MONDAY 8 APRIL
SRUC, PETER WILSON BUILDING, KINGS BUILDINGS, WEST MAINS ROAD, EDINBURGH, EH9 3JG

EARLY CAREER DAY

Lecture Rooms G & H

11:45 Early lunch
12:30 Welcome

What BSAS offers early career researchers
12:40 Job Top Trumps warm up game

Determine what aspects are important for you when looking at jobs
12:55

Speakers from a variety of backgrounds will be sharing their experiences and advice.
1) Jos Houdijk
   Head of Monogastric Science Research Centre and Professor of Animal Nutrition and Health at SRUC

2) Nia Ball
   Livestock Scientific Advisor for the Scottish Government

3) Laura Tennant
   Ruminant Technical Advisor at Trouw Nutrition GB

4) Charlotte Kay
   Associate Trainer at Quest Scotland & Curriculum Development Fellow at Perth College UHI

5) John Hickey
   Chair of Animal Breeding & Career Track Fellow at The Roslin Institute

14:40 Q&A session with all speakers
15:00 Coffee break
15:20 Group activity
In groups participants, with help from speakers, are asked to come up with a feasible research proposal around ‘making livestock farming more sustainable’. This will then be presented as a proposal to attendees and speakers.
17:20 – 17:30 – Sum up and close

Evening Social - The Three Sisters, 139 Cowgate, Edinburgh EH1 1JS
19:00 arrive
19:30 Quiz with Buffet
21:30 Ceilidh - till late
TUESDAY 9 APRIL - LOMOND
75TH ANNIVERSARY CELEBRATION: ANIMAL SCIENCE FIT FOR THE FUTURE

11:00-12:30
Chair: Prof Helen Miller
11:00 S Voas, Chief Veterinary Officer Scotland
11:20 1 Yesterday’s science; an unsafe foundation for future discovery?
C T Whittemore, BSAS
11:40 What our young scientists want our society to be
K McDermott, University of Leeds
12:00 Discussion

TUESDAY 9 APRIL - TINTO
PRESIDENTS SESSION - ANIMAL SCIENCE FIT FOR THE FUTURE
13:30-15:00
Chair: Prof Helen Miller
13:30 2 The role of animals in a circular food system.
H H E van Zanten, Wageningen University
14:00 3 Application of computer vision and machine learning to assess physiological responses of consumers and livestock
F R Dunshea, The University of Melbourne
14:30 4 Novel approaches to investigating embryo-maternal interactions in cattle: Understanding life, the uterus and everything
N Forde, University of Leeds

TUESDAY 9 APRIL - MOORFOOT
TECHNOLOGY AND FUNDING SESSION
13:30-14:55
Chair: Dr David Telford
13:30 Introduction to the session
David Telford, Knowledge Transfer Network
13:35 The innovation funding landscape and opportunities for the livestock industry
Calum Murray, Innovate UK, UKRI
13:50 Delivering innovations for farmers and supply chains
Mark Young, Centre for Innovation Excellence in Livestock (CIEL)
14:05 Future technology that could benefit the livestock industry
Dave Ross, The Agricultural Engineering Precision Innovation (Agri-EPI) Centre
14:20 – 14:55: Questions and panel discussion
**TUESDAY 9 APRIL**

**KILSYTH**

**MEAT AND CARCASS QUALITY**

13:30-14:25

Chair: Prof Nigel Scollan (TBC)

13:30  5  The potential of near infra-red spectroscopy (NIRS) to authenticate the dietary history of beef
A P Moloney, M McGee, E G O'Riordan, F J Monahan, L Moran

13:40  6  Regional effects on consumer acceptability of grilled beef

13:50  7  Can the fatty acid profile of muscle discriminate between steers finished at pasture or indoors on ad libitum concentrates
A P Moloney, M G Keane, F J Monahan, T F O'Callaghan

14:00  8  Estimation of fatty acid profiles in meat using rumen microbiome information from beef cattle
R Roehe, M Martinez-Alvaro, M D Auffret, C-A Duthie, R D Stewart, M Watson, R J Dewhurst

14:05  9  Evaluation of the structural and rheological properties of wheat and maize ingredients that underpin differences in growth performance and meat quality in broilers
L L Brimble, Y Akter, M Kasprzak, C Hutchison, C O'Shea

14:10 10  Novel methods of extending shelf life of minced beef
J Tollerton, D Farrell, L Farmer

14:15 11  Using pre-weaning lamb liveweight as a predictor of carcass quality
A G Jones, T Takahashi, H Fleming, B A Griffith, P Harris, M R F Lee

14:20 12  Herd incidence of Fascioliasis hepatica and its impact on slaughter traits in beef cattle
T Pritchard, M P Coffey, E Wall

**TUESDAY 9 APRIL**

**HARRIS**

**SHEEP, NUTRITION AND PRODUCTION SYSTEMS**

13:30-14:50

Chair: Dr Ciaran Lynch

13:30  13  A further evaluation of the effects of supplementing ewes with Co, including method of administration on ewe and lamb performance
D V Hession, N R Kendall, J P Hanrahan, T W J Keady

13:40  14  Determination of the bioavailability of nanoparticle copper oxide using a copper depletion, repletion technique in growing lambs
A Williams, A M Mackenzie, J J Bennison, L A Sinclair

13:50  15  Is the maintenance energy requirement for current sheep flocks higher than recommended?
C T Yang, C M Wang, Y G Zhao, A Aubry, T Yan

14:00  16  Sheep grazing system performance under continuous stocking or cell grazing management during an unusual dry grazing season in Devon

14:10  17  Characterizing individual differences in goats responses to a nutritional challenge using milk metabolites
A Ben Abdelkrim, P Schmidely, J Tessier, A Eymard, T Larsen, N C Friggins

14:20  18  Rumen parameters of West African dwarf goats offered concentrate supplement containing varying levels of dried Leucaena leaves
O O Adelusi, A O Oni, O S Odediran, O M Odebowale, C F I Onwuka
<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>14:25</td>
<td>Effects of dietary and animal factors on maintenance energy requirements of sheep</td>
<td>C M Wang, C T Yang, Y G Zhao, A Aubry, T Yan</td>
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<tr>
<td>14:30</td>
<td>Absorption and excretion of phosphorus in sheep diets: Towards a sustainable diet</td>
<td>N A Sanchez Guerra, L E Robles Jimenez, M I Miranda Castaño, O Castelan Ortega, M Gonzalez Ronquillo</td>
</tr>
<tr>
<td>14:35</td>
<td>Variation in individual feed intake profiles recorded in group-housed lambs</td>
<td>H M Wishart, N R Lambe</td>
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<tr>
<td>14:40</td>
<td>Ireland's national sheep flock: breed composition and source of replacements</td>
<td>T W J Keady, J P Hanrahan, D V Hession, B Moran, N R Kendall, K Hanrahan</td>
</tr>
<tr>
<td>14:45</td>
<td>Effect of inclusion of oregano oil in ewe concentrates on ewe and lamb performance</td>
<td>R G Wilkinson, C Gauld, N Naylor, A M Mackenzie, D Wilde</td>
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**TUESDAY 9 APRIL**

**CARRICK**

**INDUSTRY PRIZE PRESENTATIONS**

**Chair:** Dr John Dunn/Dr Helen Warren

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<tr>
<th>Time</th>
<th>Presentation Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>13:50</td>
<td>Effect of environmental enrichment on feed intake and behaviour of dairy calves following milk consumption</td>
<td>M Hemingway-Wood O’Dell, J K Margerison, M Sorely, M Chaowarit</td>
</tr>
<tr>
<td>14:00</td>
<td>Optimising gene flow between parallel year groups to improve genomic prediction in Atlantic salmon breeding programmes</td>
<td>P K Kokkinias, P N Navarro, R H Houston, A H Hamilton, C H Haley, R P W Pong-Wong</td>
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<tr>
<td>14:10</td>
<td>Dietary starch level alters rumen pH and copper metabolism in lactating Holstein-Friesian dairy cows receiving added dietary sulphur and molybdenum</td>
<td>J H McCaughern, A M Mackenzie, L A Sinclair</td>
</tr>
<tr>
<td>14:20</td>
<td>Performance of a cow-side, progesterone based, lateral flow test for pregnancy diagnosis under field conditions in smallholder dairy systems</td>
<td>B Muasa, M Chagunda, C Ashworth, R J Dewhurst, A Peters</td>
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**TUESDAY 9 APRIL**

**CROMDALE**

**DIGITAL POSTERS 1**

**Chair:** Dr Jon Day

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<thead>
<tr>
<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>15:05</td>
<td>Effect of increasing digestible phosphorus around farrowing on performance of sow and litter</td>
<td>A Huting, X Benthem de Grave, F Molist</td>
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<tr>
<td>15:08</td>
<td>Post-weaning performance of pigs fed dry feed vs. wet feed</td>
<td>R Muns</td>
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<td>15:11</td>
<td>Do outdoor reared piglets benefit from a supplemental iron injection?</td>
<td>S Laird, H M Miller</td>
</tr>
<tr>
<td>15:17</td>
<td>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.</td>
<td>W Udall, S Mansbridge</td>
</tr>
</tbody>
</table>
The effects of auditory enrichment on the behaviour of Holstein Friesian dairy cows
K Crouch, B Evans, V T Montrose

TUESDAY 9 APRIL
BEef CATTLE - Feed EfficiEncY
15:30-17:20
Chair: Prof David Kenny

15:30 Feed efficiency in temperate grass-based beef production systems: A review
M McGee, Teagasc

16:00 Cattle feed efficiency - Value to the beef industry and its perception and uptake
K Matthews, AHDB

16:30 Comparing the nitrogen utilisation efficiency of growing cattle before and after 2003
G Finney, E Magowan, F O Lively, S J Morrison, T Yan

16:40 Proteomic analysis of M. longissimus dorsi from cattle during dietary restriction and subsequent compensatory growth using label free mass spectrometry quantification
Y Mullins, K Keogh, D A Kenny, A K Kelly, S M Waters

16:50 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, M J Rivero, M R F Lee

17:00 Weaned calf output in relation to suckler cow liveweight in purebred Charolais beef cows
J J Hyslop

17:05 The effect of alternative upland pasture management on cattle production
N G Williams, A P Williams, J M Gibbons, D R Chadwick

17:10 Effect of production system on the health, performance and carcass characteristics of Holstein bulls
N Rutherford, F O Lively, G Arnott

17:15 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, A W Gordon, S J Morrison

TUESDAY 9 APRIL
MoorFOOT
Industry showcase
15:30-17:00
Chair: Dr Jon Day and Prof Richard Dewhurst (TBC)

15:30 Alltech
15:35 Icerobotics
15:40 Neogen
15:45 CABI
15:50 Cambridge University Press
15:55 Burleigh Dodds Science Publishing

16:00 SEFARI Livestock Panel Debate: Can we have our meat and eat it?
TUESDAY 9 APRIL

PIGS
15:30-17:10
Chair: Dr Stephen Mansbridge

15:30  39  Lowering dietary crude protein in pig diets: ammonia, odour and slurry production from finishing pigs
U M McCormack, A Reid, V E Beattie, S Smyth, K J McCracken, R Bradford, F J Gordon, E Magowan, M E E Ball

15:40  40  Sensitivity of growth performance and crude protein conversion ratio of finisher pigs to dietary protein
and essential amino acids
J G M Houdijk, R Roehle

15:50  41  Microbiological survey of liquid feed for finisher pigs on eight commercial pig farms
F M O’ Meara, G E Gardiner, J V O’ Doherty, P G Lawlor

16:00  42  Nutritional evaluation of Calopogonium mucunoides as feed resource for grower pigs
A H Akinmutimi, O H Uzegbu

16:10  43  The effect of oil type and energy regimen during lactation on litter performance to weaning
A Lavery, R Muns, P G Lawlor, H M Miller, E Magowan

16:20  44  Supplementation of lactating sow diets with lysolecithin improves litter growth and uniformity across
seven studies
A L Wealleans, M di Benedetto

16:30  45  Growth response of low and average birthweight pigs to sow lactation feed intake
S Hawe, E Magowan, N D Scollan, A W Gordon

16:40  46  Investigating the association between temperature and prevalence of respiratory conditions detected
during meat inspection in pigs in England and Wales
H J Lee, M Friel, S Hajat, R P Smith, S Williamson, C Perkins, P Edwards, L M Collins

16:50  47  The effect of oil type and energy regimen during lactation on the fatty acid content of piglet blood
plasma and adipose tissue at weaning
A Lavery, R Muns, H M Miller, P G Lawlor, E Magowan

16:55  48  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, H M Miller

17:00  49  The impact of an Oregano based Eubiotic on the health and performance of sows and their progeny
M Le Bon, C Harlow, H N Hall

17:05  50  Developmental programming of porcine muscle progenitor cell fate by foetal growth restriction
Y Cortes, C Stenhouse, C Ashworth, C Esteves, X Donadeu

TUESDAY 9 APRIL

HEALTH AND DISEASE
15:30-17:00
Chair: Dr Abdul Chaudhry

15:30  51  Whole genome sequencing gives n-ewe insights into the role of Dichelobacter nodosus in the
pathogenesis of ovine footrot
Z N Willis, D M Aanensen, J Parkhill, S Frosth, M Ganter, K Giebel, M Gilhuus, R Grogono-Thomas,
K J Purdy, L E Green

15:40  52  Variation in lamb performance under a targeted selective anthelmintic treatment regime is not
underpinned by between-individual differences
A Hayward, T McNeilly, D McBean, A Greer, F Kenyon
15:50 53  Effect of sub-optimal mobility on production performance of pasture-based dairy cows
   A O'Connor, E A M Bokkers, I J M de Boer, H Hogeveen, R Sayers, N Byrne, E Ruelle, L Shaloo

16:00 54  A survey of management practices prior to and at lambing which may influence lamb mortality on Irish
   sheep farms
   D Shiels, C M Dwyer, K Hanrahan, J F Mee, S Fagan, T W J Keady

16:10 55  Udder health indicators in low-input dairy goat herds
   A Argyriadou, R Giannakou, A I Gelasakis, G Arsenos

16:20 56  The effect of the mycotoxin deoxynivalenol on the function and metabolism of bovine kidney epithelial
   cells in vitro
   J Bailey, J Breton, G Panic, T Cogan, M Bailey, J Swann, M R F Lee

16:30 57  Effects of mycotoxins and binder/deactivating agent on ruminal microbial digestion and metabolism in vitro

16:40 58  Identification of Staphylococcus 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)
   J Quinn, L Dufty, S Ghorashi, J Connolly

16:50 59  Nickel nanoparticles induced testicular toxicity in male Sprague Dawley rats assessed by histopathology
   F Jabeen, M Iftikhar, A S Chaudhray

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**TUESDAY 9 APRIL**

**CARRICK**

**PRESIDENT PRIZE PRESENTATIONS**

15:30-16:40

Chair: Prof Helen Miller

15:40 33  Proteomic analysis of M. longissimus dorsi from cattle during dietary restriction and subsequent compensatory
growth using label free mass spectrometry quantification
   Y Mullins, K Keogh, D A Kenny, A K Kelly, S M Waters

15:50 100  Genetic parameters of faecal egg and oocyst counts, dag scores, live weight and immunological traits in
   Scottish Blackface sheep
   A Pacheco, T McNeilly, G Banos, J Conington

16:00 101  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, R J Dewhurst, P W Knap, S A Edwards, G Simm, R Roehe

16:10 180  Investigating the impact of rumen microbial genes on feed conversion efficiency, growth rate and feed
   intake in beef cattle
   J Lima, M D Auffret, R D Stewart, R J Dewhurst, C-A Duthie, A W Walker, T C Freeman, M Watson,
   R Roehe, T J Snelling

16:20 185  The effect of xylanase and xylo-oligosaccharides on growth performance and faecal bacterial
   community composition of growing pigs
   T A Sutton, H V Masey O’Neill, M R Bedford, H M Miller

16:30 200  The grazing efficiency of different varieties of perennial ryegrass for dairy cattle under rotational
   grazing conditions
   T Tubritt, T Gilliland, L Delaby, M O’Donovan

19:00 Signet Library, Reception
**WEDNESDAY 10 APRIL**

**LOMOND**

09:00-10:00

Chair: Prof Helen Miller

60 Nutritional Geometry: examining the critical roles of specific appetites in animal and human nutrition  
D Raubenheimer, University of Sydney

**WEDNESDAY 10 APRIL**

**CROMDALE**

**DIGITAL POSTERS 2**

10:10-10:25

Chair: TBC

10:10 61 Investigating the use of Quietwean’s and concentrate feed level on the performance and behaviour of suckler calves weaned indoors  
L Chesney, F O Lively, N D Scollan, A W Gordon

10:13 62 Intake, growth, carcass and selected meat quality traits of steers offered grass silage and supplementary concentrates containing maize or wheat dried distillers grains  
M McGee, M J Kelly, A K Kelly, A P Moloney

10:16 63 The effect of floor type on the lying and standing behaviour of finishing beef cattle  
D E Lowe, F O Lively, A W Gordon

10:19 64 Effect of pre-grazing herbage mass on performance of early- and late-maturing suckler bred steers  
P Doyle, A K Kelly, M McGee, A P Moloney, E G O'Riordan

10:22 65 Intake, live weight gain, feed efficiency, ultrasonic and body measurements of ‘yearling’ Charolais and Holstein-Friesian steers offered a high-concentrate diet  
M McGee, C Fitzsimons, D A Kenny

**WEDNESDAY 10 APRIL**

**TINTO**

**ANTIMICROBIAL RESISTANCE**

10:30-12:00

Chair: Dr Mary Vickers

10:30 66 Antimicrobial resistance from beef cattle production  
T Alexander, Agriculture and Agri-Food Canada

11:00 67 AMR - the human perspective  
P Howard, Leeds Teaching Hospitals NHS Trust and University of Leeds

11:30 68 Effect of dietary supplementation of calves with essential oils on faecal bacterial count and abundance of antibiotic resistant bacteria  
P Ray, S Allison, C Rymer, D Wilde

11:40 69 Pasture management practices are associated with the prevalence of antimicrobial resistance in grazing cattle  
C Rymer, H Louvandini, A Abdalla, C Rodriguez Jimenez, A Tonks, P Spoto Corrêa, P Ray

11:50 70 Effect of pH on the abundance of antimicrobial resistance genes in manure  
P Ray, A Pruden, C Teets, K Knowlton
The effect of pasture allowance on the performance of in-calf holstein heifers in their second grazing season
R Patterson, S J Morrison

Prediction of dairy cow nitrogen intake over 305 days of lactation using long-term production data
X Chen, G Finney, E Garcia, C Ferris, E Magowan, T Yan

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, D Patton, K M Pierce, B Reilly, B Horan

Relationships between blood metabolites and energy balance in early lactation dairy cows offered grass silage based diets: a meta-analysis
E H Cabezas-Garcia, A W Gordon, C P Ferris

Dietary starch level alters rumen pH and copper metabolism in lactating Holstein-Friesian dairy cows receiving added dietary sulphur and molybdenum
J H McCaughern, A M Mackenzie, L A Sinclair

Effect of altering the frequency of fresh pasture allocation on grass utilisation and the performance of lactating dairy cows.
J G Pollock, D A McConnell, A W Gordon

Effect of dairy management system on phytoestrogen concentrations of retail milk
N Nørskov, D I Givens, S Purup, S Stergiadis

Silage making practices on Northern Ireland dairy farms, and factors perceived by farmers to influence silage quality
C P Ferris, S Laidlaw, A W Gordon

Autumn feed budgeting and grazing strategies impact on animal performance and pasture productivity of intensive grass-based spring dairy cow production systems
S Evers, L Delaby, K M Pierce, B Horan

The impact of supplemental UV lighting, and a dietary additive, on the vitamin D content of bovine milk
W C McRoberts, E J McDonald, R A Loy, A W Gordon, L K Pourshahidi, C P Ferris

Effect of dietary cobalt supplementation on the intake, performance and whole tract digestibility in dairy cows fed tropical forages
W A D V Weerathilake, G A Prathapasinghe, W M P B Weerasinghe, L A Sinclair

Effect of the supplementation level with concentrate on milk and methane production in crossbreed tropical dairy cows grazing tropical
L E Robles Jimenez, A Xochitemol, M Benaaouda, L Corona, E Castillo, O Castelan Ortega, M Gonzalez Ronquillo
**WEDNESDAY 10 APRIL**

**KILSYTH**

**SUSTAINABLE LIVESTOCK FARMING**

10:30-11:10

Chair: Dr Carol-Anne Duthie

10:30  83  Effects of breeding-herd management strategies on carbon footprints of pasture-based beef production systems calculated using measured emission factors

G A McAuliffe, T Takahashi, LM Cardenas, M S A Blackwell, T Darch, M Elayadeth Meethal, P Harris, C A Horrocks, K Le Cocq, T H Misselbrook, M R F Lee

10:40  84  Circadian rhythm in enteric methane emission among temperate grassland beef cattle offered three typical grass silage diets

M Elayadeth-Meethal, T H Misselbrook, H R Fleming, J Evans, M Jordana Rivero, M R F Lee

10:50  85  Effect of antibiotic treatments on dairy cow methane production, milk yield and dry matter intake

P R Hargreaves, M D March, R J Dewhurst

11:00  86  Archaea and members of the family, Lachnospiraceae are altered in the rumen microbiome of cattle divergent in methane yield grazing perennial ryegrass swards with and without white clover

P Smith, D Enriquez-Hidalgo, D Hennessy, M McCabe, D A Kenny, A K Kelly, S M Waters

**WEDNESDAY 10 APRIL**

**CROMDALE**

**DIGITAL POSTERS 3**

12:10-12:31

Chair: TBC

12:10  87  Effect of the alkaline ammonia treatment of wheat grain on in vitro rumen fluid pH, gas production and potential supply of amino acids into the abomasum

J K Margerison

12:13  88  Developing a rapid high throughput screening method for the estimation of rumen degradability of ruminant feedstuffs

E Ramos-Morales, E Jones, R L Ordonio, T C Fernando, C Whitehead, L Gomez, S McQueen-Mason, C J Newbold

12:16  89  The effect of lactic acid bacteria inoculation or molasses on the fermentation quality and nutritive value of amaranth (amaranthus hypochondriacus) (var.maría) silage

M Abbasi, Y Rouzbahen, J Rezaei, S-E Jacobsen

12:19  90  Effect of the alkaline ammonia treatment of oat feed on in vitro gas production, rumen fluid pH and potential supply of protein and amino acids for ruminants

J K Margerison

12:22  91  Assessment of ruminal fluid pH evolution across the weaning period in Holstein calves under field conditions

P Kazana, N Siachos, N Panousis, G Arsenos, G E Valergakis

12:25  92  Evaluation of the stress effects of oesophageal intubation for rumen sampling from sheep

P Kyriazopoulou, A Boissy, D Morgavi, M-M Mialon- Richard, R J Dewhurst, A I Macrae

12:28  93  Does birth order have an effect on blood gas, acid-base, and glucose status at birth in triplet-born lambs?

C Erichsen, A Jonker, P Maclean, F Knol, E Sandoval, C M Dwyer, S McCoard
**WEDNESDAY 10 APRIL**

**TINTO**

**GENETICS AND GENOMICS 1**  
13:30-14:50  
Chair: Prof Eileen Wall

13:30  94  Comparative performance of Holstein-Friesian dairy cows of ELITE and National Average EBI on contrasting feeding treatments during early lactation  
O Quigley, K M Pierce, F Buckley

13:40  95  Using commercial farm data to demonstrate the value of the national dairy selection index of Australia  
J E Newton, H N Phuong, M E Goddard, J E Pryce

13:50  96  Withdrawn

13:50  97  The impact of including genotyped cows in the Single-Step genomic evaluation of bovine tuberculosis in Holstein dairy cattle in the United Kingdom  
R Mrode, G Banos, M Winter, M P Coffey

14:00  98  Genetic parameters for live weight traits in purebred Irish Texel, Suffolk and Charollais lambs.  
S Fitzmaurice, J Conington, N Fetherstone, T Pabiou, K McDermott, E Wall, G Banos, N McHugh

14:10  99  Effects of age at first joining and ewe genotype on performance of ewes from 2 to 6 years of age  
T W J Keady, J P Hanrahan

14:20  100  Genetic parameters of faecal egg and oocyst counts, dag scores, live weight and immunological traits in Scottish Blackface sheep  
A Pacheco, T McNeilly, G Banos, J Conington

14:30  101  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, R J Dewhurst, P W Knap, S A Edwards, G Simm, R Roehe

**WEDNESDAY 10 APRIL**

**MOORFOOT**

**RESEARCH INTO PRACTICE**  
13:30-15:00  
Chair: TBC

13:30  102  3D cameras can alert farmers to problem behaviours in pigs  
E Baxter, SRUC

14:00  103  Developing sustainable livestock systems through participatory farmer research  
C L Marley, Aberystwyth University

14:30  104  An investigation of the feasibility of running a mobile robot in a flock of broiler chickens and bird behavioural response  
I C Dennis, S M Abeyesinghe, T G M Demmers

14:40  105  Impact of the introduction of the Nitrates Action Programme in Northern Ireland on the monthly concentrations of ammonia measured at three sites  
C P Ferris, A W Gordon, S Laidlaw

14:50  106  Modelling the potential performance improvement value in Scottish and English sheep and beef systems  
J Keevs
WEDNESDAY 10 APRIL  
KILYSTH
RUMINANT NUTRITION
13:30-14:40
Chair: Prof Liam Sinclair

13:30 107  Effect of maize silage clamp density on aerobic stability and forage quality.
J Street, D R Davies, D Wilde, H Warren, J A Huntington

13:40 108  The effect of autumn management on perennial ryegrass sward quality and morphology in spring
C Looney, A Wingler, A Claffey, M Egan

13:50 109  Impact of biostimulants on ryegrass silage quality, aerobic stability and animal performance
A Christou, H Fleming, T Cogan, M Gaffney, C J Hodgson, D R Davies, M R F Lee

14:00 110  Effect of feeding chitosan with different levels of crude protein on nitrogen intake, digestibility and
utilisation in beef heifers fed total mixed ration
S Kirwan, TM Boland, E Serra, K M Pierce

14:10 111  Effect of a live yeast strain of *Saccharomyces cerevisiae* supplementation on growth, carcass yield and
meat quality of finishing feedlot cattle
N Siachos, A Kougountzis, E Soufleri, S Vouraki, M Gauthier, G Arsenos

14:15 112  Intake, feed efficiency and growth-related performance of suckler-bred Charolais and Holstein-Friesian
steers offered grass silage
M McGee, C Fitzsimons, D A Kenny

14:20 113  Effect of low moisture feed block supplementation on the rumen microbial fermentation of hay: *in-vitro*
N F Meades, K J Hart, C J Lister, C J Newbold, A Kingston Smith

14:25 114  Nutritional evaluation of *Enterolobium cyclocarpum* plant parts as supplementary feed in ruminant
production system
O A Fasae, O D Adebayo

WEDNESDAY 10 APRIL  
HARRIS
AQUACULTURE
13:30-14:40
Chair: Dr Simon Davies

13:30 115  Interaction of intestinal microbiome, health and nutrition for finfish production
S A M Martin, University of Aberdeen

14:00 116  Dietary utilization of soybean meal and rapeseed meal for Zebrafish (*Danio rerio*)
T A Aiyelari, AS Chaudhry, A B Chaudhry

14:10 117  Galacto-oligosaccharides: an investigation into dietary inclusion levels for rainbow trout
(*Oncorhynchus mykiss*) for improved gut histomorphology
A Miles, S Davies, S Mansbridge

14:20 118  Optimising gene flow between parallel year groups to improve genomic prediction in Atlantic salmon
breeding programmes
P K Kokkinias, P N Navarro, R H Houston, A H Hamilton, C H Haley, R P W Pong-Wong
### Wednesday 10 April
#### Digital Poster 4

**Chair:** Maggie Mitchell

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:10</td>
<td>119</td>
<td>The comparison of models of using chest girth to estimate live weight of Adilo, Horro and Bonga sheep in Ethiopia</td>
<td>J Wamatu, A Alkhtib</td>
</tr>
<tr>
<td>15:13</td>
<td>120</td>
<td>Active dry yeast (<em>Saccharomyces cerevisiae</em>) supplementation boosts performance of growing lambs</td>
<td>D Djouvinov, O AlZahal</td>
</tr>
<tr>
<td>15:16</td>
<td>121</td>
<td>Effects of dietary replacement of maize with graded levels of melon husk on the performance of growing rabbits</td>
<td>O C Fasae, A M Bamgbose, A O Oso</td>
</tr>
<tr>
<td>15:19</td>
<td>122</td>
<td>Effect of Neem (<em>Azadirachta indica</em>) leaf meal on the growth performance and carcass characteristics of female growing rabbits</td>
<td>L T Egbeyle, O Y Ayo-Ajasa, O O Adeleye, I E Odeluyi, J A Abiona</td>
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### Wednesday 10 April
#### Genetics and Genomics 2

**Chair:** Kim Matthews

<table>
<thead>
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<tbody>
<tr>
<td>15:30</td>
<td>123</td>
<td>Healthy milk from healthy cows: a genetic analysis of quantity and trace element concentrations in the milk and serum of dairy cows</td>
<td>S J Denholm, A A Sneddon, T N McNeill, E Wall</td>
</tr>
<tr>
<td>15:40</td>
<td>124</td>
<td>The genetics of tooth loss and longevity in Scottish Blackface hill ewes</td>
<td>A McLaren, J Conington, I-A Boman, T Pabiou, N McHugh, A Waterhouse, N R Lambe</td>
</tr>
<tr>
<td>15:50</td>
<td>125</td>
<td>Introduction of a total merit index for dairy goats in Austria</td>
<td>B Fuerst-Waltl, C Fuerst</td>
</tr>
<tr>
<td>15:55</td>
<td>126</td>
<td>What advice would UK pig industry give to geneticists seeking to breed more disease resilient pigs?</td>
<td>A Bruce, S Beechener</td>
</tr>
<tr>
<td>16:00</td>
<td>127</td>
<td>Genetic variation in animal resilience to weather changes in UK dairy goats</td>
<td>E Sánchez-Molano, J Ilska, V Kapsona, S Desire, S Mucha, J Conington, G Banos</td>
</tr>
<tr>
<td>16:05</td>
<td>128</td>
<td>Modelling crossbreeding strategies for Boran cattle in Ethiopia</td>
<td>H Bunning, P Amer, E Wall, G Banos, M G G Chagunda, G Simm</td>
</tr>
</tbody>
</table>

### Wednesday 10 April
#### Alternative Protein Sources

**Chair:** Prof Michael Lee

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>15:30</td>
<td>129</td>
<td>Development of insect proteins and utilisation as a feed in Africa</td>
<td>C Tanga, International Centre of Insect Physiology and Ecology, Kenya</td>
</tr>
<tr>
<td>16:00</td>
<td>130</td>
<td>Alternative protein sources; an Australasian perspective</td>
<td>D Cadogan, Feedworks, Australia</td>
</tr>
<tr>
<td>16:30</td>
<td>131</td>
<td>Rumen protected rapeseed expeller (NovaPro) as an alternative to soya bean meal in dairy cow diets</td>
<td>P C Garnsworthy, N Saunders, J R Goodman, M Marsden, B May</td>
</tr>
<tr>
<td>16:40</td>
<td>132</td>
<td>Removing the dependence on perishable feed ingredients in <em>Tenebrio molitor</em> (yellow mealworm) diet</td>
<td>K Hawkey, J Stubberfield, L Parsons, T Parr, J Brameld, A Salter</td>
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</tbody>
</table>
**KILYSTH**

**WEDNESDAY 10 APRIL**

**YOUNGSTOCK**

15:30-17:10

Chair: Dr Jenny Gibbons

15:30 133 Management of young farmed livestock: why it matters and what can be done to optimise development

C M Dwyer, SRUC

16:10 134 Feeding behaviour and activity as early-indicators of disease in pre-weaned dairy calves

C-A Duthie, J M Bowen, G A Miller, D Bell, C Mason, M J Haskell

16:20 135 Monitoring of activity and feeding behaviour for early detection of respiratory disease in pre-weaned calves

J M Bowen, G A Miller, C Mason, D Bell, M J Haskell, C-A Duthie

16:30 136 Effect of environmental enrichment on feed intake and behaviour of dairy calves following milk consumption

M Hemingway-Wood O'Dell, J K Margerison, M Sorely, M Chaowarit

16:20 137 The effect of milk replacer fat content on the performance and carcass composition of pre-weaned Holstein Friesian bull calves

N Ferguson, A K Kelly, J R Dick, A P Moloney, D A Kenny

16:40 138 Pre-weaning and post-weaning growth performances of lambs may be uncorrelated

A G Jones, T Takahashi, H Fleming, B A Griffith, P Harris, M R F Lee

16:50 139 Effect of breed type and peripartum live weight on live-weight gain and time required to achieve marketing weight by dairy bull calves

M Sorley, J K Margerison, I Connerton, P C Garnsworthy, M Chaowarit

17:00 140 Effects of ewe parity and litter size on ewe and lamb performance to 5 weeks of age

D Shiels, C M Dwyer, J P Hanrahan, T W J Keady

17:05 141 The effect of milk replacer fat content on adipocyte development in subcutaneous adipose tissue of pre-weaned Holstein Friesian bull calves

N Ferguson, A K Kelly, A P Moloney, J McCormack, D A Kenny

**WEDNESDAY 10 APRIL**

**HARRIS**

**HUMAN BONDS WITH COMPANION ANIMALS**

15:30-16:35

Chair: Dr Jon Day

15:30 142 Non-invasive temperature monitoring in domestic species

A J Carter, Nottingham Trent University

16:00 143 Effect of probiotic supplemented-diets on serum Malondialdehyde (MDA) concentration of rabbits reared during the hot-dry season in a tropical Savannah

B M Shehu, W Buba

16:10 144 Influence of age on physical activity in cats (*Felis catus*)

M Smit, W Hendriks, K Weidgraaf, D G Thomas

16:20 145 Can activity be used to distinguish between pregnancy and pseudopregnancy in the domestic cat?

M Welch, M Potter, D G Thomas

16:30 146 Assessment of an innovative housing system for fattening rabbits: skin lesions, weight gain and hygienic aspects

S L Rauterberg, J Bill, S Kimm, N Kemper, M Fels

17:00-18:00 AGM Carrick

19:15 for 19:45 Conference Dinner - Assembly Rooms, 54 George Street, Edinburgh
THURSDAY 11 APRIL LOMOND/TINTO
PRECISION LIVESTOCK - JOINT WPSA/BSAS
09:00-10:30
Chair: Dr Vicky Sandilands

09:00 147 Smarter systems for livestock production: challenges and opportunities for integrating technology into practice
L M Collins, University of Leeds

09:25 Development of a precision cervical dislocation tool for poultry from Science to Practice
J Sparrey, Livetec Systems Ltd

09:50 148 Automatic detection and tracking of individual pigs in a pen
H E Gray, L Zhang, X Ye, N Allinson, L M Collins

10:00 149 Animal-mounted sensor technology to predict 'time to calving' in beef and dairy cows
G A Miller, M A Mitchell, Z Barker, K Giebel, E Codling, J Amory, C-A Duthie

10:10 150 Markov chain matrices of jaw movement data from grazing animals can be valuable information when examining soil, sward and animal treatment effects
M S Dhanoa, M J Gibb, R Sanderson

10:20 151 Hand held technologies for assessment of nutrient digestibility
A Kingston-Smith, J Moorby, C K Reynolds, G Atkinson, D Leemans, M Smith, D Humphries, L Smith

THURSDAY 11 APRIL KILSYTH
WORKSHOP: MODELS AND PROXIES FOR METHANE EMISSIONS FROM RUMINANTS
09:00-10:15
Chair: Prof Richard Dewhurst

09:00 152 Prediction of methane emissions in sheep using computed tomography (CT) measurements of rumen volume
N R Lambe, G A Miller, K A McLean, J Gordon, R J Dewhurst

09:10 153 Combining a process-based model of rumen fermentation with methane production data from respiration chambers
H Kettle, R Munoz-Tamayo, R J Dewhurst

09:20 154 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, R J Dewhurst, D Uhrin, A Macrae, J Palarea-Albaladejo, G Miller, J M Bowen

09:30 155 A feeding behaviour-based system to estimate methane emissions in cattle
J Fredy Ramirez-Agudelo, J Ricardo Rosero-Noguera, S Lucia Posada-Ochoa, C Santiago Escobar-Restrepo, R Muñoz-Tamayo

09:40 156 Near infrared technology applied to faeces as a proxy for indirect prediction of enteric methane emissions from dairy cows
G Ferronato, A Bayat, O Gachiuta, J Vilkki, P Bani

09:45 157 Novel statistical methods to improve analysis of laser methane detector data
S Brocklehurst, P R Hargreaves, M D March

09:50 158 Robust compositional regression to model methane production from ruminal volatile fatty acids
J Palarea-Albaladejo, N Stefelová, A Alfons, P Filzmoser, K Hron

09:55 Discussion
**THURSDAY 11 APRIL**

**HARRIS**

**EQUINE HEALTH AND VET CARE**

09:00-10:30  
Chair: Dr Debbie Nash

09:00  159  Equine grass sickness; an update  
B McGorum, University of Edinburgh

09:30  160  The practical application of behaviour to veterinary care of equine  
G Pearson, University of Edinburgh

10:00  161  Electromyographic and kinematic evaluation of movement and muscle activity in horses with temporary forelimb lameness induction: a preliminary report  
L St George, T Spoormakers, F Serra Braganca, P R van Weeren, J Sinclair, S J Hobbs  
(Scholarship - Steve Bishop Early Career Award 2018)

10:10  162  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

10:20  163  Defining core bacterial community of Welsh Mountain ponies maintained in West of Scotland  
A Garber, P Hastie, J M D Murray

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**THURSDAY 11 APRIL**

**CROMDALE**

**DIGITAL POSTERS 5**

10:40-10:55  
Chair: TBC

10:40  164  Using the 'pain face' scoring system does not detect pain due to lameness in dairy cows  
M J Haskell, L B Hunter

10:43  165  Using social network analysis to measure the impact of social upheaval in captive animals  
P E Rose, D Solakova, D P Croft

10:46  166  Performance of a cow-side, progesterone based, lateral flow test for pregnancy diagnosis under field conditions in smallholder dairy systems  
B Muasa, M Chagunda, C Ashworth, R J Dewhurst, A Peters

10:49  167  Discriminant analysis of morphostructural differentiation of White Fulani (Yakana) and Bokolo Adamawa Gudali cattle in Sub-Saharan Africa  
T M Adeoti, A E Amao, I F Olaleru, Y A Olaogun, A J Yinusa

10:52  168  Residual effect of fertilizer type and ensiling duration on fermentative characteristics of Panicum maximum silage  
M O Kolade, P A Dele, Okunenu O A, Amisu A A

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**THURSDAY 11 APRIL**

**TINTO**

**HEALTH REPRODUCTION AND FERTILITY**

11:00-12:30  
Chair: TBC

11:00  169  Effect of feeding microalgae on the endocrine status and fertility of high yielding dairy cows  
B E Till, J A Huntington, J Taylor-Pickard, L A Sinclair

11:10  170  RNA-Seq analysis of whole blood from early lactation dairy cows reveals changes in leukocyte gene expression associated with circulating IGF1  
D C Wathes, L Buggiotti, M Salavati, H Takeda, GplusE Consortium
Raised α1-acid glycoprotein (AGP) levels in cervico-vaginal mucus (CVM) 7 days post partum may identify cows at risk of developing endometritis early post partum

M Adnane, P Kelly, A Chapwanya, K Meade, C O'Farrelly

The relationship between milk oestradiol concentration and activity during oestrus in lactating Holstein Friesian cows

H M H Zebari, S M Rutter, E C L Bleach

The effects of temperature-humidity index on conception rates of housed, Holstein Friesian dairy cows in the UK

E C L Bleach, E Tristram

Effects of uterine infection on milk production and reproduction outcomes in dairy cows in Ireland

N J Ryan, K G Meade, E J Williams, A C O Evans, M E Beltman

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

R Lynch, A K Kelly, P Crosson, D A Kenny

Potential Role of Kisspeptin and Cytochrome P mRNA Genes in Pubertal Development and spermatogenesis in buffalo bulls (Bubalus bubalis)

H Rehman, M K Shahzad, I Rabbani, M S Yousaf, H Zaneb, K A Majeed, M Imran, S K Tahir

Development of local and systemic immunophenotyping assays in cattle

C Beynon, C O'Farrelly, K Meade

Cysteine and taurine increase HSP70 protein expression and reduce oxidative stress in cryopreserved ram semen

A Kafi, C Kershaw, T Herath, M Khalid

Impact of rumen microbiome-host interaction on feed efficiency of beef cattle explained by microbial adhesion and mucosa interaction genes

M D Auffret, R D Stewart, R J Dewhurst, C-A Duthie, T C Freeman, M Watson, R Roehe

Investigating the impact of rumen microbial genes on feed conversion efficiency, growth rate and feed intake in beef cattle

J Lima, M D Auffret, R D Stewart, R J Dewhurst, C-A Duthie, A W Walker, T C Freeman, M Watson, R Roehe, T J Snelling

Protein nutrition and ETEC exposure impacts on growth performance and ileal but not faecal microbiome richness and diversity in weaned pigs

J Pollock, D L Gally, M R Hutchings, J G M Houdijk

The relationship between variation in the caecal microbiome and productivity of broiler chickens

A Tonks, R J Ellis, D Juniper, M J Woodward, C Rymer

Bacterial composition changes in response to zinc oxide within the gastrointestinal tract of newly weaned pigs until 28 days post-weaning

S Hazelden, K McDowall, H M Miller

Seeking to improve feed efficiency in pigs: microbial modulation via faecal microbiota transplantation in sows and dietary supplementation of offspring with inulin


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The effect of xylanase and xylo-oligosaccharides on growth performance and faecal bacterial community composition of growing pigs
T A Sutton, H V Masey O'Neill, M R Bedford, H M Miller

Poster
Altered abundance of rumen microbial species and reduction in microbial metabolic pathway diversity in sheep that are divergent in feed conversion efficiency
C C Sosa Arango, C Spillane, P Smith, N Claffey, T O'Rourke, S M Waters

Bacterial profiling the gastrointestinal tract of commercial pigs up to 28 days post-weaning
S Hazelden, K McDowall, H M Miller

THURSDAY 11 APRIL HARRIS
MANAGING HORSES
11:00-12:10
Chair: Dr Stephanie Wood
11:00 188 The trials and challenges of marketing feed and supplements, a manufacturer’s viewpoint
K Hore, Greencoat Ltd
11:30 189 How repeatable is the top-line evaluation system (TES)™ as a palpable muscle scoring system for horses?
C Walker, S Daniels
11:40 190 Influence of particle size and residual moisture on Near Infrared Reflectance Spectrometer (NIRS) analysis of minerals in hay
A Y Ikoyi, B Younge
11:50 191 The effect of hock angle on the stride characteristics and speed of flat raced thoroughbreds
L Bent
12:00 192 The factors that influence the decision-making process of equine euthanasia
B Winrow, C Brigden

THURSDAY 11 APRIL TINTO
DAIRY CATTLE NUTRITION
13:30-15:00
Chair: Dr Sandy Mackenzie
13:30 193 Whole-farm feed efficiency on British dairy farms
P C Garnsworthy, E Gregson, J K Margerison, P Wilson, J R Goodman, J Gibbons, M Dorigo, M Topliff
14:00 194 Nitrogen isotopic fractionation to predict nitrogen-use efficiency of lactating Holstein Friesian dairy cows
R J Dewhurst, I E McCubbin, A H Bagnall, J F Flockhart
14:10 195 Has nitrogen utilisation efficiency of dairy cows been improved since the implementatation of the Nitrate Directive Programme
G Finney, E Magowan, C P Ferris, T Yan
14:20 196 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 post partum
C K Reynolds, L A Crompton, A K Jones, C G Bartram
14:30 197 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
K E Kliem, H Hincapie Londono, U Tayyab, D J Humphries, C K Reynolds, L A Sinclair
198 WITHDRAWN
14:40 199 Feed sorting of low and high concentrate diets by Holstein and Jersey dairy cows
D W Olijhoek, P Løvendahl, A L F Hellwing, M R Weisbjerg, P Lund

14:50 200 The grazing efficiency of different varieties of perennial ryegrass for dairy cattle under rotational grazing conditions
T Tubritt, T Gilliland, L Delaby, M O'Donovan

THURSDAY 11 APRIL

KILYSTH

GLOBALISATION AND CLIMATE
13:30-14:45
Chair: Prof Geoff Simm

13:30 201 Field to yield: improving our assessment of livestock value on farm and beyond
A Cooke, G A McAuliffe, T Takahashi, M R F Lee, J Rivero

13:40 202 The environmental cost of increasing pasture productivity in the uplands
N G Williams, A P Williams, J M Gibbons, D R Chadwick

13:50 203 Modelling the impact of climate change on the yield of western European reseeded grasslands
M Dellar, C F E Topp, G Banos, A del Prado, G Pardo, N Fitton, E Wall

14:00 204 Whole farm modelling of the environmental impact of the inclusion of white clover in perennial ryegrass swards has on intensive pasture based dairy systems
J Herron, T P Curran, A P Moloney, D Hennessy, S McAuliffe, D O'Brien

14:20 205 Environmental impacts of housing and manure management systems in European pig production, through a life cycle perspective
G Pexas, S G Mackenzie, M Wallace, I Kyriazakis

14:30 206 Evaluation and prediction of nitrogen use efficiency and nitrogen excretion in beef cattle
A Angelidis, L Crompton, T Misselbrook, T Yan, C K Reynolds, S Stergiadis

14:35 207 Does choice of nutrient profiling rule affect relative environmental rankings of food products?
G A McAuliffe, T Takahashi, M R F Lee

14:40 208 Low-resolution soil sampling may provide no useful information to grazing farms
T Takahashi, P Harris, G A McAuliffe, A G Jones, M R F Lee

THURSDAY 11 APRIL

HARRIS

ANIMAL BEHAVIOUR AND WELFARE
13:30-14:30
Chair: Lis King

13:30 209 Economic and welfare impacts of providing positive life opportunities to farm animals
J E Stokes, S Mullan, T Takahashi, F Monte, D C J Main

13:40 210 Prioritisation of farm animal welfare issues in the UK using the Delphi method
F C Rioja-Lang, H Bacon, M Connor, C M Dwyer

13:50 211 Dairy cows prefer a softer laneway surface, especially when lame
S Buijs, G E Scoley, D McConnell

14:00 212 Behavioural response to temperature and wind in dairy calves
D J Bell, A I Macrae, A Jennings, C S Mason, M A Mitchell, M J Haskell

14:10 213 The effect of number of lambs attempting to suck on triplet ewe behaviour
R Corner-Thomas, R Shanks, N Beausoleil
14:20 214 Using the effect of resting space allowance on resting behaviour in assessing heifers’ welfare
I Tripon, I T Cziszer, M A Karatzia, E Sossidou

14:25 215 Can magnesium reduce stress and aggressive behaviours in pigs? – A systematic review
E V Bushby, L Dye, H M Miller, K Almond, L M Collins

THURSDAY 11 APRIL  CARRICK
POULTRY
13:30-14:40
Chair: Dr Stephen Mansbridge

13:30 216 Meta-analysis of the probiotic effect of yeast (Saccharomyces cerevisiae) on egg productions in laying hens
Ifeanyi Princewill Ogbuewu, Christain Anayochukwu Mbajorgu

13:40 217 The effect of selenoprotein on the growth performance, indicators of oxidative stress and meat quality of broilers exposed to cyclical high temperature
C O'Shea, H Zhang, L Li, N Carter, Y Akter, P Celi, P Selle

13:50 218 Effect of selenium and yeast in the broiler diet on ampicillin resistance, virulence and nutrient utilisation by E.coli isolated from the broiler caecum
A Lee, M Woodward, D Juniper, M Aldeieg, C Rymer

14:00 219 Effects of replacing vitamin-mineral premix with leaf meal composite on the performance of broiler finisher chickens
A O Mosuro, O A Ogunwolfe, F O Jemiseye, B S Adedeji

14:10 220 Evaluation of the combination of vitamin D3 and papaya leaf on muscle antioxidant activity of spent chicken
S Navid, M Hasiri

14:20 221 Assessment of the nutritional quality of crop contents of scavenging local chickens in Akwa Ibom State of Nigeria
K D Afolabi, I E Ebenso, O A Abu, I N Usoroidem

14:30 222 Differential effects of fibrolytic enzymes on the in vitro release of xylobiose from different cereal types
T Dale, J Brameld, T Parr, M Bedford

TUESDAY 9 APRIL  CROMDALE
POSTER VIEWING
13:00-13:20

223 Population genomic structure and linkage disequilibrium analysis of Ashanti Dwarf pigs of Ghana using genome-wide SNP data
S Naa Dodua Aryee, R Osei-Amponsah, B Kwadwo Ahunu, E N Amuzu-Aweh, B Skinner, C Sargent, J Bauer, N Affara

224 Correlation of somatic cell counts and California mastitis test for the diagnosis of subclinical mastitis in dairy sheep
G Bramis, S-A Termatzidou, A Theodoridis, G Arsenos

225 Sedation of Australian Merino lambs with acepromazine to reduce stress-related behaviours at weaning
A K Redfearn, A H Small, P W Hunt, D Niemeyer, G M Cronin

226 Dietary sodium diformate supplementation in sows during late gestation and lactation can improve performance of suckling piglets
C Lückstädt, S Petrovic
Diet effects on methane emissions from grazing cattle measured using the sulphur hexafluoride (SF6) technique
R J Dewhurst, J M Bowen, G Miller, C-A Duthie

Effect of weaning age on body length, heart girth and withers height of dairy heifer calves
H Costigan, E Kennedy

**WEDNESDAY 10 APRIL**
**CROMDALE**
**POSTER VIEWING**
13:00-13:20

Assessing efficiency of meat sheep farms in the UK by performance evaluation and benchmarking
A Theodoridis, K Zaralis, C Davis, N Noble, G Arsenos

Assessing the precision and repeatability of thermal image measurements in dairy calves
G E Scoley, A W Gordon, S J Morrison

Consumer preferences for sheep and goat products in Greece: Qualitative insights
A Theodoridis, A Ragkos, G Arsenos, K Zaralis, R Zanoli

Effect of different rapidly fermentable carbohydrates sources addition on in vitro neutral detergent fibre (NDF) digestibility
A Palmonari, L Mammi, P Holder, L Fernandes, A Formigoni

Comparative evaluation of nutritional values of chicken, quail, turkey, and duck eggs
I O Dudusola

*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, C Pasinato, A Ulrich, A L Abdalla, I Bigaton Neto, AL Abdalla Filho

The effect of organic management strategies on milk production and milk processability characteristics within an Irish pasture-based system
K Scully, B Keogh, I Casey, J Humphreys

Quantitative label-free proteomic analysis of hepatic tissue from cattle during dietary restriction and subsequent compensatory growth
Y Mullins, K A Keogh, D A Kenny, A K Kelly, S M Waters

**THURSDAY 11 APRIL**
**CROMDALE**
**POSTER VIEWING**
13:00-13:20

Milk consumption monitoring as a farmer friendly indicator for advanced treatment in calves with neonatal diarrhea syndrome
P D Katsoulos, M A Karatzia, A Dedousi, D Čamo, C Bocos

Does the presence of maternal antibodies affect immune responses to vaccination in Merino lambs?
A Alexander, B Hine, I Colditz, A Bell, S Dominik

The effect of rotational grazing speed on sheep and grassland performance
T Meeke, A Aubry, A W Gordon

Malaysian and UK veterinarians' knowledge and attitudes towards cat pain
S S Zaini, C Phillips, J MacKay, F Langford
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

C P Ferris, S Laidlaw

Effect of weaning age on growth performance of dairy heifer calves

H Costigan, E Kennedy

Effect of supplemental inorganic or chelated blends of copper, zinc and manganese on broiler chickens’ performance

A A Ayoola, A O Fafiolu, O O Oluwatosin, B A Adewumi, A V Jegede, O W Ariyo, L Azevedo

A retrospective study: behavioural changes pre- Equine Grass Sickness diagnosis

L C Remnant, L J Cameron, K A Hunt

Equine parasite management practices

M Reid, H Glasgow

Equine End of Life (EEoL): from a veterinary professional’s perspective

H Wilson, L Cameron

Lipidaemic changes in pubertal boars fed Aidan (Tetrapleura tetraptera) pod pulp meal

J Ezea, J C Ezike

Altered abundance of rumen microbial species and reduction in microbial metabolic pathway diversity in sheep that are divergent in feed conversion efficiency

C C Sosa Arango, C Spillane, P Smith, N Claffey, T O’Rourke, S M Waters

POSTER

THURSDAY 11 APRIL
EQUINE TOUR OF VET SCHOOL, UNIVERSITY OF EDINBURGH, EASTER BUSH EH29 9RG

15:00-17:00