frequency of feeding, intake of water induced by the addition of sodium chloride	
and the particle size of protein supplements	309
growth and carcass traits in crossbred lambs	315
Hennessy Grading Probe and the SFK Fat-O-Meater for use in pig carcass classification and grading	323
BATTERHAM, E. S., GILES, L. R. and DETTMANN, E. BELINDA. Amino acid and	
energy interactions in growing pigs. 1. Effects of food intake, sex and live weight on the responses of growing pigs to lysine concentration.	331
WALKER, N. Cassava and tallow in diets for growing pigs	345
susceptibility on some economically important traits in pigs. 1. Litter productivity	351
CRUMP, ALISON D., RODWAY, R. G. and LOMAX, M. A. A note on the relationship between undernutrition and luteinizing hormone release in	
the ewe	
and nitrogen retention in ewes fed whole grains of triticale, wheat and maize	363
PONZONI, R. W., FLEET, M. R., WALKLEY, J. R. W. and WALKER, S. K. A note on the effect of the F gene on wool production and live weight	200
of Booroola × South Australian Merino rams	367
tandem selection	371
PARTRIDGE, I. G., Low, A. G. and KEAL, H. D. A note on the effect of feeding frequency on nitrogen use in growing boars given diets with	
varying levels of free lysine	375