

*British Society  
of Animal Science  
Winter Meeting*

*Programme  
and  
Summaries*

*Spa Complex  
Scarborough  
18-20 March 1996*

***These summaries have been collected together as a service for conference delegates:***

***They have not been checked or edited and the Society can accept no responsibility for their accuracy or for any summaries not received. Please check with the author before using any of the information.***

**BSAS WINTER MEETING 1996  
PROGRAMME**

<i>DAY</i>	<i>TIME</i>	<i>THEATRE SESSIONS</i>			<i>POSTER SESSIONS</i>
Monday 18 March	1400	<i>SPA THEATRE</i> <b>The President</b>		<i>PROMENADE</i>	<b>GRAND HALL</b> Sessions open 1410-1800 Authors in attendance 1450-1550  <b>Dairy</b>  <b>Horses, Camels &amp; Dogs</b>  <b>Animal Breeding</b>  <i>(Poster displays - Summer Placement Scheme President Prize Poster 1995 Monday 1410-Wed 1330)</i>
	1410	<b>Extended Lactations for Dairy Cows</b>		<b>Pig Feeding Behaviour</b>	
	1550	<i>Tea</i>			
	1610	<i>SPA THEATRE</i>	<i>PROMENADE</i>	<i>REGENCY ROOM</i>	
		<b>Milk Production I</b>	<b>Enzyme Technology</b>	<b>Genetics</b>	
	1900	<b>SCARBOROUGH TOWN COUNCIL RECEPTION</b>			
	1930	<b>CONFERENCE DINNER 1996</b>			
Tuesday 19 March	0900	<i>SPA THEATRE</i> <b>Ruminant Nutrition and Metabolism <i>in vitro</i></b>	<i>PROMENADE</i> <b>Pig Meat Quality</b>	<i>REGENCY ROOM</i> <b>Beef Suckler Production</b>	<b>VITA DOME</b> Session opens 0900-1800 Authors in attendance 1040-1140
	1020	<i>Coffee</i>			<b>Beef</b>
	1040	<i>Presidents Session</i> <b>Farm Animals &amp; Natural Heritage</b>	<b>Pig Behaviour &amp; Physiology</b>	<b>Ruminant Nutrition &amp; Metabolism <i>in vivo</i></b>	<b>GRAND HALL</b> Sessions open 0900-1800 Authors in attendance 0920-1020
	1230	<i>Lunch</i>			
	1340	<i>SPA THEATRE</i> <b>Sheep &amp; Beef</b>	<b>Free Farrowing</b>	<b>British Veterinary Poultry Association Meeting **</b>	<b>Pig Nutrition</b>  <b>Sheep Nutrition</b>
	1520	<i>Tea</i>			<b>Sheep</b>
	1540	<b>Molecular Genetic Markers in Livestock Breeding</b>	<b>Pig Nutrition</b>	<b>BVPA Meeting**</b>	
	1800	<b>AGM</b>			
	1945	<b>DINNER</b>			
	Wednesday 20 March	0900	<i>SPA THEATRE</i> <b>HAMMOND MEMORIAL LECTURE</b>		**
1010		<i>Coffee</i>			<b>Pig Welfare</b>
1030		<i>SPA THEATRE</i> <b>Milk Production II</b>	<i>PROMENADE</i> <b>Lipids in Animal Nutrition &amp; Human Health</b>	**	<b>GRAND HALL</b> Session opens 0900-1330 Authors in attendance 1030-1130  <b>Techniques</b>  <b>Minerals</b>
1230		<i>Lunch</i>			
1330		<i>MUSIC ROOM</i> <b>Beef &amp; Sheep Physiology</b>		**	
1330		<i>PROMENADE</i> <b>WPSA/BVPA mini Symposium - Interaction of Husbandry and Management Methods with Bird Health</b>			
1700	<b>Gordon Memorial Lecture</b>				
Thursday 21 March	<b>WPSA meeting - Submitted papers and posters</b>			<b>BVPA am only</b>	
Friday 22 March	<b>WPSA 50th Anniversary Symposium - The next 50 years.</b>			<b>*joint WPSA/BSAS Session</b>	

*Monday 18 March 1996*

*Theatre Session  
Spa Theatre*

**EXTENDED LACTATION FOR DAIRY COWS**

**Chairman - Dr R Dewhurst**

- 14:00 Opening Remarks by the President - Dr W J M Black**
- 14:10 1 The rationale for extended lactations in dairy cows  
Dr C H Knight, Hannah Research Institute
- 14:35 2 The effects of genotype and management on lactation persistency in dairy cows  
Dr B McGuirk, Genus MOET Nucleus Herd
- 15:00 3 The effect of pregnancy on lactation persistency and milk composition in dairy cows  
Dr J B Coulon, INRA, Clermont-Ferrand, Theix, France
- 15:25 Discussion
- 15:50 Session Ends
- 15:50 TEA

*Spa Theatre*

**MILK PRODUCTION 1**

**Chairman - Dr C S Mayne**

- \*
- 16:10 4 Effects of dry period diet on feed intake, body composition and subsequent lactational performance of dairy cows  
R J Dewhurst, D W R Davies, W J Fisher & K Aston
- 16:30 5 The responses of high and medium merit dairy cows to diets differing in grass silage: concentrate ratios, during early lactation  
C P Ferris, F J Gordon, D C Patterson & C S Mayne
- 16:50 6 Replacement of concentrates with molasses in grass silage based diets for dairy cows  
E J McKendrick & S P Marsh
- 17:10 7 Effects of feeding lactose with protected fat and protein on milk production of cows in mid lactation  
P C Garnsworthy
- 17:30 8 The effect of molassed sugar beet pulp and distillery by-products on feed intake and milk production of dairy cows fed complete diets  
R H Phipps, A K Jones, G E Perrott & J Waters
- 17:50 Session Ends

\* Three sessions running from 16:10 - see opposite page

19:00 **SCARBOROUGH TOWN COUNCIL RECEPTION**  
19:30 **CONFERENCE DINNER 1996**

**PIG FEEDING BEHAVIOUR**

**Chairman - Prof J M Forbes**

- 14:00 See Opposite
- 14:10 9 The diet selection of weaned piglets in different group sizes  
J A Dalby, M A Varley, J M Forbes & S Jagger
- 14:30 10 Preferential choice of diets differing in protein content by pigs divergently selected for lean growth rate  
N D Cameron
- 14:50 11 The effect of foods of different water-holding-capacity on the level of feeding motivation in growing pigs  
J E L Day, I Kyriazakis & A B Lawrence
- 15:10 12 How information about individual pigs can help to reduce aggression and injuries after mixing  
H W Erhard, M Mendl & D D Ashley
- 15:30 13 The role of exploration and feeding motivation in the causation of tail-biting in growing pigs  
J E L Day, I Kyriazakis & A B Lawrence
- 15:50 TEA

*Promenade Lounge*

**ENZYME TECHNOLOGY**

**Chairman - Dr P E V Williams**

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- 16:10 Introduction by Chairman
- 16:15 14 Potential of improving nutrient substrates by enzyme supplements?  
Dr A Chesson, Rowett Research Institute
- 16:45 15 Ruminants and feed enzymes  
Dr R Treacher, Finnfeeds International Ltd
- 17:15 16 Use of seeds as a delivery vehicle for enzymes  
Dr J Pen, Plantzyme, The Netherlands
- 17:45 Discussion
- 18:00 Session Ends

*Regency Room*

**GENETICS**

**Chairman - Dr P M Hocking**

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- 16:10 17 Responses in gilt post-farrowing traits and pre-weaning piglet growth to divergent selection for components of efficient lean growth rate  
J C Kerr & N D Cameron
- 16:30 18 Evaluation of genetic markers for litter size in Meishan synthetic and large white pigs  
O I Southwood, S Hoste, T H Short, A J Mileham & D Cuthbert-Heavens
- 16:50 19 Evaluation of maternal and piglet influences on performance of Meishan Synthetic and European White breeds of pig during lactation  
A G Sinclair, S A Edwards, S Hoste & A McCartney
- 17:10 20 Maternal effects and chicken growth  
J Catterall & G E Pollott
- 17:30 Session Ends
- 19:00 **SCARBOROUGH TOWN COUNCIL RECEPTION**
- 19:30 **CONFERENCE DINNER 1996**

Tuesday 19 March 1996

Theatre Session  
Spa Theatre

**RUMINANT NUTRITION AND METABOLISM *IN VITRO***

**Dr M Theodorou**

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- 09:00 21 The prediction of intake potential and organic matter digestibility of grass silages by near infrared spectroscopy analysis of undried samples  
R S Park, F J Gordon, K Cooper & R W J Steen
- 09:20 22 The energy and protein value of lupins for ruminants  
A R Moss & D I Givens
- 09:40 23 Influence of soluble components on parameter estimation using the *in vitro* gas production technique  
N S Jessop & M Herrero
- 10:00 24 Stoichiometry of *in vitro* fermentation of pure substrates with particular emphasis on methane production, using the cumulative gas production technique  
A R Moss & K C O'Callaghan
- 10:20 COFFEE

Theatre Session  
Spa Theatre

**PRESIDENT'S SESSION**

**FARM ANIMALS AND THE NATURAL HERITAGE**

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- 10:40 **Introduction by the President of BSAS**  
**Dr W J M Black**
- 10:45 25 A natural heritage view of animal farming systems  
Mr R Crofts, Chief Executive, Scottish Natural Heritage
- 11:10 26 Environmental effects of low intensity systems of animal production on the hills and uplands  
Dr J A Milne, Deputy Director, MLURI
- 11:40 27 Environmental effects of intensive systems of animal production on the lowlands  
Prof D Atkinson, Dean SAC Edinburgh Centre
- 12:10 Discussion
- 12:40 Session Ends
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- 12:40 LUNCH

\* Please note there are 3 sessions Tuesday morning, both before and after coffee - see page 5 & 6

Tuesday 19 March 1996

Theatre Session  
Promenade Lounge

**PIG MEAT QUALITY**

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**Chairman - Dr J Chadwick**

- 09:00 28 1995 Braude Scholarship - The investigation of on-farm management factors that may influence pig meat quality  
P J Blanchard
- 09:20 29 Threshold for incorporation cardio-vascularly favourable fatty acids in pork tissue: implications for meat and meat products  
M J Van Oeckel & N Warnants
- 09:40 30 The effects of altering dietary fatty acid and vitamin E content on the chemical, physical and organoleptic quality of pig meat and fat  
C O Leskanich, K R Matthews, C C Warkup & R C Noble
- 10:00 31 Factors affecting the odour characteristics of pigmeat  
J D Wood, A V Fisher, G R Nute, F M Whittington & S Hoste

10:20 COFFEE

Theatre Session  
Promenade Lounge

**PIG BEHAVIOUR & PHYSIOLOGY**

**Dr S A Edwards**

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- 10:40 32 Changes in pain threshold during pregnancy and parturition in the sow and the involvement of opioids  
S Jarvis, K McLean, S Calvert, J Chirside, L Deans, A B Lawrence & V Molony
- 11:00 33 Opioid-control of oxytocin secretion in gilts farrowing in crates or pens  
A B Lawrence, K A McLean, J Chirside, L Deans, S Calvert, C L Gilbert, J Goode & J C Petherick
- 11:20 34 Investigation of the relationship between farrowing environment, sex steroid concentrations and maternal aggression in gilts  
K A McLean, A B Lawrence, J C Petherick, L Deans, J Chirside, A Vaughen, B L Nielsen & R Webb
- 11:40 35 The effect of environment on behavioural activity, ACTH,  $\beta$ -endorphin and cortisol in pre-farrowing gilts  
S Jarvis, A B Lawrence, K McLean, L Deans, J Chirside & S Calvert
- 12:00 36 Administration of naloxone prior to parturition delays the birth process in the pig  
C L Gilbert, M I Boulton, J A Goode & T J McGrath
- 12:20 37 Social recognition in gilts mixed into a dynamic group of 30 sows  
H A M Spooler, J A Burbidge, S A Edwards, A B Lawrence & P H Simmins
- 12:40 Session Ends
- 12:40 LUNCH

\* Please note there are 3 sessions Tuesday morning, both before and after coffee - see page 4 & 6

Tuesday 19 March 1996

Theatre Session  
Regency Room

### BEEF SUCKLER PRODUCTION

Chairman - Mr N Pickard

- \*
- 09:00 38 Suckler Beef Production: Where do we go now?  
Mr R Fuller, Givendale Farm, North Humberside
- 09:25 39 Future suckler beef production systems  
Dr M Drennan, Teagasc, County Meath, Ireland
- 09:50 40 Controlling reproduction to meet future market requirements  
Dr B G Lowman, GABS, SAC Edinburgh
- 10:15 Session Ends (A visit, in the afternoon, has been arranged to the ADAS Farm at High Mowthorpe)
- 10:20 COFFEE

Theatre Session  
Regency Room

### RUMINANT NUTRITION & METABOLISM *IN VIVO*

Chairman - Dr M Lomax

- \*
- 10:40 41 The relationship between digestibility of energy losses as methane and metabolisable energy content of whole crop wheat  
A T Adesogan, D I Givens & E Owen
- 11:00 42 Digestibility of diets of grass silage and whole crop wheat in the rumen of lactating cows  
A L Abdalla, J D Sutton, D J Humphries & R H Phipps
- 11:20 43 The effect of cereal carbohydrate supplementation on intake, rumen fermentation characteristics and digestibility in steers fed on grass silage  
N D Scollan, H J Kim, W J Maeng, H Park, M A Neville, R T Evans & A B McAllan
- 11:40 44 Effect of forage: concentrate ratio in the diet on the concentrations of IGF-1, insulin, glucagon and volatile fatty acids appearing across the splanchnic tissues of beef steers  
C Thorp, A R G Wylie, R W J Steen, J M McEvoy & C Shaw
- 12:00 45 Energy balance of lactating cows given diets of grass silage and whole crop wheat  
S B Cammell, J D Sutton, D J Humphries, R H Phipps & D E Beaver
- 12:30 LUNCH

\* Please note there are 3 sessions Tuesday morning, both before and after coffee - see page 4 & 5

**Remember it is cheaper  
to come to BSAS  
Meetings/Workshops if  
you are a member!**

**Membership application  
forms available on  
request.**

*Tuesday 19 March 1996*

*Theatre Session  
Spa Theatre*

**SHEEP & BEEF**

**Chairman - Dr G M Webster**

- 13:40 46 The effect of synchronising the supply of energy and protein to the rumen on the short and long term diet selection of sheep  
I Kyriazakis, D H Anderson, M Lewis, J D Oldham, T G Papachristou & T Stegeman
- 14:00 47 Protein supplementation of silage for ewes in late pregnancy  
J E Vipond, M Lewis & G M Povey
- 14:20 48 The influence of system of production on the performance and meat quality of entire, castrated and female lambs  
G M Webster, G A Masters, J M L Anderson, M Ellis & P J Avery
- 14:40 49 Annual variation in the balance between winter fodder production and requirements in beef cow systems  
I A Wright, T J Maxwell, A J F Russel & A R Sibbald
- 15:00 Session ends
- 15:20 TEA

*Theatre Session  
Spa Theatre*

**MOLECULAR GENETIC MARKERS IN LIVESTOCK BREEDING**

**Chairman - Dr G Simm**

- 15:40 50 Markers, maps and the detection of trait loci  
Dr C S Haley, Roslin Institute (Edinburgh)
- 16:10 51 Evidence for a new form of dominant negative imprinting at the ovine *callipyge* locus  
Dr M Georges, Faculty of Veterinary Medicine, University of Liege, Belgium
- 16:40 52 Marker assisted selection in livestock  
Dr P M Visscher, S Van der Beek & C S Haley, Roslin Institute (Edinburgh)
- 17:10 Discussion
- 17:40 Session Ends

**18:00 AGM**

**19:45 DINNER**

*Tuesday 19 March 1996*

*Theatre Session  
Promenade Lounge*

**FREE FARROWING**

**Chairman - Miss S Corning**

- 13:40 53 The welfare requirements of the sow and litter  
Prof P Jensen, Dept of Animal Hygiene, Sweden
- 14:05 54 Options for housing the sow and litter  
Dr S Edwards (SAC) & Dr D Fraser, Centre for Food & Animal Research, Ottawa
- 14:30 55 Never mind the pigs, what do people want? - or animal welfare is just another economic problem  
Prof J McInerney, Agric Economics Unit, University of Exeter
- 14:55 Discussion
- 15:20 Session Ends

15:20 TEA

*Theatre Session  
Promenade Lounge*

**PIG NUTRITION**

**Chairman - Dr W H Close**

- 15:40 56 The performance of growing and finishing pigs offered diets formulated to reduce nitrogen excretion  
R M Kay & P A Lee
- 16:00 57 Gaseous emissions of slurry from pigs offered low crude protein diets  
P J Hobbs, B F Pain, T H Misselbrook, R M Kay & P A Lee
- 16:20 58 Effect of wheat processing and enzyme supplementation of weaner diets on piglet performance and gut health  
B P Gill, S Carcia, K H Hillman & H Schulze
- 16:40 59 Variation in energy requirements to maintain liveweight in pigs divergently selected for efficiency of lean growth  
N D Cameron
- 17:00 60 Effects of different food allowance on the efficiency of using ideal protein for growth in pigs of different liveweights  
G C Emmans & I Kyriazakis
- 17:20 Session Ends
- 18:00 **AGM**
- 19:45 **DINNER**

**SIR JOHN HAMMOND MEMORIAL LECTURE**

**Chairman - Dr W J M Black**

09:00 61 **Hammond Lecture: Market requirements for animal products**  
**Mr M Calvert, General Manager, C W S (Agriculture)**

10:10 COFFEE

Theatre Session  
Spa Theatre

**MILK PRODUCTION II**

**Chairman - Dr D J Roberts**

10:30 62 Potential for increasing the efficiency of nitrogen and phosphorous use in lactating dairy cows  
J A Metcalf, R J Mansbridge & J S Blake

10:50 63 An examination of the effect of concentrate energy source on milk production of dairy cows offered  
grass silages with differing intake characteristics  
T W J Keady, C S Mayne & M Marsden

11:10 64 Diet selection in dairy cows: effect of training on choice of dietary protein level.  
B J Tolkamp, M Burger, I Kyriazakis, J D Oldham, R J Dewhurst & J Newbold

11:30 65 Effects of inoculant treatment on silage fermentation and digestibility and on rumen fermentation, dry  
matter intake and performance of lactating dairy cattle  
T W J Keady & J J Murphy

11:50 66 The effects of bacterial inoculation of unwilted and wilted grass silages on digestibility by sheep and  
intake and performance by dairy cows  
T Yan, D C Patterson & F J Gordon

12:10 Session Ends

12:30 LUNCH

Theatre Session  
Music Room

**BEEF & SHEEP PHYSIOLOGY**

**Chairman - Dr R G Rodway**

13:30 67 The effect of treatment with a gonadotrophin releasing hormone on the fertility of beef cows  
D Pullar & A Wrathall

13:50 68 *In vitro* embryo production from bovine oocyte donors aspirated at different frequencies or following  
treatment with FSH  
K L Goodhand, R G Watt, M E Staines, L C Higgins, P J Broadbent & J S M Hutchinson

14:10 69 A  $\beta$ -carotene-protein complex found in microsomal membranes of bovine corpora lutea  
A J Holt, R G Rodway, J B C Findlay, H S Sands & D N Batchelder

14:30 70 Effects of maternal uterine environment and genotype on gestation length, lambing ease and growth  
characteristics of lambs  
C M Dwyer, A B Lawrence, H E Brown & G Simm

14:50 71 The effect of group rearing and providing fresh cut grass on the incidence of oral stereotypies in  
young calves  
C J C Phillips, R Lambert & M Rouse

15:10 Session and Meeting Ends

*Wednesday 20 March 1996*

*Theatre Session  
Spa Theatre*

**SIR JOHN HAMMOND MEMORIAL LECTURE**

**Chairman - Dr W J M Black**

**09:00 61 Hammond Lecture: See Opposite**

**10:10 COFFEE**

*Theatre Session  
Promenade Lounge*

**LIPIDS IN ANIMAL NUTRITION AND HUMAN HEALTH**

**Chairman - Dr J D Wood**

**10:30 72 Update on links between dietary fatty acid intake and human health  
Prof T A B Saunders, Kings College, London**

**11:00 73 Manipulating the fatty acid composition of pig and poultry products  
Dr R C Noble, Scottish Agricultural College, Ayr**

**11:30 74 Manipulating the fatty acid composition of ruminant meats  
Dr M B Enser, University of Bristol**

**12:00 Discussion**

**12:30 Session Ends**

**12:30 LUNCH**

**13:30 BEEF & SHEEP PHYSIOLOGY - see opposite**

**15:10 Meeting Finishes**

*Monday 18 March 1996*

*Session 14:10-18:00*

*Authors in attendance 14:50-15:50*

*Poster Session*

*Grand Hall*

**DAIRY**

- 75 The influence of a dietary supplement of a dried yeast culture on milk yield and composition in dairy cows on grass silage based diets  
P Rowlinson, S P Marsh, C Tuffnell & W Taylor
- 76 The effect of feeding different sources and levels of oil on the fatty acid composition of bovine milk  
R J Mansbridge & J S Blake
- 77 Supplementation of spring calving dairy cows grazing spring and summer growths of grass/clover mixtures  
A Hameleers & D J Roberts
- 78 The influence of feeding strategies on the attendance of cows to an automatic milking system, and their effects on lying and feeding behaviour  
N B Prescott, T T F Mottram & A J F Webster
- 79 Effect of initial milk yield level, sward height and concentrate supplementation level on the performance of set stocked dairy cows in the spring  
R Pulido & J D Leaver
- 80 Effects of feeding concentrate in the milking stall of an automatic milking system on behaviour and milking characteristics of cows  
N B Prescott, T T F Mottram & A J F Webster
- 81 The effect of concentrate level on feed intake and milk production of dairy cows offered mixed forage diets  
R H Phipps, A K Jones, J D Sutton & D Allen
- 82 Dairy rations based on mixtures of grass silage and maize silage: responses to supplemental rumen fermentable starch and rumen degradable protein  
J R Newbold, H W Morris & N G Haggis
- 83 The effect of quality and level of protein on the performance of dairy cattle of differing genetic merits  
I M Carrick, D C Patterson, F J Gordon & C S Mayne
- 84 Effect of diet on dairy cow nitrogen balance and liveweight change during the dry period  
J M Moorby, S Miles, R T Evans, W J Fishser & D W R Davies
- 85 Effect of undegradable protein given for six weeks before calving on the performance of dairy cows in the subsequent lactation  
R J Dewhurst, D W R Davies, W J Fisher & K Aston
- 86 Evaluation of a set of hierarchically ordered feed descriptors as predictors of milk protein concentration  
A J Rook, E Smoler, D E Beaver, M A Lomax & J D Sutton
- 87 Effect of jugular vein essential amino acid infusion on milk production in dairy cattle  
L A Crompton, M A Lomax, C K Reynold, F R C Backwell, B J Bequette, J D Sutton, D E Beaver & J C MacRae
- 88 The response of dairy cows to intravascular administration of two mixtures of amino acids  
J A Metcalf, L A Crompton, F R C Backwell, B J Bequette, M A Lomax, J D Sutton, J C MacRae & D E Beaver

Continued...

*Monday 18 March 1996*

*Session 14:10-18:00*

*Authors in attendance 14:50-15:50*

*Poster Session*

*Grand Hall*

**DAIRY**

- 89 Relationship between the excretion of allantoin in urine and milk of dairy cows  
R J Dewhurst, V J Theobald, M A Neville, S Miles & R T Evans
- 90 Milk allantoin excretion in relation to Fermentable Metabolisable Energy supply over a 26 to 33 kg/d range of milk yields in Holstein/Friesian dairy cows  
K J Shingfield & N W Offer
- 91 A modelling investigation of the supplementation of sugarcane with leucaena for milk production by Holstein x Zebu cattle  
J Dijkstra, J France, A Bannink & A G Assis
- 92 Effect of proteinated minerals and an ammonia binder on measures of production in dairy cows  
G O'Donnell, D O'Callaghan & M P Boland
- 93 Sodium reduces somatic cell counts in the milk of dairy cows  
C J C Phillips, P C Chiy & D Arney
- 94 The use of electronic pedometers in determining activity to predict oestrus in dairy cattle  
B M Belgasem & P Rowlinson
- 95 The use of GnRH to control follicular development in cows  
A R Peters, S J Ward, P J Gordon, G E Mann

*Monday 18 March 1996*

*Session 14:10-18:00*

*Authors in attendance 14:50-15:50*

*Poster Session*

*Grand Hall*

**HORSES, CAMELS & DOGS**

- 96 The *in situ* degradation of four concentrate feeds in the caecum of ponies  
G J Stefansdottir, J J Hyslop & D Cuddeford
- 97 The effect of incubation sequence on *in situ* degradation of concentrate feed components in the caecum of ponies  
J J Hyslop, G J Stefansdottir & D Cuddeford
- 98 The use of n-alkanes for estimating intake and passage rate in horses  
B L McLean, R W Mayes & F D DeB Hovell
- 99 Investigations on the use of the mobile bag technique in ponies  
J J Hyslop & D Cuddeford
- 100 Composition, intakes and apparent digestibility of 3 grass silages offered to horses  
L Istasse, C Van Eenaeme, J L Hornick, P Van Calster & D Huet
- 101 Genetic relationships within and between rare British horse breeds and the influence of the Thoroughbred on their development  
V Karamatic, S P Harrison & J J Dooley
- 102 Assessing the genetic status of horse breeds using DNA fingerprinting  
S P Harrison, J Dooley & V Karamatic

Continued.....

*Monday 18 March 1996*

*Session 14:10-18:00*

*Authors in attendance 14:50-15:50*

*Poster Session*

*Grand Hall*

#### **HORSES, CAMELS & DOGS**

- 103 Changes in hair growth characteristics in response to an increase in dietary zinc up to 4.5 times maintenance from three different commercially available sources in the dog  
J A Lowe, J Wiseman & V Nash
- 104 The use of body measurements to estimate live weight in the camel (*Camelus Dromedarius*)  
S P Simpkin, D J Atkings, J O Evans & P Rowlinson
- 105 Studies on milk yield and calf suckling behaviour in Kenyan camels (*Camelus Dromedarius*)  
S P Simpkin & P Rowlinson

*Monday 18 March 1996*

*Session 14:10-18:00*

*Authors in attendance 14:50-15:50*

*Poster Session*

*Grand Hall*

#### **ANIMAL BREEDING**

- 106 Objective assessment of lamb conformation: Reliability of body measurements determined by computer image analysis  
Al-Shami & I Ap Dewi
- 107 Plasma metabolite and volatile fatty acid concentrations in sheep divergently selected for predicted carcass lean content  
S C Bishop, J Bracken, N D Cameron, K MacIsaac, R C Noble and B K Speake
- 108 An evaluation of genetic variation in gestation length, birthweight and early growth in Scottish Blackface sheep  
P Johnston, J A Roden, A Murray, B G Merrell & W Haresign
- 109 The effect of breed and dietary energy concentration on lamb growth, carcass composition and meat quality  
M I Mustafa, G M Webster & G M Povey
- 110 The effect of breed and age at slaughter on lamb growth, carcass composition and meat quality  
M I Mustafa, G M Webster & J P Chadwick
- 111 Genetic variation and relationship of ultrasonic measures and carcass composition in Suffolk cross lambs  
V C Flamarique, R M Lewis & G Simm
- 112 A comparison of the carcass composition of Texel lambs of different live conformation scores  
B T Wolf & D A Jones
- 113 Estimation of genetic parameters in a Suffolk sheep group breeding scheme  
M Araghi, M K Curran & G E Pollott
- 114 The use of Mendelian indices for balancing genetic response and inbreeding  
B Grundy, Z W Luo, B Villanueva & J A Woolliams
- 115 Utilising genetic contributions to maximise long term response to selection  
B Grundy, B Villanueva & J A Woolliams
- 116 Genetic evaluation for somatic cell counts (SCC) in United Kingdom dairy cattle  
R Mrode, G Swanson & M Winters
- 117 The inheritance of faecal egg count following natural *Ostertagia Circumcincta* infection in Scottish Blackface lambs  
S C Bishop, K Bairden, Q A McKellar, M Park and M J Stear

*Tuesday 19 March 1996*

*Session 09:00-18:00*

*Authors in attendance 10:40-11:40*

*Poster Session*

*Vita Dome*

**BEEF**

- 118 Lupins: Comparison with soya bean as a protein source for young beef cattle  
H F Grundy, D G Chapple & K P A Wheeler
- 119 An evaluation of cows preferences for silages differing in fermentation and intake characteristics when offered concentrates varying in energy source  
T W J Keady, C S Mayne & E A Goodall
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