

**BRITISH SOCIETY
OF
ANIMAL PRODUCTION**

**WINTER MEETING
26 - 28 March 1984**

**GRAND HOTEL
SCARBOROUGH**

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BRITISH SOCIETY OF ANIMAL PRODUCTION
WINTER MEETING 1984
PROGRAMME

Day	Time	THEATRE SESSIONS		POSTER SESSIONS
		Ballroom	South Lounge	
MONDAY 26th MARCH	14.30	The President		Pigs Beef Production and Growth Promoters. 16.00 - 17.00 Authors in attendance.
	14.40	Winter Feeding of Dairy Cows	Sheep Production	
	16.00	T E A		
	16.20	Winter Feeding of Dairy Cows	Sheep Production	
	18.45	SCARBOROUGH TOWN COUNCIL RECEPTION		
	19.30	ANNUAL DINNER		
TUESDAY 27TH MARCH	09.00	Milk Production	Feeding and Management of Sows	Nutrition Feeding and Management of Early Weaned Pigs
	10.40	C O F F E E		
	11.00	Feeding and Management of Early Weaned Pigs	Marketing of Milk in the Next Decade	Sea View Lounge AI in Sheep
	12.30	L U N C H		Marketing of Milk in the Next Decade Protein Allowances for Ruminants 14.00 - 15.00 Authors in attendance.
	13.50	Body Composition	Genetics	
	15.10	T E A		
	15.30	Plenary Session Protein Allowances for Ruminants		
	17.45	ANNUAL GENERAL MEETING		
	19.30	D I N N E R		
WEDNESDAY 28TH MARCH	09.00	Beef Production	Growing Pigs	Dairying Calves
	10.40	C O F F E E		Sheep Production Rabbit, Deer and Meat Production 10.00 - 11.00 Authors in attendance.
	11.00	Beef Production	Growing Pigs	
	12.30	L U N C H		
	13.50	Welfare in Intensive Systems	Ruminant Nutrition	
	15.30	C L O S E O F M E E T I N G		

Monday 26th March 1984

Theatre Session
Ballroom

WINTER FEEDING OF DAIRY COWS

CHAIRMAN - DR. J. A. CRAVEN

14.30		Welcome	Dr. D.M. Allen BSAP President
14.40	1	The effect of composition of concentrate on the voluntary intake of silage and milk output	C. Thomas*, K. Aston, S.R. Dailey, P.M. Hughes and J. Bass.
15.00	2	The effect of protein source in the concentrate on cow performance	J.J. Murphy*, P.A. Gleeson and D. J. Morgan.
15.20	3	Influence of a dietary excess of rumen degradable or undegradable protein on the lactation performance of dairy cows	B. Sloan*, P. Rowlinson and D.G. Armstrong.
15.40	4	Use of fish meal to reduce compound feed usage in high yielding dairy herds	I.H. Pike*, E.L. Miller and M. Clark.
16.00		T E A	
16.20	5	A 2-year comparison of in-parlour and out-of-parlour concentrate feeding on the production, and health of dairy cows	R.J. Treacher*, W. Little and I.M. Reid.
16.40	6	The effect of using a programmable out-of-parlour feeder for dairy cows	F.J. Gordon
17.00	7	The effect of pattern of concentrate allocation for autumn-calving cows	F.J. Gordon
17.20	8	Flat rate versus step feeding of concentrates for dairy cows fed silage to appetite	D.A. Poole
17.40	9	A study of two patterns and two levels of concentrate allocation for dairy cows offered silage ad libitum	W.Taylor* and J.D. Leaver.
18.00		Session Ends	
18.45		SCARBOROUGH TOWN COUNCIL RECEPTION	
19.30		ANNUAL DINNER	

Monday 26th March 1984

Theatre Session
South Lounge

SHEEP PRODUCTION

CHAIRMAN - DR. A.W. SPEEDY

14.40	10	Effect of silage chop length on intake and performance of store lambs	S. Fitzgerald
15.00	11	The response of store lambs to protein supplementation of alkali treated straw based diets	S.M. Marchment* and E.L. Miller.
15.20	12	The effect of silage dry matter content and protein supplementation on the intake and performance of housed store lambs	C.Stone* and M. Appleton.
15.40	13	The effect of alternative flock replacement strategies on the lifetime productivity of the ewe	M.Lloyd*, A.W. Speedy, P.Phillips and J. FitzSimons.
16.00		T E A	
16.20	14	Milk production of ewes rearing single and twin lambs, at two times a year and associated plasma, insulin, prolactin and blood metabolite concentrations	J.Bass*, J.M. Doney, S.M. Rhind, I.D.Leslie, D.A.Sim, A.D.M. Smith and W.F. Smith.
16.40	15	The effects of exogenous bovine growth hormone and bromocryptine mesilate on mammary development in ewe lambs	I.D. Johnsson* and I.C. Hart.
17.00	16	A comparison of twin and triplet lamb rearing	C.B. Gallo* and D.A.R. Davies.
17.20	17	The effect of shearing on the rate of outflow of a chromium-mordanted protein concentrate from the rumen of ewes	N.T. Ngongoni*, J.J. Robinson and R. Aitken.
17.40	18	The effect of shearing pregnant ewes on their plasma glucose levels, lamb birth weight and lamb growth rate to 56 days	J.A. Kirk*, R.A. Cooper and A. Chapman.
18.00		Session Ends	
18.45		SCARBOROUGH TOWN COUNCIL RECEPTION	
19.30		ANNUAL DINNER	

Tuesday 27th March 1984

Theatre Session
Ballroom

MILK PRODUCTION

CHAIRMAN - MR. J.R. MULHOLLAND

09.00	19	Effect of three day-time stocking rates for dairy cows offered silage overnight	D. J. Roberts* and J.D. Leaver.
9.20	20	The effect of severity of grazing on milk production of grazing dairy cows	C.S. Mayne*, R.D. Newberry and S.C.F. Woodcock.
9.40	21	The strategic use of nitrogen on continuously grazed grass/clover swards	N.Purvis* and A. Younger.
10.00	22	Noscow - a predictive model of the energy system of cows	J.M. Bruce*, P.J. Broadbent and J.H. Topps.
10.20	23	Evaluation of Noscow	P.J. Broadbent*, J.H. Topps, J.J. Clark and J.M. Bruce.
10.40		C O F F E E	

FEEDING AND MANAGEMENT OF EARLY WEANED PIGS

CHAIRMAN - DR. P.R. ENGLISH

11.00		Introduction	
11.05	24	The nutrition of young pigs	V.R. Fowler, Rowett Research Institute.
11.25	25	Gut immunity in the pig - hypersensitivity responses to dietary antigens	F.J. Bourne, B.Miller, T.J. Newby and C.R. Stokes, University of Bristol.
11.45	26	Reproductive processes in sows having short lactations	M.A. Varley, Rowett Research Institute.
12.00	27	The environmental requirements of the early-weaned pig	W.H. Close, NIRD, and A.T. Smith, ADAS.
12.20		Discussion.	
12.30		L U N C H	

NOTE

11 - 12.30

AI IN SHEEP

Sea View Lounge.

Please see page 14 for details.

Tuesday 27th March 1984

Theatre Session
South Lounge

FEEDING AND MANAGEMENT OF SOWS

CHAIRMAN - DR. B. HARDY

09.00	28	The effects of lactation length and feed level on subsequent reproductive performance in the sow	R.W. Henry*, D.W. Pickard and P.E. Hughes.
09.20	29	Influence of body fat stores on reproductive performance of sows	C.T. Whittemore*, A.G. Taylor, G.M. Hillyer, D. Wilson and C. Stamataris.
09.40	30	The effects of lactation feed level on subsequent ovulation rate and early embryonic survival in the sow	P.E. Hughes*, R.W. Henry and D.W. Pickard.
10.00	31	Verification of the Agricultural Research Council (1981) recommendations on energy requirements of the pregnant sow	P.A. Lee* and K.G. Mitchell.
10.20	32	The effect of pattern of feed distribution during late pregnancy and lactation on sow productivity	A.J. Harker* and D.J.A. Cole.
10.40		C O F F E E	

MARKETING OF MILK IN THE NEXT DECADE

CHAIRMAN - DR. J.D. LEAVER

11.00	33	The way ahead in milk marketing	C.R. Groves, West of Scotland Agricultural College.
11.30	34	Dairy products - the next 10 years	A. English, Dairy Crest.
12.00		Discussion	
12.30		L U N C H	

NOTE

11 - 12.30

AI IN SHEEP

Sea View Lounge.

Please see page 14 for details.

Tuesday 27th March 1984

Theatre Session
Ballroom

BODY COMPOSITION

CHAIRMAN - DR. D. LISTER

13.50	35	Comparison of terminal ram breeds for growth and carcass traits in crossbred lambs	N.D. Cameron* and D.J. Drury.
14.10	36	The effect of growth rate on fat partitioning in crossbred ewe lambs	B.W. Butler-Hogg* and I. Johnsson.
14.30	37	Relationships between chemical and physical body composition in two lines of large white pigs at five feeding levels	A.J. Rook*, M. Ellis, C.T. Whittemore and P. Phillips.
14.50	38	The relationships between live animal measurements and the physical and chemical composition of dairy cows	D.I. Lamont*, D.R. Neilson, B.C. Emmans, J. Fraser and J.H.D. Prescott.
15.10		T E A	

PLENARY SESSION

PROTEIN ALLOWANCES FOR RUMINANTS

CHAIRMAN - MR. G. ALDERMAN

15.30	39	Metabolic requirements for amino acids	J.C. MacRae, Rowett Research Institute.
16.00	40	Elements of a system to meet protein requirements	J.D. Oldham, NIRD.
16.30	41	Protein allowances in practice	B.R. Cottrill, ADAS, Reading.
17.00		Discussion led by D. G. Armstrong, Newcastle University.	
17.30		SESSIONS ENDS	
17.45		ANNUAL GENERAL MEETING	
19.30 onwards		DINNER	

Tuesday 27th March 1984

Theatre Session
South Lounge

GENETICS

CHAIRMAN - DR. W.J.M. BLACK

13.50	42	Succinylcholine and halothane as a field test for the heterozygote at the halothane locus in pigs	A.J. Webb*, P. Imlah and A.E. Carden.
14.10	43	Selection for prolificacy in pigs	E. Avalos*, C. Smith and M. Richard.
14.30	44	Selection indices for terminal sire beef breeds	G. Simm*, C. Smith and J.H.D. Prescott.
14.50	45	Genetic parameters of body weights in hill sheep	K.D. Atkins.
15.10		TEA	

15.30 - 17.30

PLENARY SESSION

Ballroom

Please see opposite page for details.

17.45 ANNUAL GENERAL MEETING

19.30 DINNER
onwards

Wednesday 28th March 1984

Theatre Session
Ballroom

BEEF PRODUCTION

CHAIRMAN - MR. A.J. CHALMERS

09.00	46	Carcase development in three breeds of finishing suckled calves fed to grow at different rates of liveweight gain and slaughtered serially	J.R. Southgate*, G.L. Cook and A.J. Kempster.
09.20	47	Subcutaneous fat deposition measured by serial ultrasonic scans in beef cattle of different breeds, and its relationships with live-weight gain and feed efficiency	G.L. Cook*, A.P.H.M. Hovers, A.J. Kempster and J.R. Southgate.
09.40	48	The relationship between lean content and conformation in beef carcasses of different breeds and crosses	A.J. Kempster.
10.00	49	Prediction of the growth and composition of beef cattle	R.L. Baldwin*, J.W. Oltjen, A.C. Bywater and D.J. Thomson.
10.20	50	The use of consumer panels to measure the variability of beef from different sources	L.E. Hardham*, G.L. Cook, A.W. Dilworth and G. Harrington
10.40		C O F F E E	
11.00	51	Ammonia treated straw in diets for finishing beef cattle	M. Selman*, R.Knight and J.F.B. Altman.
11.20	52	Effect of level of feeding in the calf stage on the lifetime performance of Friesian steers	F.J. Harte*, R.J. Fallon and M.J. Clancy.
11.40	53	Responses by beef cattle to increases in either silage digestibility or proportion of rolled barley - comparative slaughter study	C. Thomas*, B.G. Gibbs, B. Thurnham and D.E. Beever.
12.00	54	Responses by beef cattle to increases in either silage digestibility or proportion of rolled barley - digestion and calorimetry study	D.E. Beever*, S.B. Cammell, M.J. Haines, D.L. Gale and C. Thomas.
12.30		L U N C H	

Wednesday 28th March 1984

Theatre Session
South Lounge

GROWING PIGS

CHAIRMAN - DR. T.L.J. LAWRENCE

09.00	55	Variation in the composition of cereals and in their nutritive value for growing pigs	M.F. Fuller*, A. Cadenhead and D. Brown.
09.20	56	Studies on the composition and physical form of the diet on gastric abnormalities and nutrient utilization in the growing pig	Z.V. Potkins*, T.L.J. Lawrence and J.R. Thomlinson.
09.40	57	Digestible and metabolisable energy values of coconut meals of different oil contents in the diets of pigs	P. Thorne*, J. Wiseman and D.J.A. Cole.
10.00	58	Methionine, cystine and choline requirement of the growing pig	L.J. Ferrier*, D.J.A. Cole and D. Lewis.
10.20	59	Studies on the effect of the gut microflora on dietary nitrogen digestibility in pigs	B. Ratcliffe* and A.G. Low.
10.40		C O F F E E	
11.00	60	The practical exploitation of compensatory growth in pigs	G.M. Hillyer*, C.T. Whittemore, D. Wilson, A.G. Taylor and C. Stamataris.
11.20	61	A study of dietary energy density and genotype interaction on voluntary feed intake of the grower pig	J.A. Savidge*, D.J.A. Cole and D.Lewis.
11.40	62	The effects of dietary novelty and frequency of feeding on the feed intake and performance of growing pigs	V.R. Fowler*, R. McWilliam, K. Pennie and M. James.
12.00	63	The development of the shield in male pigs	J.D. Wood*, R.L.S. Patterson and P.J. Buxton.
12.30		L U N C H	

Wednesday 28th March 1984

Theatre Session
Ballroom

WELFARE IN INTENSIVE SYSTEMS

CHAIRMAN - DR. D.L. FRAPE

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|-------|----|---|--|
| 13.50 | 64 | Contemporary alternative systems for laying fowl: production data and behavioural findings | S.W. Gibson*,
P. Dun, G. Hogarth,
J.A. Anderson,
C.T. Whittamore and
B. O. Hughes. |
| 14.10 | 65 | The importance of exposure environment and movement in boar-induced precocious puberty in the gilt | G.P. Pearce* and
P.E. Hughes. |
| 14.30 | 66 | A comparison of oestrogen and progesterone levels in blood and urine with physiological and behavioural manifestations of oestrus in sows | R. Henderson*,
A. Stolba,
M. Dobell and
H. Kundig. |
| 14.50 | 67 | Ethological factors influencing the occurrence of oestrus in lactating sows | A. Stolba* and
R. Henderson. |
| 15.10 | 68 | Computer controlled identification and feeding of group-housed sows | S.A. Edwards*,
A.W. Armsby and
J.W. Large. |
| 15.30 | | CLOSE OF MEETING. | |

Wednesday 28th March 1984

Theatre Session
South Lounge

RUMINANT NUTRITION

CHAIRMAN - DR. J.A. MILNE

13.50	69	The energy value of body-weight change in adult cattle	J.M. Bruce
14.10	70	An additive and linear energy scale	G.C. Emmans
14.30	71	Voluntary intake of hay in relation to its degradability in the rumen as measured in dacron bags	F.D. DeB. Hovell and J.W. N'Gambi.
14.50	72	The effect of monensin addition to or formaldehyde application on the digestion of fresh forage by growing cattle	D.E. Beever*, H.R. Losada, D.L. Gale and M.C. Spooner.
15.10	73	The effects of abomasal infusions of glucose or casein on milk yield and on some blood constituents of dairy cows in early and late lactations	L. Istasse and E.R. Ørskov.
15.30		CLOSE OF MEETING.	

- 14.40 Session opens
 16.00 - 17.00 Authors in attendance

P I G S

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| 74 | Comparison of two feeding methods on a moderate and a higher density diet | K.G. Mitchell*,
H.D. Keal, I.G. Partridge
and J. Thomas. |
| 75 | Effects of level of maize gluten feed in the diet on pig performance and carcass quality | S.A. Edwards*,
N.J. Prescott and
D.B. MacDougall. |
| 76 | The performance of pigs genetically resistant to K.88 E.Coli | J.R. Walters* and
R. Sellwood. |
| 77 | Comparison of chromic oxide, titanium dioxide and lignin as indigestible markers for the determination of ileal and faecal digestibility of nitrogen in the pig | S. Jagger*,
J. Wiseman and
D.J.A. Cole. |
| 78 | An evaluation of the erythrocyte glutamate-oxaloacetate transaminase activity coefficient (EGOT-Ac) as a biochemical indicator of vitamin B6 status in mature gilts | L.E. Russell*,
R.A. Easter and
P.J. Bechtel. |
| 79 | The effect of feeding frequency on the behaviour patterns of group-housed dry sows using an electronic sow-activated feeder | R.J. Lambert*,
M. Ellis and
P. Rowlinson. |
| 80 | Observations of the summer performance of natural cross flow ventilation, incorporating automatic controls, in a wide straw bedded pig finishing house and the use of meteorological records for predicting extreme conditions | A.T. Smith*,
I.A. Barrie and
M.L. Yeo. |
| 81 | Water consumption and slurry production of dry and lactating sows | A.L. Lightfoot* and
A.W. Armsby. |
| 82 | The relative potency of mature boar contact, transport and mixing in stimulating puberty attainment in the gilt | P.R. Eastham* and
D.J.A. Cole. |
| 83 | The role of 'boar-component' stimuli in courtship and copulatory behaviour in pigs | P.E. Hughes*,
P.H. Hemsworth and
C. Hansen. |
| 84 | The induction of puberty in rapidly-grown gilts | N. Walker and P.J. Burnett. |
| 85 | On-farm identification of the optimum time for mating in pigs | P.N. Hooper*,
J.R. Walters and
J. Gray. |
| 86 | Aspects of semen production in boars | J.R. Walters*,
C.G. Green, J. Gray,
S. Goodman and
P.N. Hooper. |
| 87 | An evaluation of the Hennessy grading probe and the SFK. Fat-0-Meater for use in pig carcass classification | A.J. Kempster*,
J.P. Chadwick and
D.W. Jones. |

Monday 26th March 1984

Poster Session

14.40 Session opens

16.00 - 17.00 Authors in attendance

BEEF PRODUCTION AND GROWTH PROMOTERS

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| 88 | A selection index for the beef industry | D.E. Steane*,
G.L. Cook and
D.M. Allen. |
| 89 | The effect of breed type on the relative variability of different fat depots in cattle | A.V. Fisher* and
J.A. Bayntun. |
| 90 | A comparison of Hereford x Friesian and Charolais x Friesian bulls in a silage bull beef system | A.J. Chalmers. |
| 91 | The effects of implantation with Oestradiol - 17B and of two levels of protein in the compound diet during the finishing period of Friesian and Hereford cross Friesian steers | W.S. Thickett*,
N.H. Cuthbert and
J. Taylor. |
| 92 | A comparison of sequential implantation with Zeranol or a single implant with Oestradiol 17 B | M. Kay*,
T.L. Reith and
E.A. Hunter. |
| 93 | Effect of Zeranol implantation and dietary protein level on growth and blood hormones and metabolites of bulls | H. Galbraith*,
G.F.M. Paterson,
G.D. Henderson and
E.A. Hunter. |
| 94 | The response of overwintering and finishing beef cattle to Salinomycin sodium | J.R. Southgate*,
D.W. Jones and
J.D. Wilson. |
| 95 | The response of growing and finishing cattle to Virginiamycin | J.R. Southgate*,
D.W. Jones and
D. Johnson. |
| 96 | The response to feed additives in beef production systems | L. Scott*,
M. Kay and
E.A. Hunter. |
| 97 | Response of growing male kids to repeat Zeranol implantation | M. Silva* and
F. Berenguer. |

Tuesday 27th March 1984

Theatre/Poster Session

Sea View Lounge

AI IN SHEEP

CHAIRMAN - DR. H.C.B. REED

- 11.00 98 Artificial insemination in sheep I. Gordon,
University College,
Dublin.
- 11.30 Discussion of poster presentations:-
- 99 Field trials in fixed-time sheep AI in Ireland T.F. Crosby*,
M.P. Boland and
I. Gordon,
University College,
Dublin.
- 100 Artificial insemination of ewes with ram semen frozen
by the pellet method R.M. Curnock*,
H.C.B. Reed,
D.N. Logue, MLC and
W.M.C. Maxwell,
University College
of Wales.
- 101 The use of sheep AI for genetic improvement in
commercial lamb production M.E. King*,
C.F.S. Clark, North
of Scotland College
of Agriculture,
C. Fraser and
R. Aitken, Rowett
Research Institute.
- 102 The use of sheep AI as an aid to the control of scrapie R.N. Rutherford*,
ADAS, and R.M. Curnock,
MLC.
- 12.00 General discussion
- 12.30 L U N C H

NOTE

11 - 12.30 FEEDING AND MANAGEMENT OF EARLY WEANED PIGS Ballroom

MARKETING OF MILK IN THE NEXT DECADE South Lounge

Please see pages 4 and 5 for details.

Tuesday 27th March 1984

Poster Session

- 09.00 Session opens
- 14.00 - 15.00 Authors in attendance

PROTEIN ALLOWANCES FOR RUMINANTS

- 103 Collaborative ring test to estimate protein degradability P.J. Evans* and
B.R. Cottrill.
- 104 The effect of three sources of rumen degradable protein
on the digestibility of hay and silage diets fed to sheep J.A. Bax* and
N.W. Offer.
- 105 Evaluation of protein feeds for dairy cows A.J.F. Webster*,
M.A. Kitcherside,
J.R. Keirby and
P.A. Hall.

MARKETING OF MILK IN THE NEXT DECADE

- 106 Trends in liquid milk consumption J.V. Wheelock* and
S.J. Fallows

09.00 Session opens

14.00 - 15.00 Authors in attendance.

FEEDING AND MANAGEMENT OF EARLY WEANED PIGS

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|-----|---|--|
| 107 | The value of liquid skimmed milk in piglet creep rations | O.D.Davies* and
D.W. Howard. |
| 108 | The effect of organic acid inclusion in diets on the growth performance of early weaned piglets | R.W. Henry*,
D.W. Pickard and
P.E. Hughes. |
| 109 | Growth rates and daily feed intakes of early weaned piglets on either an ad libitum or restricted feeding regime on a commercial unit | C.M. Shepherd. |
| 110 | The influence of an acidified liquid replacer for sow milk on the performance of suckling and early weaned piglets | M. Ellis* and
P. Rowlinson. |
| 111 | Water consumption by early weaned piglets | P.H. Brooks*,
S.J. Russell and
J.L. Carpenter. |
| 112 | Development of an intensive care unit to rear weakly pigs | A.L. Lightfoot* and
B.J. Egan. |
| 113 | The influence of environmental temperature, level of feed intake and age of weaning on the growth and metabolism of the young pig | W.H. Close* and
J. Le Dividich. |

NUTRITION

- | | | |
|-----|---|--|
| 114 | The effects of formic acid and rate of drying in the field on the efficiency of conservation and on energy and protein retention of growing steers given grass silage | E. Charmley* and
C. Thomas. |
| 115 | Fishmeal supplementation of grass silage diets for growing stock | M. Kay* and
L. Scott. |
| 116 | A comparison of two types of fish meal as protein supplements for finishing British Friesian steers given grass silage ad libitum | P. S. Kirby,
J.R. Outhwaite and
T.O. Jones. |
| 117 | Supplementation of a diet of straw with starch or fishmeal; effects on the degradability and rate of outflow of straw from the rumen | P.E.V. Williams*,
G.M. Innes and
P.J. Moor. |
| 118 | Urea supplementation of two forms of barley for intensively fed Friesian bulls | I.E. Edwards*,
J.H. Topps and
G.F.M. Paterson. |
| 119 | The inclusion of ammonia-treated straw in pelleted diets for calves | E.M.A. Thirgood* and
C.E. Hinks. |
| 120 | Concentrates saved by ammonia-treating barley straw for overwintering Hereford x Friesian heifers | E. Owen*, D. Kitivo
and M. Russell. |
| 121 | The supplementation of ammonia treated straws for suckler cows | P.J. Turner* and
D.A. Perks. |
| 122 | Storage feeding bull beef using ammonia treated straw or grass silage | C.K. Mackie*,
M. Kay and
E.A. Hunter. |

09.00 Session opens

10.00 - 11.00 Authors in attendance

DAIRYING

- | | | |
|-----|---|---|
| 123 | The effect of level and change in level of energy concentration of a complete diet on intake and performance of dairy cows | R.H. Phipps*,
J.A. Bines,
J. Thomas and
A. Cooper. |
| 124 | Dairy cow intakes and performance on wilted silage treated with or without a silage additive | C.F.R. Slade* and
J.P. Wray. |
| 125 | Appetite potential of Jersey cows | T.D.A. Brigstocke, and
M. A. Lindeman. |
| 126 | The effect of feeding protected methionine on the milk yield and fertility of Friesian dairy cows | B. Drew*,
J. Foulkes and
J.F.B. Altman. |
| 127 | The use of indigestible acid detergent fibre as a digestibility marker for dairy cows fed ad libitum grass silage with three concentrate levels | E.A. Dodsworth*,
R.H. Phipps and
J.A. Bines. |
| 128 | A comparison of the production characteristics of high yielding heifers and cows | D.R. Neilson*,
G.C. Emmans and
H. Parkinson. |
| 129 | The effect of policy changes in large dairy herds | E.M. Bell. |
| 130 | Feed additives for replacement heifer calves | J. Hughes. |
| 131 | Efficacy and the assessment of hazards of residues following the use of trenbolone acetate (Finaplix) in cull dairy cows | R.J. Heitzman*,
W. Little and
K. L. Russell. |
| 132 | Reproductive efficiency in a seasonal calving dairy herd | M.G. Diskin. |
| 133 | D.I.Y. cattle P.D. using doppler ultrasound | P.N. Hooper* and
P.R. Jeenes. |
| 134 | The use of an ultrasound pregnancy detector for dairy cows | P. Rowlinson. |
| 135 | Oestrus detection in dairy cows by milk temperature measurement | D.P. Fordham*,
T.T. McCarthy and
P. Rowlinson. |
| 136 | Characterisation of the lactation curve in Pakistani buffaloes | K.Z. Gondal* and
P. Rowlinson. |

CALVES

- | | | |
|-----|--|---|
| 137 | Replacement of skim milk with whey products in milk substitutes for the calf | I.J.F. Stobo*,
P. Ganderton and
M.W. Perfitt. |
| 138 | Effect of level of inclusion of antigen-free soya protein concentrate in a whey-based milk substitute for calves | I.J.F. Stobo*,
P. Ganderton and
M.W. Perfitt. |
| 139 | Effects of roughage on the development of rumen volume in calves | P.E.V. Williams*,
J.P. Magadi and
G.M. Innes. |
| 140 | Effects of feeding level, air speed and temperature on digestibility and growth in the calf | M.S. Cockram* and
T.G. Rowan. |
| 141 | A survey of factors affecting mortality and incidence of disease among purchased calves | R.J. Fallon* and
J.F. Harte. |
| 142 | The effect of extended photoperiod in winter on the growth and coat characteristics of heifer calves | R.A. Bourne*,
P.R. Trump and
J.A. Kirk. |

09.00 Session opens

10.00 - 11.00 Authors in attendance.

SHEEP PRODUCTION

- 143 Incidence and treatment of hypothermia in the young lamb
I.A. Dickson*,
F.A. Eales,
M. Lloyd, M.E. Smith
and A.W. Speedy.
J.E. Vipond.
- 144 Evaluation of the ewesplint method for treating broken mouth
in sheep
A.R. Sibbald*,
R.G. Gunn,
T.J. Maxwell,
R.D.M. Agnew and
D.N. McFarlane.
- 145 A model of pasture utilisation and ewe performance at mating in an
upland flock
S.M. Rhind*,
J.M. Doney and
R.G. Gunn.
- 146 Plasma FSH, LH, prolactin and progesterone profiles in Cheviot
ewes on high and low intakes prior to mating
D.L. Done.
- 147 Effect of silage dry matter content and protein supplementation on
the performance of in-lamb ewes
W.S. Dingwall*,
G.D. Henderson,
J.J. Robinson and
T. Atkinson.
- 148 Twin release of luteinizing hormone in progestagen - PMSG treated
Finn x Dorset horn ewes
M. N. Sillence*,
E.J. Redfern and
R.G. Rodway.
- 149 Adrenal function in wether lambs implanted with trenbolone acetate,
oestradiol or trenbolone acetate plus oestradiol
A. Waterhouse*,
J. McAuslan, R. Laird and
T. H. McClelland.
- 150 Implants for grass finished store Blackface lambs
S. B. Telfer* and
G. Zervas.
- 151 The effect of Tracerglass-L on the copper, cobalt and selenium
status of lambs
A.J. Brown*,
B.W. Butler-Hogg
and J.D. Wood.
- 152 The effect of breed, sex and carcass weight on the composition of
lamb retail cuts

RABBIT, DEER AND MEAT PRODUCTION

- 153 Energy standards for growing rabbits: performance and diet
digestibility as affected by hay content, fineness of grinding and
level of feeding
S. Ward* and
E. Owen.
- 154 Whole grain cereal diets for rabbits
M. Payne*,
E. Owen,
B.S. Capper and
J.F. Wood.
- 155 A comparison of two upland systems of management for a breeding
herd of red deer
W.J. Hamilton*
and T.J. Maxwell.
- 156 Barriers to lean meat production: farmers' views
S.J. Fallows*
and J.V. Wheelock.

Summaries for the following papers were not received in time for printing:-
24, 34, 39, 40, 41, 47, 48, 62, 98, 103, 132.