

DRAFT Programme 5 - BSAS Annual Conference 9-11 April 2019

Monday 8 April **Early Career Day - 11:45 - 17:30** **SRUC Kings Building, Edinburgh**

Tuesday 9 April **Lomond**
11:00-12:30

75th Anniversary Celebration Animal Science Fit for the Future

Chair: Prof Helen Miller

11:00 Oral-invited Chief Veterinary Officer Scotland
20 600 Sheila Voas

11:20 Oral-invited Yesterday's science; an unsafe foundation for future discovery?
20 336 C T Whittemore (1) presenting

11:40 Oral-invited What our young scientists want our society to be
20 601 Katie McDermott

12:00
30 Discussion

Tuesday 9 April **Tinto**
13:30-15:00

Presidents Session: Animal Science Fit for the Future

Chair: Prof Helen Miller

13:30 Oral-invited The role of animals in a circular food system.
25+5 334 Hannah van Zanten (1) presenting

14:00 Oral-invited Application of computer vision and machine learning to assess physiological responses of consumers and livestock
25+5 329 Frank Dunshea (1) presenting

14:30 Oral-invited Novel approaches to investigating embryo-maternal interactions in cattle
25+5 348 Niamh Forde

Tuesday 9 April

Kilsyth

13:30-14:25

Meat and Carcass Quality

Chair: TBC

13:30 7+3	Oral 67	The potential of near infra-red spectroscopy (NIRS) to authenticate the dietary history of beef A.P. Moloney (1) presenting
13:40 7+3	Oral 258	Regional effects on consumer acceptability of grilled beef Terence Hagan (1) presenting
13:50 7+3	Oral 85	Can the fatty acid profile of muscle discriminate between steers finished at pasture or indoors on <i>d libitum</i> concentrates A.P. Moloney (1) presenting
14:00 3+2	short oral 272	Estimation of fatty acid profiles in meat using rumen microbiome information from beef cattle R Roehe (1) presenting
14:05 3+2	short oral 14	Evaluation of the structural and rheological properties of wheat and maize ingredients that underpin differences in growth performance and meat quality in broilers LL Brimble (1) presenting
14:10 3+2	short oral 244	Novel methods of extending shelf life of minced beef Joan Tollerton (1) presenting
14:15 3+2	short oral 141	Using pre-weaning lamb liveweight as a predictor of carcass quality A G Jones (1,2) presenting
14:20 3+2	short oral 185	Herd incidence of Fascioliasis hepatica and its impact on slaughter traits in beef cattle T Pritchard (1) presenting

Tuesday 9 April

Harris

13:30-14:50

Sheep, Nutrition and Production Systems

Chair: TBC

13:30	Oral	A further evaluation of the effects of supplementing ewes with Co, including method of administration on ewe and lamb performance
7+3	231	D V Hession (1,2) presenting
13:40	Oral	Determination of the bioavailability of nanoparticle copper oxide using a copper depletion, repletion technique in growing lambs
7+3	139	A Williams (1) presenting
13:50	Oral	Is the maintenance energy requirement for current sheep flocks higher than recommended?
7+3	56	C.T. Yang (1) presenting
14:00	Oral	Sheep grazing system performance under continuous stocking or cell grazing management during an unusual dry grazing season in Devon
7+3	115	M. Jordana Rivero (1) presenting
14:10	Oral	Characterizing individual differences in goats responses to a nutritional challenge using milk metabolites
7+3	167	A Ben Abdelkrim (1) presenting
14:20	short oral	Rumen parameters of West African dwarf goats offered concentrate supplement containing varying levels of dried Leucaena leaves
3+2	281	C. F. I. Onwuka (1) presenting
14:25	short oral	Effects of dietary and animal factors on maintenance energy requirements of sheep
3+2	57	C.T. Yang (1) presenting
14:30	short oral	Absorption and excretion of phosphorus in sheep diets: Towards a sustainable diet
3+2	271	N.A Sanchez Guerra (1)
14:35	short oral	Variation in individual feed intake profiles recorded in group-housed lambs
3+2	134	H M Wishart (1) presenting
14:40	short oral	Ireland's national sheep flock: breed composition and source of replacements
3+2	313	TWJ Keady (1) presenting

14:45 short oral Effect of inclusion of oregano oil in ewe concentrates on ewe and lamb performance
3+2 66 R G Wilkinson (1) presenting

Tuesday 9 April

Cromdale

15:05-15:23

Digital Posters 1

Chair: TBC

15:05 Digital Effect of increasing digestible phosphorus around farrowing on performance of sow and litter
2+1 228 A. Huting (1) presenting

15:08 Digital Post-weaning performance of pigs fed dry feed vs. wet feed
2+1 82 R Muns (1) presenting

15:11 Digital Do outdoor reared piglets benefit from a supplemental iron injection?
2+1 216 Steven Laird (1) presenting

15:14 Digital The effect of group size on piglet performance post-weaning – what constitutes a representative group for research purposes?
2+1 226 K McDermott (1) presenting

15:17 Digital The effect of a combination of free and buffered acids on production performance and pathogenic microbial shedding in weaned piglets, with and without pharmaceutical zinc oxide supplementation.
2+1 249 Wesley Udall (1) presenting

12:20 Digital The effects of auditory enrichment on the behaviour of Holstein Friesian dairy cows
2+1 12 K Crouch (1) presenting

Tuesday 9 April

Tinto

15:30-17:20

Beef Cattle - Feed Efficiency

Chair: Prof David Kenny

15:30 Oral-invited Feed efficiency in temperate grass-based beef production systems: A review
25+5 346 Mark McGee

16:00 25+5	Oral-invited 322	Cattle feed efficiency - Value to the beef industry and its perception and uptake Kim Matthews (1) presenting
16:30 7+3	Oral 101	Comparing the nitrogen utilisation efficiency of growing cattle before and after 2003 G Finney (1) presenting
16:40 7+3	Oral 116	Proteomic analysis of M. longissimus dorsi from cattle during dietary restriction and subsequent compensatory growth using label free mass spectrometry quantification Y Mullins (1,2) presenting
16:50 7+3	Oral 121	Pasture productivity and live weight performance of dairy x beef steers managed under contrasting grazing management systems during an atypical drought year S A Morgan (1) presenting
17:00 3+2	short oral 245	Weaned calf output in relation to suckler cow liveweight in purebred Charolais beef cows Jimmy Hyslop (1) presenting
17:05 3+2	short oral 182	The effect of alternative upland pasture management on cattle production N G Williams (1) presenting
17:10 3+2	short oral 250	Effect of production system on the health, performance and carcass characteristics of Holstein bulls N Rutherford (1,2) presenting
17:15 3+2	short oral 222	A comparison of ability to meet market specification and profit margin achieved by producer when continental steers are slaughtered at 22, 24 or 28 months of age F. M. Titterington (1) presenting

Tuesday 9 April

Kilysth

15:30-17:10

Pigs

Chair: TBC

15:30 7+3	Oral 276	Lowering dietary crude protein in pig diets: ammonia, odour and slurry production from finishing pigs UM McCormack (1) presenting
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15:40 7+3	Oral 297	Sensitivity of growth performance and crude protein conversion ratio of finisher pigs to dietary protein and essential amino acids J.G.M. Houdijk (1) presenting
15:50 7+3	Oral 118	Microbiological survey of liquid feed for finisher pigs on eight commercial pig farms F M O' Meara (1,2) presenting
16:00 7+3	Oral 62	Nutritional evaluation of Calopogonium mucunoides as feed resource for grower pigs Adegbenro Akinmutimi (1) presenting
16:10 7+3	Oral 171	The effect of oil type and energy regimen during lactation on litter performance to weaning E Magowan (1) presenting
16:20 7+3	Oral 50	Supplementation of lactating sow diets with lysolecithin improves litter growth and uniformity across 7 studies A.L. Wealleans (1) presenting
16:30 7+3	Oral 207	Growth response of low and average birthweight pigs to sow lactation feed intake Samuel Hawe (1,2) presenting
16:40 7+3	Oral 240	Investigating the association between temperature and prevalence of respiratory conditions detected during meat inspection in pigs in England and Wales M Friel (2) presenting
16:50 3+2	short oral 172	The effect of oil type and energy regimen during lactation on the fatty acid content of piglet blood plasma and adipose tissue at weaning E Magowan (1) presenting
16:55 3+2	short oral 262	The effect of keeping gilts on an indoor or outdoor production system, during gestation and lactation, on litter and piglet performance to weaning H Davis (1) presenting
17:00 3+2	short oral 147	The impact of an Oregano based Eubiotic on the health and performance of sows and their progeny M Le Bon (1) presenting

17:05 short oral Developmental programming of porcine muscle progenitor cell fate by foetal growth restriction
3+2 109 Y Cortes (1) presenting

Tuesday 9 April

Harris

15:30-17:00

Health and Disease

Chair: Dr Abdul Chaudhry

15:30 Oral Whole genome sequencing gives n-eve insights into the role of *Dichelobacter nodosus* in the pathogenesis of ovine footrot
7+3 45 ZN Willis (1) presenting

15:40 Oral Variation in lamb performance under a targeted selective anthelmintic treatment regime is not underpinned by between-individual differences
7+3 114 A Hayward (1) presenting

15:50 Oral Effect of sub-optimal mobility on production performance of pasture-based dairy cows
7+3 98 Aisling O'Connor (1,2) presenting

16:00 Oral A survey of management practices prior to and at lambing which may influence lamb mortality on Irish sheep farms
7+3 314 D Shiels (1,4) presenting

16:10 Oral Udder health indicators in low-input dairy goat herds
7+3 296 A Argyriadou (1) presenting

16:20 Oral The effect of the mycotoxin deoxynivalenol on the function and metabolism of bovine kidney epithelial cells *in vitro*
7+3 95 J Bailey (1) presenting

16:30 Oral Effects of mycotoxins and binder/deactivating agent on ruminal microbial digestion and metabolism *in vitro*
7+3 25 Michael R. F. Lee (1,2) presenting

16:40 Oral Identification of *Staphylococcal* species from clinical isolated from hard to treat cases of bovine mastitis using conventional diagnostic techniques and Matrix Assisted Laser Desorption Ionisation - Time of Flight Mass Spectrometry (MALDI-TOF)
7+3 161 Jane Quinn (1,2) presenting

16:50 Oral Nickel nanoparticles induced testicular toxicity in male Sprague Dawley rats assessed by histopathology
7+3 192 F Jabeen (1) presenting

Wednesday 10 April

Lomond

09:00-10:00

Hammond Lecture

Chair: Prof Helen Miller

09:00 Oral-invited Nutritional Geometry: Examining the critical roles of specific appetites in animal and human nutrition
00:00 350 David Rauhenheimer

Wednesday 10 April

Cromdale

10:10-10:25

Digital Posters 2

Chair: TBC

10:10 Digital Investigating the use of Quietwean's and concentrate feed level on the performance and behaviour of suckler calves weaned indoors
2+1 265 L Chesney (1,2) presenting

10:13 Digital Intake, growth, carcass and selected meat quality traits of steers offered grass silage and supplementary concentrates containing maize or wheat dried distillers grains
2+1 266 M McGee (1) presenting

10:16 Digital The effect of floor type on the lying and standing behaviour of finishing beef cattle
2+1 79 D.E. Lowe (1) presenting

10:19 Digital Effect of pre-grazing herbage mass on performance of early- and late-maturing suckler bred steers
2+1 125 P. Doyle (1,2) presenting

10:22 Digital Intake, live weight gain, feed efficiency, ultrasonic and body measurements of 'yearling' Charolais and Holstein-Friesian steers offered a high-concentrate diet
2+1 268 M McGee (1) presenting

Wednesday 10 April

Tinto

10:30-12:00

Antimicrobial Resistance

Chair: TBC

10:30 25+5	Oral-invited 331	Antimicrobial resistance from beef cattle production Trevor Alexander (1) presenting
11:00 25+5	Oral-invited 342	AMR - the human perspective Philip Howard (1) Presenting
11:30 7+3	Oral 307	Dynamics of antimicrobial resistance in the animal gut exposed to antibiotics and plant bioactive compounds Partha Ray (1) presenting
11:40 7+3	Oral 274	Pasture management practices are associated with the prevalence of antimicrobial resistance in grazing cattle C Rymer (1) presenting
11:50 7+3	Oral 261	Effect of pH on the abundance of antimicrobial resistance genes in manure Partha Ray (1) presenting

Wednesday 10 April

Moorfoot

10:30-12:00

Dairy Performance

Chair: TBC

10:30 7+3	Oral 286	The effect of pasture allowance on the performance of in-calf holstein heifers in their second grazing season Robert Patterson (1,2) presenting
10:40 7+3	Oral 119	Prediction of dairy cow nitrogen intake over 305 days of lactation using long-term production data Xianjiang Chen (1) presenting
10:50 7+3	Oral 205	The effect of grazing season length and stocking rate on milk production and supplementary feed requirements within spring calving dairy systems in the north-east of Ireland. L. Cahill (1) presenting

11:00	Oral	Relationships between blood metabolites and energy balance in early lactation dairy cows offered grass silage based diets: a meta-analysis
7+3	70	E H Cabezas-Garcia (1) presenting
11:10	Oral	Dietary starch level alters rumen pH and copper metabolism in lactating Holstein-Friesian dairy cows receiving added dietary sulphur and molybdenum
7+3	106	J.H. McCaughern (1) presenting
11:20	Oral	Effect of altering the frequency of fresh pasture allocation on grass utilisation and the performance of lactating dairy cows.
7+3	284	J.G. Pollock (1,2) presenting
11:30	short oral	Effect of dairy management system on phytoestrogen concentrations of retail milk
3+2	30	Sokratis Stergiadis (2) presenting
11:35	short oral	Silage making practices on Northern Ireland dairy farms, and factors perceived by farmers to influence silage quality
3+2	129	Conrad Ferris (1) presenting
11:40	short oral	Autumn feed budgeting and grazing strategies impact on animal performance and pasture productivity of intensive grass-based spring dairy cow production systems
3+2	234	Sophie Evers (1,3) presenting
11:45	short oral	The impact of supplemental UV lighting, and a dietary additive, on the vitamin D content of bovine milk
3+2	214	WC McRoberts (3) presenting
11:50	short oral	Effect of dietary cobalt supplementation on the intake, performance and whole tract digestibility in dairy cows fed tropical forages
3+2	142	W.A.D.V. Weerathilake (1) presenting
11:55	short oral	Effect of the supplementation level with concentrate on milk and methane production in crossbreed tropical dairy cows grazing tropical
3+2	189	L.E Robles Jimenez (1) presenting

Wednesday 10 April **Kilsyth**
10:30-11:40

Sustainable Livestock Farming

Chair: TBC

10:30	Oral-invited	
25+5	604	TBC
11:00	Oral	Effects of breeding-herd management strategies on carbon footprints of pasture-based beef production systems calculated using measured emission factors
7+3	220	G.A. McAuliffe (1,2) presenting
11:10	Oral	Circadian rhythm in enteric methane emission among temperate grassland beef cattle offered three typical grass silage diets
7+3	170	Muhammed Elayadeth-Meethal (1,4) presenting
11:20	Oral	Effect of antibiotic treatments on dairy cow methane production, milk yield and dry matter intake
7+3	112	PR Hargreaves (1) presenting
11:30	Oral	Archaea and members of the family, <i>Lachnospiraceae</i> , are altered in the rumen microbiome of cattle divergent in methane yield grazing perennial ryegrass swards with and without white clover
7+3	71	P Smith (1,3) presenting

Wednesday 10 April **Cromdale**
12:10-12:34

Digital Posters 3

chair TBC

12:10	Digital	Effect of the alkaline ammonia treatment of wheat grain on rumen fluid pH, gas production and potential supply of amino acids into the abomasum
2+1	163	Jean Margerison (1) presenting
12:13	Digital	Developing a rapid high throughput screening method for the estimation of rumen degradability of ruminant feedstuffs
2+1	72	E Ramos-Morales (1) presenting

12:16	Digital	The effect of lactic acid bacteria inoculation or molasses on the fermentation quality and nutritive value of amaranth (<i>amaranthus hypochondriacus</i>) (var.maria) silage
2+1	23	Yousef Rouzbehan (1) presenting
12:19	Digital	Effect of the alkaline ammonia treatment of oat feed on gas production, rumen fluid pH and potential supply of protein and amino acids for ruminants
2+1	164	Jean Margerison (1) presenting
12:22	Digital	Assessment of ruminal fluid pH evolution across the weaning period in Holstein calves under field conditions
2+1	293	P Kazana (1) presenting
12:25	Digital	Evaluation of the stress effects of oesophageal intubation for rumen sampling from sheep
2+1	92	P Kyriazopoulou (1,2) presenting
12:28	Digital	Does birth order have an effect on blood gas, acid-base, and glucose status at birth in triplet-born lambs?
2+1	187	C Erichsen (1,2) presenting

Wednesday 10 April

Tinto

13:30-14:50

Genetics and Genomics 1

Chair: TBC

13:30	Oral	Comparative performance of Holstein-Friesian dairy cows of ELITE and National Average EBI on contrasting Feeding Treatments during early lactation
7+3	264	Orlaith Quigley (1,2) presenting
13:40	Oral	Using commercial farm data to demonstrate the value of the national dairy selection index of Australia
7+3	76	J.E. Newton (1) presenting
13:50	Oral	Methods for the elicitation of preference in breeding goals: a systematic review
7+3	248	Jay Burns (1,2) presenting
14:00	Oral	The impact of including genotyped cows in the Single-Step genomic evaluation of bovine tuberculosis in Holstein dairy cattle in the United Kingdom
7+3	260	Raphael Mrode (1,3) presenting

14:10 7+3	Oral 124	Genetic parameters for live weight traits in purebred Irish Texel, Suffolk and Charollais lambs. S Fitzmaurice (1,2) presenting
14:20 7+3	Oral 311	Effects of age at first joining and ewe genotype on performance of ewes from 2 to 6 years of age TWJ Keady (1) presenting
14:30 7+3	Oral 122	Genetic parameters of faecal egg and oocyst counts, dag scores, live weight and immunological traits in Scottish Blackface sheep A Pacheco (1) presenting
14:40 7+3	Oral 138	Bayesian estimation of genetic parameters for piglet survival and birth weight at piglet and sow level using a population kept under outdoor conditions T Q Nguyen (1) presenting

Wednesday 10 April

Moorfoot

13:30-15:00

Research into Practice

Chair: TBC

13:30 25+5	Oral-invited 333	3D cameras can alert farmers to problem behaviours in pigs Emma Baxter (1) presenting
14:00 25+5	Oral-invited 339	Developing Sustainable Livestock Systems through Participatory Farmer Research Christina Marley (1) presenting
14:30 7+3	Oral 126	An investigation of the feasibility of running a mobile robot in a flock of broiler chickens and bird behavioural response TGM Demmers (1) presenting
14:40 7+3	Oral 159	Impact of the introduction of the Nitrates Action Programme in Northern Ireland on the monthly concentrations of ammonia measured at three sites CP Ferris (1) presenting
14:50 7+3	Oral 130	Modelling the potential performance improvement value in Scottish and English sheep and beef systems Jack Keeys (2,1) presenting

Wednesday 10 April

Kilysth

13:30-14:35

Ruminant Nutrition

Chair: TBC

13:30	Oral	Effect of maize silage clamp density on aerobic stability and forage quality.
7+3	105	James A. Huntington (1) presenting
13:40	Oral	The effect of autumn management on perennial ryegrass sward quality and morphology in spring
7+3	156	C Looney (1,2) presenting
13:50	Oral	Impact of biostimulants on ryegrass silage quality, aerobic stability and animal performance
7+3	201	A. Christou (1,2) presenting
14:00	Oral	Effect of feeding chitosan with different levels of crude protein on nitrogen intake, digestibility and utilisation in beef heifers fed total mixed ration
7+3	243	S Kirwan (1) presenting
14:10	Short oral	Effect of a live yeast strain of <i>Saccharomyces cerevisiae</i> supplementation on growth, carcass yield and meat quality of finishing feedlot cattle
3+2	291	N Siachos (1) presenting
14:15	Short oral	Intake, feed efficiency and growth-related performance of suckler-bred Charolais and Holstein-Friesian steers offered grass silage
3+2	270	M McGee (1) presenting
14:20	Short oral	Effect of low moisture feed block supplementation on the rumen microbial fermentation of hay: in-vitro
3+2	149	N.F. Meades (1) presenting
14:25	Short oral	Nutritional evaluation of <i>Enterolobium cyclocarpum</i> plant parts as supplementary feed in ruminant production system
3+2	111	Fasae O.A. (1) presenting
14:30	Short oral	Comparative evaluation of anti-nutritional factors of five browse plants as affected by plant fraction
3+2	17	Okukenu Oluwafemi Adeyemi (1) presenting

Wednesday 10 April
Aquaculture

Harris
13:40-14:40

Chair: Dr Simon Davies

- | | | |
|---------------|---------------------|--|
| 13:30
25+5 | Oral-invited
345 | Interaction of intestinal microbiome, health and nutrition for finfish production
S Martin |
| 14:00
7+3 | Oral
280 | Dietary utilization of soybean meal and rapeseed meal for Zebrafish (<i>Danio rerio</i>)
T. A. Aiyelari (1) presenting |
| 14:10
7+3 | Oral
299 | Galacto-oligosaccharides: an investigation into dietary inclusion levels for rainbow trout (<i>Oncorhynchus mykiss</i>) for improved gut histomorphology
Alexander Miles (1) presenting |
| 14:20
7+3 | Oral
269 | Optimising gene flow between parallel year groups to improve genomic prediction in Atlantic salmon breeding programmes
P Kokkinias (1) presenting |
| 14:30
7+3 | Oral
198 | Microbiome diversity in blue mussel (<i>Mytilus edulis</i> L.) larvae relates more to time than diet
S. McMillan (1) presenting |

Wednesday 10 April

Cromdale
15:10-15:22

Digital Poster 4

Chair: TBC

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|--------------|----------------|---|
| 15:10
2+1 | Digital
140 | The comparison of algorithm models of using chest girth to estimate live weight of Adilo, Horro and Bonga sheep in Ethiopia
Jane Wamatu (1) presenting |
| 15:13
2+1 | Digital
238 | Active Dry Yeast (<i>Saccharomyces cerevisiae</i>) Supplementation Boosts Performance of Growing Lambs
Dimcho Djouvinov (1) presenting |

15:16 2+1	Digital 117	Effects of dietary replacement of maize with graded levels of melon husk on the performance of growing rabbits Fasae O.C (1) presenting
15:19 2+1	Digital 135	Effect of Neem (<i>Azadirachta indica</i>) leaf meal on the growth performance and carcass characteristics of female growing rabbits L. T. Egbeyale (1) presenting

Wednesday 10 April

Tinto

15:30-16:10

Genetics and Genomics 2

Chair: TBC

15:30 7+3	Oral 204	Healthy milk from healthy cows: a genetic analysis of quantity and trace element concentrations in the milk and serum of dairy cows SJ Denholm (1) presenting
15:40 7+3	Oral 259	The genetics of tooth loss and longevity in Scottish Blackface hill ewes A. McLaren (1) presenting
15:50 3+2	Short oral 290	Introduction of a total merit index for dairy goats in Austria B Fuerst-Waltl (1) presenting
15:55 3+2	Short oral 94	What advice would UK pig industry give to geneticists seeking to breed more disease resilient pigs? A Bruce (1) presenting
16:00 3+2	Short oral 133	Genetic variation in animal resilience to weather changes in UK dairy goats E Sánchez-Molano (1) presenting
16:05 3+2	Short oral 211	Modelling crossbreeding strategies for Boran cattle in Ethiopia H Bunning (1,2) presenting

Wednesday 10 April Moorfoot

15:30-16:50

Alternative Protein Sources

Chair: TBC

15:30	Oral-invited	Development of Insect Proteins and Utilisation as a Feed in Africa
25+5	347	Tanga
16:00	Oral-invited	Alternative Protein Sources; An Australasian Perspective
25+5	335	David Cadogan (1) presenting
16:30	oral	Rumen protected rapeseed expeller (NovaPro) as an alternative to soya bean meal in dairy cow diets
7+3	225	P.C. Garnsworthy (1) presenting
16:40	oral	Removing the dependence on perishable feed ingredients in Tenebrio molitor (yellow mealworm) diet
7+3	104	K Hawkey (1) presenting

Wednesday 10 April

Kilysth

15:30-17:10

Youngstock

Chair: TBC

15:30	Oral-invited	Management of young farmed livestock: why it matters and what can be done to optimise development
25+5	194	Cathy Dwyer (0) presenting
16:00	oral	Feeding behaviour and activity as early-indicators of disease in pre-weaned dairy calves
7+3	75	Carol-Anne Duthie (1) presenting
16:10	oral	Monitoring of activity and feeding behaviour for early detection of respiratory disease in pre-weaned calves
7+3	81	J M Bowen (1) presenting
16:20	oral	Effect of environmental enrichment on feed intake and behaviour of dairy calves following milk consumption
7+3	166	Maia Hemingway-Wood O'Dell (1) presenting

16:30	oral	The effect of fat content in milk replacer during calthood on the performance and carcass composition of pre-weaned Holstein Friesian bull calves
7+3	337	Natasha Ferguson (1,2) presenting
16:40	oral	Pre-weaning and post-weaning growth performances of lambs may be uncorrelated
7+3	144	A G Jones (1,2) presenting
16:50	oral	Effect of breed type and peri-natal live weight on live-weight gain and time required to achieve marketing weight by dairy bull calves
7+3	165	Jean Margerison (1) presenting
17:00	Short oral	Effects of ewe parity and litter size on ewe and lamb performance to 5 weeks of age
3+2	315	D Shiels (1,3) presenting
17:05	Short oral	The effect of milk replacer fat content on adipocyte development in subcutaneous adipose tissue of pre-weaned Holstein Friesian bull calves
3+2	338	Natasha Ferguson (1,2) presenting

Wednesday 10 April

Harris

15:30-16:35

Human Bonds with Companion Animals

Chair: TBC

15:30	Oral-invited	Non-invasive temperature monitoring in domestic species
25+5	317	Anne Carter (1) presenting
16:00	oral	Effect of probiotic supplemented-diets on serum Malondialdehyde (MDA) concentration of rabbits reared during the hot-dry season in a tropical Savannah
7+3	292	BM Shehu (1) presenting
16:10	oral	Influence of age on physical activity in cats (Felis catus)
7+3	190	David Thomas (1) presenting
16:20	oral	Can activity be used to distinguish between pregnancy and pseudopregnancy in the domestic cat?
7+3	302	David Thomas (1) presenting

16:30 Short oral Assessment of an innovative housing system for fattening rabbits: skin lesions, weight gain and hygienic aspects
3+2 69 SL Rauterberg (1) presenting

Thursday 11 April Lomond/Tinto
09:00-10:35
Precision Livestock - Joint WPSA/BSAS
Chair: TBC

09:00 Oral-invited Smarter systems for livestock production: challenges and opportunities for integrating technology into practice
20+5 344 Lisa Collins

09:25 Oral-invited ?
20+5 607 Richard Gill

09:50 oral Automatic detection and tracking of individual pigs in a pen
7+3 218 H E Gray (1) presenting

10:00 oral Animal-mounted sensor technology to predict 'time to calving' in beef and dairy cows
7+3 306 G.A. Miller (1) presenting

10:10 oral Markov chain matrices of jaw movement data from grazing animals can be valuable information when examining soil, sward and animal treatment effects
7+3 176 M.S. Dhanoa (1) presenting

10:20 oral Hand held technologies for assessment of nutrient digestibility
7+3 312 Alison Kingston-Smith (1) presenting

10:30 Short oral Monitoring drinking behaviour in diary cows using ruminal temperature bolus
3+2 301 Jorge A Vázquez-Diosdado (1) presenting

Thursday 11 April

Kilsyth

09:00-09:45

Workshop: Models and Proxies for Methane Emissions from Ruminants

Chair: Prof Richard Dewhurst

09:00 7+3	Oral 43	Prediction of methane emissions in sheep using computed tomography (CT) measurements of rumen volume N.R. Lambe (1) presenting
09:10 7+3	Oral 143	Combining a process-based model of rumen fermentation with methane production data from respiration chambers H Kettle (1) presenting
09:20 7+3	Oral 304	The effects of red clover and grass silages on rumen metabolites, detected using nuclear magnetic resonance spectroscopy, associated with methane emissions from growing cattle R Bica (1,2) presenting
11:00 7+3	Oral 233	A feeding behavior-based system to estimate methane emissions in cattle Rafael Muñoz-Tamayo (2) presenting
09:30 3+2	Short oral 253	Near infrared technology applied to faeces as a proxy for indirect prediction of enteric methane emissions from dairy cows. Paolo Bani (1) presenting
09:35 3+2	Short oral 232	Novel statistical methods to improve analysis of laser methane detector data S Brocklehurst (1) presenting
09:40 3+2	Short oral 217	Robust compositional regression to model methane production from ruminal volatile fatty acids J. Palarea-Albaladejo (1) presenting
09:45	Discussion	

Thursday 11 April

Harris

09:00-10:20

Equine Health and Vet Care

Chair: Dr Debbie Nash

09:00 25+5	Oral-invited 323	Equine grass sickness; an update Bruce McGorum (1) presenting
09:30 25+5	Oral-invited 320	The Practical Application of Behaviour to Veterinary Care of Equine Gemma Pearson (1) presenting
10:00 7+3	Oral 80	Electromyographic and kinematic evaluation of movement and muscle activity in horses with temporary forelimb lameness induction: a preliminary report L St. George (1) presenting
10:10 7+3	Oral 181	Comparison of the faecal bacterial microbiota of healthy horses and horses with equine glandular gastric ulcer disease by high throughput sequencing of the 16S rRNA Gene L.A. Buggle (1) presenting

Thursday 11 April

Cromdale

10:40-10:55

Digital Posters 5

Chair: TBC

10:40 2+1	Digital 215	Using the 'pain face' scoring system does not detect pain due to lameness in dairy cows Marie J. Haskell (1) presenting
10:43 2+1	Digital 103	Using social network analysis to measure the impact of social upheaval in captive animals Paul Rose (1,2) presenting
10:46 2+1	Digital 239	Performance of a cow-side, progesterone based, lateral flow test for pregnancy diagnosis under field conditions in smallholder dairy systems B Muasa (1,2) presenting

10:49	Digital	Discriminant Analysis of Morphostructural Differentiation of white Fulani (Yakana) and Bokolo (Adamawa Gudali) Cattle in Sub-Saharan Africa
2+1	46	T.M. ADEOTI (1) presenting
10:52	Digital	Residual effect of fertilizer type and ensiling duration on fermentative characteristics of <i>panicum maximum</i> silage.
2+1	224	kolade Michael Olatayo (1) presenting
12:31	Digital	1515
2+1	12	K Crouch (1) presenting

Thursday 11 April

Tinto

11:00-12:30

Health Reproduction and Fertility

Chair: TBC

11:00	Oral	Effects of feeding microalgae on the endocrine status and fertility of high yielding dairy cows
7+3	305	B E Till (1) presenting
11:10	Oral	RNA-Seq analysis of whole blood from early lactation dairy cows reveals changes in leukocyte gene expression associated with circulating IGF1
7+3	102	(M Salvati presenting)
11:20	Oral	Raised α 1-acid glycoprotein (AGP) levels in cervico-vaginal mucus (CVM) 7 days postpartum may identify cows at risk of developing endometritis early postpartum
7+3	28	M Adnane (1,2) presenting
11:30	Oral	The relationship between milk oestradiol concentrations and activity during oestrus in lactating Holstein Friesian cows
7+3	78	Hawar M. H. Zebari (1,2) presenting
11:40	Oral	The effects of temperature-humidity index on conception rates of housed, Holstein Friesian dairy cows in the UK.
7+3	148	E Bleach (1) presenting
11:50	Oral	Effects of uterine infection on milk production and reproduction outcomes in dairy cows in Ireland
7+3	127	Nicholas J. Ryan (1,2) presenting

12:00	Oral	A meta-analysis of the effect of alternative management strategies on the duration of the interval from calving to first ovulation in suckler beef cows
7+3	319	Richard Lynch (1) presenting
12:10	Oral	Potential Role of Kisspeptin and Cytochrome P mRNA Genes in Pubertal Development and Spermatogenesis in Buffalo Bulls (<i>Bubalus bubalis</i>)
7+3	157	Habib Rehman (1) presenting
12:20	Short oral	Development of local and systemic immunophenotyping assays in cattle
3+2	236	Charlotte Beynon (1) presenting
12:25	Short oral	Cysteine and taurine increase HSP70 protein expression and reduce oxidative stress in cryopreserved ram semen
3+2	54	A KAFI (1) presenting

Thursday 11 April

Kilysth

11:00-12:20

Gut Microbiome

Chair: TBC

11:00	Oral	Impact of rumen microbiome-host interaction on feed efficiency of beef cattle explained by microbial adhesion and mucosa interaction genes
7+3	97	MD Auffret (1) presenting
11:10	Oral	Investigating the impact of rumen microbial genes on feed conversion efficiency, growth rate and feed intake in beef cattle
7+3	223	J Lima (1) presenting
11:20	Oral	Protein nutrition and ETEC exposure impacts on growth performance and ileal but not faecal microbiome richness and diversity in weaned pigs
7+3	298	Jos Houdijk (1,2) presenting
11:30	Oral	The relationship between variation in the caecal microbiome and productivity of broiler chickens
7+3	237	A Tonks (1) presenting

11:40	Oral	Bacterial composition changes in response to zinc oxide within the gastrointestinal tract of newly weaned pigs until 28 days post-weaning
7+3	199	S Hazelden (1) presenting
11:50	Oral	Seeking to improve feed efficiency in pigs: microbial modulation via faecal microbiota transplantation in sows and dietary supplementation of offspring with inulin
7+3	209	UM McCormack (1,2) presenting
12:00	Oral	The effect of xylanase and xylo-oligosaccharides on growth performance and faecal bacterial community composition of growing pigs
7+3	257	T. A. Sutton (1,2) presenting
12:10	Short oral	Altered abundance of rumen microbial species and reduction in microbial metabolic pathway diversity in sheep that are divergent in feed conversion efficiency
3+2	300	CC Sosa Arango (1,2) presenting
12:15	Short oral	Bacterial profiling the gastrointestinal tract of commercial pigs up to 28 days post-weaning
3+2	254	S Hazelden (1) presenting

Thursday 11 April

Harris

11:00-12:10

Managing Horses

Chair: Dr Stephanie Wood

11:00	Oral-Invited	The trials and challenges of marketing feed and supplements, a manufacturer's viewpoint
25+5	330	Kate Hore (1) presenting
11:30	Oral	How repeatable is the top-line evaluation system (TES) TM as a palpable muscle scoring system for horses?
7+3	36	Simon Daniels (1) presenting
11:40	Oral	Influence of particle size and residual moisture on Near Infrared Reflectance Spectrometer (NIRS) analysis of minerals in hay
7+3	213	A.Y. Ikoyi (1) presenting
11:50	Oral	The effect of hock angle on the stride characteristics and speed of flat raced thoroughbreds
7+3	184	L Bent (1) presenting

12:00 Oral The Factors that Influence the Decision-Making Process of Equine Euthanasia
7+3 120 Bethany Winrow (1) presenting

Thursday 11 April

Tinto
13:30-15:10

Dairy Cattle Nutrition
Chair: TBC

13:30 Oral-Invited Whole-farm feed efficiency on British dairy farms
25+5 44 P.C. Garnsworthy (1) presenting

14:00 Oral Nitrogen isotopic fractionation to predict Nitrogen-use efficiency of lactating Holstein Friesian dairy cows
7+3 219 R J Dewhurst (1) presenting

14:10 Oral Has nitrogen utilisation efficiency of dairy cows improved over the last 25 years?
7+3 100 G Finney (1) presenting

14:20 Oral A rumen drench of prairie meal and rumen protected essential amino acids for 4 days after calving increases milk fat concentration and body weight of lactating dairy cows through 12 weeks postpartum
7+3 146 C K Reynolds (1) presenting

14:30 Oral Effect of fibre:starch ratio in dairy cow diets differing in maize:grass silage ratio, on milk fatty acid profile and its relationship with rumen hydrogen ion concentration
7+3 68 K. E. Kliem (1) presenting

14:40 Oral Effects of nutritionally improved straw (NIS) in dairy cow diets at two starch concentrations
7+3 263 M.E Hanlon (1) presenting

14:50 Oral Feed sorting of low and high concentrate diets by Holstein and Jersey dairy cows
7+3 37 D W Olijhoek (1) presenting

15:00 Oral The grazing efficiency of different varieties of perennial ryegrass for dairy cattle under rotational grazing conditions
7+3 230 T. Tubritt (1,2) presenting

Thursday 11 April

Kilysth

13:30-14:45

Globalisation and Climate

Chair: TBC

13:30	Oral	Field to yield: improving our assessment of livestock value on farm and beyond
7+3	210	A Cooke (1) presenting
13:40	Oral	The environmental cost of increasing pasture productivity in the uplands
7+3	183	N G Williams (1) presenting
13:50	Oral	Modelling the impact of climate change on the yield of western European reseeded grasslands
7+3	93	M Dellar (1,2) presenting
14:00	Oral	Whole farm modelling of the environmental impact of the inclusion of white clover in perennial ryegrass swards at different fertilizer application rates from pasture based dairy systems
7+3	267	Jonathan Herron (1,2) presenting
14:10	Oral	Exploring the spatiotemporal dynamics of 23 years of grassland livestock population change across Mongolia (1990 – 2012)
7+3	178	Paul Harris (1) presenting
14:20	Oral	Environmental impacts of housing and manure management systems in European pig production, through a life cycle perspective
7+3	123	G. Pexas (1) presenting
14:30	Short oral	Evaluation and prediction of nitrogen use efficiency and nitrogen excretion in beef cattle
3+2	49	A. Angelidis (1) presenting
14:35	Short oral	Does choice of nutrient profiling rule affect relative environmental rankings of food products?
3+2	203	G.A. McAuliffe (1,2) presenting
14:40	Short oral	Low-resolution soil sampling may provide no useful information to grazing farms
3+2	273	T Takahashi (1,2) presenting

Thursday 11 April

Harris

13:30-14:30

Animal Behaviour and Welfare

Chair: Lis King

13:30	Oral	Economic and welfare impacts of providing positive life opportunities to farm animals
7+3	294	T Takahashi (2,3) presenting
13:40	Oral	Prioritisation of farm animal welfare issues in the UK using the Delphi method
7+3	128	Cathy M. Dwyer (1,3) presenting
13:50	Oral	Dairy cows prefer a softer laneway surface, especially when lame
7+3	169	S Buijs (1) presenting
14:00	Oral	Behavioural response to temperature and wind in dairy calves
7+3	283	D.J. Bell (1,2) presenting
14:10	Oral	The effect of number of lambs attempting to suck on triplet ewe behaviour
7+3	196	Rene Corner-Thomas (1) presenting
14:20	Short oral	Using the effect of resting space allowance on resting behaviour in assessing heifers' welfare
3+2	89	MA Karatzia (2) presenting
14:25	Short oral	Can magnesium reduce stress and aggressive behaviours in pigs? – A systematic review
3+2	180	E V Bushby (1) presenting

Thursday 11 April

Carrick

13:30-15:00

Poultry

Chair: Dr Stephen Mansbridge

13:30	Oral	Meta-analysis of the probiotic effect of yeast (<i>Saccharomyces cerevisiae</i>) on egg productions in laying chicken hens
7+3	19	Ifeanyi Princewill Ogbuwu (1) presenting

13:40	Oral	The effect of selenoprotein on the growth performance, indicators of oxidative stress and meat quality of broilers exposed to cyclical high temperature
7+3	91	C. O'Shea (1) presenting
13:50	Oral	Effect of selenium and yeast in the broiler diet on ampicillin resistance, virulence and nutrient utilisation in E.coli isolated from the broiler caecum
7+3	208	A Lee (1) presenting
14:00	Oral	Effects of replacing vitamin-mineral premix with leaf meal composite on the performance of broiler finisher chickens
7+3	51	A. O. MOSURO (1) presenting
14:10	Oral	evaluation of the combination of vitamin d ₃ and papaya leaf on muscle antioxidant activity of spent chicken
7+3	27	Saeid Navid (1) presenting
14:20	Oral	Assessment of the nutritional quality of crop contents of scavenging local chickens in Akwa Ibom State of Nigeria
7+3	160	K. D. AFOLABI (1) presenting
14:30	Oral	Differential effects of fibrolytic enzymes on the <i>in vitro</i> release of xylobiose from different cereal types
7+3	7	Tom Dale (1) presenting

All Posters up the whole of the conference - Cromdale

13:00-13:20 - authors stand by posters

Poster Session Tuesday

Poster	Population Genomic Structure and Linkage Disequilibrium Analysis of Ashanti Dwarf pigs of Ghana using Genome-wide SNP data
96	Sethlina Naa Dodua Aryee-Osei (1,2) presenting
Poster	Correlation of somatic cell counts and California mastitis test for the diagnosis of subclinical mastitis in dairy sheep
227	G Bramis (1) presenting
Poster	Sedation of Australian Merino lambs with acepromazine to reduce stress-related behaviours at weaning
83	A.K. Redfearn (1,2) presenting
Poster	Dietary sodium diformate supplementation in sows during late gestation and lactation can improve performance of suckling piglets
279	C. Lückstädt (1) presenting

Poster
110 Diet effects on methane emissions from grazing cattle measured using the sulphur hexafluoride (SF₆) technique
R J Dewhurst (1) presenting

Poster
55 Effect of weaning age on body length, heart girth and withers height of dairy heifer calves
Hazel Costigan (1,2) presenting

All Posters up the whole of the conference - Cromdale

13:00-13:20 - authors stand by posters

Poster Session Wednesday

Poster
84 Assessing efficiency of meat sheep farms in the UK by performance evaluation and benchmarking
Alexandros Theodoridis (1) presenting

Poster
247 Assessing the precision and repeatability of thermal image measurements in dairy calves
G.E. Scoley (1,2) presenting

Poster
278 Consumer preferences for sheep and goat products in Greece: Qualitative insights
Athanasios Ragkos (2) presenting

Poster
255 Effect of different rapidly fermentable carbohydrates sources addition on in vitro neutral detergent fibre (NDF) digestibility
A Palmonari (1) presenting

Poster
154 Comparative Evaluation of Nutritional Values of Chicken, Quail, Turkey, and Duck eggs
IO Dudusola (1) presenting

Poster
303 In vitro organic matter degradability and gas production measurements on whole canola (*Brassica napus*) seeds or canola seed meal, as potential constituents of ruminant diets
B. BERENCHTEIN (1) presenting

Poster
2 The effect of organic management strategies on milk production and milk processability characteristics within an Irish pasture-based system
K Scully (1,2) presenting

All Posters up the whole of the conference - Cromdale

13:00-13:20 - authors stand by posters

Poster Session Thursday

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|---------------|---|
| Poster
132 | Milk consumption monitoring as a farmer friendly indicator for advanced treatment in calves with neonatal diarrhea syndrome
PD Katsoulos (1) presenting |
| Poster
131 | Does the presence of maternal antibodies affect immune responses to vaccination in Merino lambs?
A Alexander (1,2) presenting |
| Poster
200 | The effect of rotational grazing speed on sheep and grassland performance
T Meeke (1) presenting |
| Poster
288 | Malaysian and UK veterinarians' knowledge and attitudes towards cat pain
Syamira Zaini (1,3) presenting |
| Poster
287 | Relationships between the application of readily available nitrogen, and ammonia and ammonium concentrations measured by a National Ammonium Measurement Network sampler on the AFBI farm
CP Ferris (1) presenting |
| Poster
53 | Effect of weaning age on growth performance of dairy heifer calves
Hazel Costigan (1,2) presenting |
| Poster
77 | Effect of supplemental inorganic or chelated blends of copper, zinc and manganese on broiler chickens' performance
A A Ayoola (1) presenting |
| Poster
155 | A retrospective study: behavioural changes pre- Equine Grass Sickness diagnosis
L.C Remnant (1) presenting |
| Poster
58 | Equine Parasite Management Practices
M Reid (1) presenting |
| Poster
64 | Equine End of Life (EEoL): From a Veterinary Professional's Perspective
H Wilson (1) presenting |

- Poster
74 Lipidaemic changes in pubertal boars fed Aidan (*Tetrapleura tetraptera*) pod pulp meal
J Ezea (1) presenting
- Poster Proteomic analysis of *M. longissimus dorsi* from cattle during dietary restriction and subsequent compensatory growth using label free mass spectrometry quantification
- Poster
340 Quantitative label-free proteomic analysis of hepatic tissue from cattle during dietary restriction and subsequent compensatory growth
Y Mullins (1,2) presenting

Thursday 11 April
Equine Tour of Vet School 15:00-17:00