

The 8th International Symposium on the Nutrition of Herbivores (ISNH8)



06 – 09 September 2011



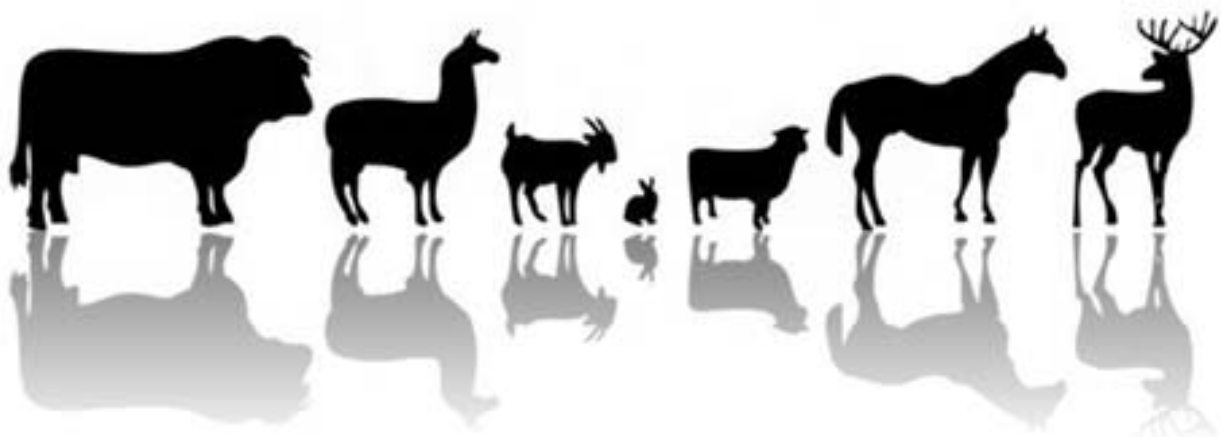
Sefydliad y Gwyddorau Biolegol, Amgylcheddol a Gwledig
IBERS ABERYSTWYTH
Institute of Biological, Environmental and Rural Sciences

The Stapledon Memorial Trust

CONFERENCE PROGRAMME (Draft)

Final Registration Deadline: 12 August 2011

www.isnh8.org



WELCOME

To Friends and Colleagues,

We are extremely pleased to host your attendance at the 8th International Symposium on the Nutrition of Herbivores (ISNH8) in Aberystwyth, Wales in September 2011. Animal agriculture is at a crossroads; competing pressures for land with alternative forms of land use, the need to both mitigate against and adapt to the effects of climate change combined with the need to meet society's demand for safe nutritious food produced at low costs. This symposium presents a unique opportunity for scientists and other stakeholders to work together to shape the future of herbivore production.

Yours sincerely,



Nigel Scollan

Chairperson, Local Organising Committee

COMMITTEE MEMBERS

Local Organising Committee

Nigel Scollan, Chairperson
Jamie Newbold
John Healey
Christina Marley
Michael Lee
Michael Rose
Neil McEwan
Jon Moorby
Siwan Griffiths
Roger Merry
Alison Kington-Smith
Helen Lloyd
Jessica Longworth

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Ruijun Long, China
Chris McSweeney, Australia
Qingxiang Meng, China
Bob Ørskov, United Kingdom
Dennis Poppi, Australia
Nigel Scollan, United Kingdom
Abeliza Kimambo, Tanzania
Peiqiang Yu, Canada

CONFERENCE INFORMATION

VENUE

Great Hall
The Arts Centre
Aberystwyth University Penglais Campus
Aberystwyth
Ceredigion
Wales UK SY23 3BY



LANGUAGE

English is the official language of the Symposium.

PERSONAL INSURANCE

We recommend that all participants and accompanying persons arrange personal travel and health insurance for the trip.



VISAS

Please check with your local British Embassy if you require a visa for entry to the UK.

Participants requiring a formal letter of invitation should e-mail the Symposium organisers after registering and a letter will be provided. E-mail: nhestaff@aber.ac.uk. Official invitation letters can not be provided in advance of registration.

CLIMATE & CLOTHING

The UK weather in September is likely to be moderately warm (averaging 15°C), although can be extremely changeable. Symposium attendees are requested to bring waterproof clothing and good walking shoes.

UNIVERSITY ACCOMMODATION: CHECK-IN/CHECK-OUT INFORMATION

On your arrival in Aberystwyth please make your way to Cwrt Mawr Reception (see No. 4 on map on last page) any time between 13:30 and 22:00 to collect your accommodation keys (if you arrive after 22:00 then you can collect keys from the campus' 24 hour reception (No. 3 on map).

Rooms should be vacated by 10:00 in the morning of the day of departure and keys handed in at Reception at Cwrt Mawr.

Breakfast is served at TaMed Da Restaurant, next to Penbryn Reception (a 2-3 minute walk from the accommodation) between 07:30 and 09:00 daily.

CONFERENCE INFORMATION

REGISTRATION

Conference Registration will be open at the Arts Centre (No. 5 on map) between 16:00 and 20:00 on Monday 05 September and then from 07:30 on Tuesday the 06 September.

POSTER FORMAT AND SET-UP/TAKE-DOWN TIMES

There will be three poster sessions during the symposium, and it is important that you put up your poster in good time and take it down again at the end of the day to allow the next presenter's poster to be displayed. The dedicated poster set-up/take-down times for each of the poster groups are detailed within the Outline Programme for the conference (see enclosed). Conference staff will be available during these dedicated times to assist authors in mounting their poster displays.

Poster boards will be in portrait format allowing a maximum size of 1.2m high x 0.9m wide. Detailed guidelines are available on the ISNH8 website for the preparation of posters.

ORAL PRESENTATIONS

Submitted abstracts accepted for oral presentation must be prepared in PowerPoint (saved as a .ppt file).

Delegates will have a maximum of **10 minutes** presentation time, and 2 minutes for questions.

You must submit your presentation to the organising committee at least one day before you are due to present. Conference staff will be available during throughout the event to collect your presentation file from you and to upload this into the conference equipment ready for your presentation. **Please note that you will be not be able to upload your presentation during the session.**

EVENING EVENTS

Our evening events are anticipated to be lively and informal. The first of which, on Tuesday evening, will be a reception and barbeque in the conference marquee. On Wednesday evening, although there will be an optional evening workshop, delegates are free to make their own arrangements for dinner. On Thursday evening, the conference will host it's gala dinner in the Medrus Suite, Penbryn, serving a variety of Welsh foods and local entertainment. At the close of the conference on Friday, lunch can be made available if needed (please request this at registration), followed by an optional Careers Event for young scientists.

ISNH8 Local Organising Committee

Institute of Biological,
Environmental and Rural
Sciences (IBERS)
Aberystwyth University
Penglais Campus
Aberystwyth
Ceredigion
Wales UK
SY23 3BY

FURTHER INFORMATION

Please do not hesitate to contact the Local Organising Committee should you require any further information or assistance.

Tel: +44 (0) 1970 62 2621
E-mail: nhestaff@aber.ac.uk
Website: www.isnh8.org.uk

TECHNICAL TOURS, EVENING & CAREERS EVENTS

TECHNICAL TOURS

14:00 – 17:30 (approx.), Wednesday 07 September, Various Off-site Locations

The afternoon of Wednesday 7 September will be used for technical tours. As part of the online registration process, delegates should select which tour they would be interested in attending. The four tour options are as follows:

Tour A: IBERS Science

Tours of the experimental plots, glasshouses and animal facilities to provide a comprehensive overview of the research carried out within IBERS, which includes animal science, plant breeding, biofuels and equine science.

Tour B: Dairy

Delegates will be offered the opportunity to visit a local dairy farm within West Wales, to discover knowledge transfer in action on topics such as grassland management and improving efficiencies in milk production.

Tour C: Beef

This tour provides an insight into the Celtic Pride initiative which produced the first premium beef brand for Wales. Delegates will be taken to the [Castell Howell](#) beef carcass processing unit to demonstrate the maturation processes required to deliver the premium product to the consumer. The tour will be given by one of the key founders of the initiative.

Tour D: Nature Trail

This tour will be of interest to delegates involved in researching conservation grazing. Delegates will visit some local wetlands ([Cors Fochno](#)) to discover how grazing is being used to preserve this delicate ecosystem.

Please could all delegates wear suitable outdoor clothing and sturdy footwear for these tours. Further details and the exact times will be confirmed shortly.

OPTIONAL EVENING WORKSHOP

18:00 – 20:00, Wednesday 07 September, Medrus Rooms 2 & 3, Penbryn

On the Wednesday evening of the ISNH8 conference, an optional additional workshop, presented by Professor Peter Ellwood of Cardiff University, will be available to conference delegates free of charge. This is likely to be a lively and engaging discussion and we extend a warm welcome to all of our delegates to attend and participate. To reserve your place at this session, please notify ISNH8 staff during registration before the opening of the conference and you will be provided with a ticket. As capacity will be limited, places will be allocated on a 'first-come, first-served' basis.

Additional Note: Refreshments are not available during this Wednesday evening workshop, so delegates are free to make their own arrangements for dinner.

TECHNICAL TOURS, EVENING & CAREERS EVENTS

OPTIONAL CAREERS EVENT FOR YOUNG SCIENTISTS

14:00 – 16:00, Friday 09 September, Medrus Room, Penbryn

As part of ISNH8, September 2011, the Society for Experimental Biology will offer an optional careers event related to professional development.

Aimed at early career scientists (especially postgraduate students and postdocs), this specialised careers workshop will give you a unique opportunity to review your experience and skills so that you can write an effective CV. We will also examine the job market and look at how you can devise an effective strategy for moving forward in your career.

There is no charge for attendance at this workshop, but for administrative reasons it is necessary to register your interest for this separately to the main conference. Further information and the registration form are available on the 'Programme' page of the ISNH8 website (www.isnh8.org). Please note that, to maximum the benefit to participants, numbers are limited and, in the case of oversubscription, places will be allocated on a 'first-come, first-served basis'.

ACCOMPANYING PERSONS PROGRAMME

TOURS ORGANISED FOR ACCOMPANYING PERSONS:

Historic Tour: 'King Arthurs Trail' - Tuesday 6th September 2011

The tour will start with a scenic journey through the mythical land of King Arthur, with participants being collected from Aberystwyth University's Penglais campus. The first stop will include an exploration of the historic workings of an old Welsh [slate mine](#) deep under the Braichgoch Mountains in Corris, a small village close to the ancient capital of Wales, Machynlleth. Travelling onwards, the tour will arrive at [King Arthur's Labyrinth](#) - an underground adventure, learning the stories of this Welsh legend by boat within a labyrinth of caves. A packed lunch will be provided.



Touristic 'Sights of Snowdonia' - Wednesday 7th September 2011

Snowdonia is the largest national park in Wales, an area known for its outstanding natural beauty, with the famous Mount Snowdon at its core. Participants will be collected from Penglais campus and will travel through the [Snowdonia National Park](#), stopping at the village of [Portmeiron](#) famed for its pottery, its ornate buildings designed by Williams-Ellis, and beautiful gardens used in the famous TV series 'The Prisoner'. The tour will also include a visit to Harlech Castle, one of the few remaining concentric castles, dating back to the time of King Edward the first in 1283. A packed lunch will be provided.

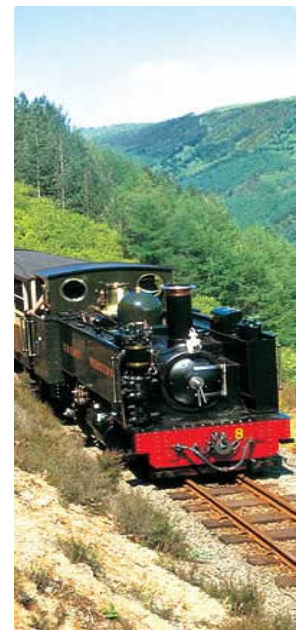
Relaxing 'Railway ride through Rheidol' - Thursday 8th September 2011 - morning only*

Travelling on a narrow-gauge steam train on the [Vale of Rheidol Railway](#), which was first opened in 1902, participants will enjoy a relaxing journey taking their time to observe the beauty of the Rheidol valley. The journey travels to the spectacular sights and sounds of the Mynach water falls of [Devil's Bridge Waterfall](#), named after the oldest bridge in Britain which dates back to the year 1066. There are numerous short walks available around the waterfalls and a tea shop to enjoy a traditional 'paned o de' (cup of tea) before returning by rail to Aberystwyth. A packed lunch will be provided.

*The free afternoon on Thursday 8th September provides an opportunity for accompanying persons to simply enjoy Aberystwyth. Details of local attractions (The National Library of Wales, local museum, etc.) can be provided on request.

Attendees should indicate participation in these tours at registration and start times and meeting point(s) will be indicated at the Reception Desk during the event.

Disclaimer: *Tours may be cancelled in the case of insufficient numbers. Aberystwyth University does not accept responsibility for any accidents to persons or their belongings whilst undertaking these tours.*



TRAVEL AND TOURIST INFORMATION

TRAVEL TO ABERYSTWYTH

Your travel to Aberystwyth is likely to include a combination of air, rail, ferries and road journeys. Various suggestions for travel options are presented within the Symposium website, www.isnh8.org. The location of Aberystwyth's train station is shown within the map provided.

TRAVELLING AROUND ABERYSTWYTH

Aberystwyth Town Centre is located approximately 1 mile from the Arts Centre on the University's Penglais campus. This distance can be walked in 15-20 minutes, although local taxis and buses are available.

Location	Postcode	Grid Reference
Penglais Campus	SY23 3BY	52.417739 4.065292
Aberystwyth Town Centre and Promenade	SY23 2AX	52.414664 4.088252

Parking at the Penglais Campus is available to visitors. Upon entry to the site, please stop at the Warden's Office on the left-hand side and request a visitor parking-permit which will need to be displayed in your vehicle.

Please be aware that parking in Aberystwyth Town Centre is very limited. If booking a hotel, please tell them if you also require parking.

ABERYSTWYTH TOWN CENTRE TAXI FIRMS

A1 Taxis	+44 (0) 1970 611119
Aber cars	+44 (0) 1970 627070
BJ's Taxis	+44 (0) 1970 611063
Gary's Cabs	+44 (0) 1970 61223 / 623541
Z Cars	+44 (0) 800 666 666



OUTLINE PROGRAMME

	Monday 05 September	Tuesday 06 September	Wednesday 07 September	Thursday 08 September	Friday 09 September	
07:30		Conference Registration and Poster Group 1 Setup	Poster Group 2 Set-up	Poster Group 3 Set-up		
08:30		Conference Open Session 1: Role of herbivores in sustainable land production systems <i>Chair: TBC</i> Session 2: Nutrition and health of herbivores <i>Chair: TBC</i>	Session 4: Feeding and management in high forage systems <i>Chair: TBC</i>	Session 5: Quantification of herbivore nutrition <i>Chair: TBC</i>	Session 7: Nutrition and quality of herbivore products <i>Chair: TBC</i> Session 8: Concluding Presentation <i>Chair: TBC</i> Conference Close	
10:00		Poster Viewing: Group 1	Poster Viewing: Group 2	Poster Viewing: Group 3		
11:00		LUNCH BREAK	LUNCH BREAK	LUNCH BREAK	Poster Group 3 Removal	
12:00		Session 2 Continued: Nutrition and health of herbivores <i>Chair: TBC</i>	Technical Tours	Session 6: Approaches to reducing the green house gas footprint of herbivores <i>Chair: TBC</i>	Optional Careers Event for Young Scientists [Medrus Room, Penbryn]	
13:00		Session 3: Novel developments in herbivore nutrition: molecular and cellular aspects <i>Chair: TBC</i>				
14:00		Conference Registration and Poster Group 1 Set-up	Evening Reception and Barbeque (Arts Centre Marquee) Followed by Poster Group 1 Removal	Optional Evening Workshop (Medrus Rooms 2 & 3, Penbryn) Followed by Poster Group 2 Removal		
15:00				Gala Evening [Medrus Suite, Penbryn]		
16:00						
17:00						
18:00						
19:00						
20:00						

SCIENTIFIC PROGRAMME

TUESDAY 06 SEPTEMBER 2011

08:30		Opening Address Professor Nigel Scollan, Conference Host, IBERS, Aberystwyth University, Wales UK
SESSION 1: Role of herbivores in sustainable land production systems		
08:38	S1P1	Role of herbivores in developing countries Dr Mario Herrero, International Livestock Research Institute (ILRI), P.O. Box 30709, Nairobi
09:08	0037	The role of sheep in saltbush domestication - what can they tell us? <u>Hayley Norman</u> ^{1,3} , Peter Jessop ^{2,3} , Matt Wilmot ^{1,3} , ¹ CSIRO Livestock Industries, Western Australia, Australia, ² Industry & Investment NSW, New South Wales, Australia, ³ CRC Future Farm Industries, Western Australia, Australia
09:21	S1P2	Challenges in the nutrition and management of herbivores in the temperate zone Dr Ad van Vuuren, Livestock Research, Wageningen University, Wageningen UR, The Netherlands
09:51	0203	Intensification alternative for pasture-based systems in Australia: a complementary forage system whole farm study <u>Santiago Fariña</u> ¹ , Sergio Garcia ¹ , William Fulkerson ¹ , ¹ The University of Sydney, Sydney, NSW, Australia
10:04	S1P3	Role of herbivores in integrated agriculture in China Prof Ruijun Long, Langzhou University, Lanzhou, China
10:34		Coffee Break
SESSION 2: Nutrition and health of herbivores		
11:04	S2P1	Nutrition, immune function and health of herbivores Professor Klaus Ingvarsten, Head of Department, Department of Animal Health and Bioscience, Faculty of Agricultural Sciences, Research Centre Foulum, Blichers Allé, Postbox 50, DK-8830 Tjele, Denmark
11:34	0230	Effects of two protein sources on the periparturient relaxation of immunity to gastrointestinal nematode parasites <u>Panagiotis Sakkas</u> ¹ , Jos Houdijk ¹ , Spiridoula Ahanasiadou ¹ , Ilias Kyriazakis ¹ , ¹ SAC, Animal Health group, Nutrition and Health, Disease Systems, Edinburgh, Scotland/Midlothian, UK, ² School of Agriculture, Food and Rural Development, Newcastle University, Newcastle, England/North East England, UK
11:47	0233	Crude glycerin as an alternative energy source for dairy cows in mid lactation Cassio Andre Wilbert ^{1,2} , <u>Enio Rosa Prates</u> ¹ , Julio Otavio Barcellos ¹ , Jorge Schafhäuser ³ , ¹ Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil, ² EMBRAPA Suínos e Aves, Concórdia, Santa Catarina, Brazil, ³ EMBRAPA Clima Temperado, Capão do Leão, Rio Grande do Sul, Brazil
12:00		Poster Viewing - Group 1
13:00		Lunch
14:00	S2P2	Nutritional impact on performance and health of rabbits Professor Carlos de Blas, Universidad Politécnica de Madrid (UPM), Departamento de Producción, ETS Ingenieros Agrónomos, E-28040 Madrid, Spain

- 14:30 0238 **Effects of irrigation and rates and timing of nitrogen fertiliser on proportions of maize plant fractions and nutritive value of whole crop maize silage for dairy cows**
M.R. Islam¹, S.C. Garcia¹, ¹*The University of Sydney, Camden, NSW, Australia*
- 14:43 0278 **Effects of dietary molybdenum, sulphur and zinc on the excretion and hepatic accumulation of copper in sheep fed palm kernel cake based diets**
Abdul Razak Alimon¹, Michael Ivan¹, Syed Jalaludin¹, ¹*Universiti Putra Malaysia, Serdang, Selangor, Malaysia*
- 14:56 0322 **Mineral supplementation of lambing merino ewes grazing dual-purpose wheat under Australian conditions increases twin-lamb growth rate**
Shawn McGrath^{1,2}, Marie Bhanugopan^{1,2}, James Virgona^{1,2}, Hugh Dove³, Michael Friend^{1,2}, ¹*Charles Sturt University, Wagga Wagga, NSW, Australia*, ²*EH Graham Centre for Agricultural Innovation (Industry & Investment NSW and Charles Sturt University), Wagga Wagga, NSW, Australia*, ³*CSIRO Plant Industry, Canberra, ACT, Australia*
- 15:09 0173 **Effects of pasture type and animal breed on bone metabolism of lambs grazing high altitude grasslands**
Helen Willems¹, Florian Leiber¹, Michael Kreuzer¹, Annette Liesegang², ¹*ETH Zurich, Institute of Agricultural Sciences IAS, Zurich, Switzerland*, ²*University of Zurich, Institute of Animal Nutrition, Zurich, Switzerland*
- 15:22 0015 **Evaluation of fresh lettuce wastes in comparison with fresh pawpaw leaves, whole lettuce and cabbage wastes as sole feed ingredient for growing *Archachatina marginata* snails**
Olubukola Babalola¹, ¹*The Federal Polytechnic, Ado-Ekiti, Ekiti State, Nigeria*

15:35 **Coffee Break**

SESSION 3: Novel developments in herbivore nutrition: molecular and cellular aspects

- 16:05 S3P1 **Microbial metagenomics and application to future feeding strategies**
Dr Diego Morgavi, Herbivore Research Unit, Animal Physiology and Livestock Systems Division, INRA Clermont-Ferrand Research Centre, Theix
- 16:35 0143 **Bacterial protein breakdown by different rumen protozoal groups**
Alejandro Belanche¹, Gabriel de la Fuente¹, Antonio I Martín-García², Jon M Moorby¹, Charles J Newbold¹, ¹*IBERS, Aberystwyth University, Aberystwyth, UK*, ²*Unidad de Nutrición Animal, Estación Experimental del Zaidín (CSIC), Granada, Spain*
- 16:48 0119 **Microbial diversity of Archaeal community in the caecum of wild and domestic rabbits in Spain**
Leticia Abecia^{1,2}, Norelys Rodríguez-Romero², David Yañez-Ruiz¹, Manuel Fondevila², ¹*Estación Experimental del Zaidín, CSIC, Granada, Spain*, ²*Universidad de Zaragoza, Zaragoza, Spain*
- 17:01 0141 **Evolution of bacterial diversity in the rumen in dairy calves from birth to weaning using a high throughput 454 GS FLX pyrosequencing**
Rey Mickael¹, Enjalbert Francis¹, Cauquil Laurent¹, Combes Sylvie¹, Monteils Valérie¹, ¹*Université de Toulouse, INRA, UMR1289 TANDEM INRA/INPT-ENSAT/INPT-ENVT, Auzeville-Tolosane, France*
- 17:14 S3P2 **Cattle genome and application to future feeding strategies**
Professor Seongwon SEO, Animal Biosystem Sciences Department, College of Agriculture and Life Sciences, Chungnam National University, 220 Gung-dong, Yuseong-gu, Daejeon 305-764, Korea

17:44 0287 **Functional genomic approach to assess dietary n-3 fatty acid effects on tissue function and lipogenesis in bovine muscle and adipose tissue**
Beate Hiller¹, Andrea Herdmann¹, Karin Nuernberg¹, ¹*Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany*

WEDNESDAY 07 SEPTEMBER 2011

SESSION 4: Feeding and management in high forage systems

08:30	S4P1	Developments in utilisation of by-products Professor James S. Drouillard Ph.D. Kansas State University, Department of Animal Sciences and Industry, 133 Call Hall, Manhattan, Kansas 66506-1600,
09:00	0297	Integrating dual-purpose wheat to reduce supplement feeding in mixed crop and livestock farms in south-western Australia <u>Dean Thomas</u> ¹ , Andrew Moore ¹ , ¹ <i>CSIRO, Perth, Western Australia, Australia,</i> ² <i>CSIRO, Canberra, Australian Capital Territory, Australia</i>
09:13	S4P2	Sustainable management of rangelands in a variable and uncertain climate : evidence and insights from northern Australia Dr Peter O'Reagain, Department of Employment, Economic Development and Innovation (DEEDI), Australia
09:43	0172	Intake of various dry rangeland shrubs by fat-tailed Awassi sheep as affected by previous experience and offer in a multiple choice situation <u>Janina Sarah Meier</u> ¹ , Mounir Louhaichi ² , Monika Zaklouta ² , Barbara Rischkowsky ² , Michael Kreuzer ¹ , Svenja Marquardt ¹ , ¹ <i>ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland,</i> ² <i>ICARDA, Aleppo, Syria</i>
09:56	S4P3	Managing variation in nutrient supply under grazing Dr Jean-Louis Peyraud, UMR Dairy Production, INRA, 35590 Saint Gilles, Rennes, France
10:26		Coffee Break
10:56	0131	Impact of concentrate supplementation on performance of grazing sheep in the steppe of Inner Mongolia <u>Britta Bösing</u> ¹ , Jun Hao ¹ , Magdalena Ohm ² , Uta Dickhoefer ¹ , Andreas Susenbeth ¹ , ¹ <i>Institute of Animal Nutrition and Physiology, Christian-Albrechts-University of Kiel, Kiel, Germany,</i> ² <i>Institute of Crop Science and Plant Breeding, Christian-Albrechts-University of Kiel, Kiel, Germany</i>
11:09	0064	Impact of spatial arrangement of grass and legumes on performance and grazing behaviour of beef heifers <u>Guillermo Scaglia</u> ¹ , Holly Boland ¹ , ¹ <i>LSU AgCenter, Iberia Research Station, Jeanerette, LA, USA,</i> ² <i>Mississippi State University, Prairie Unit, Prairie, MS, USA</i>
11:22	S4P4	Breeding for the genetic improvement of forage plants in relation to increasing animal production with reduced environmental footprint Dr Alison Kingston-Smith, IBERS, Aberystwyth University, Gogerddan, Aberystwyth, Ceredigion, Wales UK
12:00		Poster Viewing - Group 2
13:00		Lunch
14:00		Scientific Tours

SESSION 5: Quantification of herbivore nutrition

08:30	S5P1	Advances in predicting nutrient partitioning in the dairy cow Dr Nic Friggens, Director, UMR - Physiology of Nutrition and Food, Department of Life Sciences and Health (SVS), AgroParisTech, 16 rue Claude Bernard, 75231 PARIS CEDEX 05, France
09:00	0331	Forage proportion of diet affects efficiency of energy utilisation for milk production in lactating dairy cows <u>Ermias Kebreab</u> ¹ , Anders Strathe ¹ , Jan Dijkstra ³ , Andre Bannink ⁴ , Jennifer Ellis ³ , Tianhai Yan ⁵ , James France ² , ¹ University of California, Davis, Davis, CA, USA, ² University of Guelph, Guelph, ON, Canada, ³ Wageningen University, Wageningen, The Netherlands, ⁴ Wageningen UR, Lelystad, The Netherlands, ⁵ Agri-Food and Biosciences Institute, Hillsborough Co. Down, UK
09:13	0083	A new method for recording coordination between reticulo-rumen motility, methane eructations, and chewing activity in cattle <u>Anne-Katrine Skovsted Koch</u> ¹ , Peder Nørgaard ¹ , Frank Oxvang Mortensen ² , ¹ University of Copenhagen, Faculty of Life Sciences, Dep. of Basic Animal and Veterinary Sciences, 1870 Frederiksberg C, Denmark, ² University of Copenhagen, Faculty of Life Sciences, Dep. of Basic Sciences and Environment, 1870 Frederiksberg C, Denmark
09:26	0253	Effects of carbohydrate chemical structure on rumen microbial metabolism in <i>in vitro</i> culture system <u>In Hyuk Kwon</u> ¹ , Jaeyong Song ¹ , Min Ah Park ¹ , Nagjin Choi ² , Eun Joong Kim ³ , <u>Jongsoo Chang</u> ¹ , ¹ Korea National Open University, Seoul, Republic of Korea, ² Chonbuk National University, Jeonju, Republic of Korea, ³ Kyungpook National University, Sangju, Republic of Korea
09:39	0062	A new approach to measure the <i>in situ</i> degradation of small particles <u>Leon de Jonge</u> ¹ , <u>Jan Dijkstra</u> ¹ , ¹ Animal Nutrition Group, University Wageningen, Wageningen, The Netherlands
09:52	0112	Digestibility parameters of a horse diet as observed under field conditions with acid insoluble ash as marker and response of young stallions to an improved dietary amino acid balance <u>Dominic Koslowski</u> ¹ , <u>Frank Liebert</u> ¹ , ¹ Georg-August-University, Department of Animal Sciences, Animal Nutrition Physiology, Göttingen, Germany
10:05	S5P2	Herbage intake at grazing – developments in remote sensing technology Dr David Swain, Senior Research Fellow, Faculty of Sciences, Engineering and Health, Australia Central Queensland University, Australia
10:35		Coffee Break
11:05	0329	<i>In vitro</i> studies on the effects of grass silage containing true protein <50% in the total crude protein on protein metabolism in bovine ruminal fluid <u>Nina Gresner</u> ¹ , Sarah Theermann ¹ , Anika Wichern ¹ , Heinrich Bollwein ¹ , Martin Höltershinken ¹ , ¹ University of veterinary medicine Hannover, Clinic for cattle, Hannover, Germany
11:18	0163	Australian plants display anthelmintic activity towards equine cyathostomins <i>in vitro</i> <u>Stephanie Payne</u> ¹ , Zoey Durmic ¹ , Philip Vercoe ¹ , Andrew Kotze ² , ¹ School of Animal Biology, University of Western Australia, Crawley, Western Australia, Australia, ² CSIRO Livestock Industries, St Lucia, Queensland, Australia

11:31	0010	NIR spectroscopy for predicting the nutritional, anthelmintic and environmental effects of sainfoin <i>Irene Mueller-Harvey¹, Marta Martin Lorenzo¹, Elisabetta Stringano¹, Ralph Barnes^{1,2}, Jeff Oliver^{1,2}, Katerina Theodoridou^{1,3}, Jocelyne Aufrere^{1,3}, Bayissa Hatew Chuko^{1,4}, Wilbert Pellikaan^{1,4}, Fotini Manolaraki^{1,5}, Herve Hoste^{1,5}, Christine Hayot Carbonero^{1,6}, Lydia Smith^{1,6}, ¹University of Reading, Reading, UK, ²NIR Solutions, Henley, UK, ³INRA, Clermont Ferrand, France, ⁴Wageningen University, Wageningen, The Netherlands, ⁵INRA, Toulouse, France, ⁶NIAB, Cambridge, UK</i>
11:44	0301	Validation of faecal near infrared spectroscopy to estimate digestibility and crude protein content of tropical forage diets consumed by cattle <i>Rob Dixon¹, David Coates², ¹The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Rockhampton, Qld, Australia, ²CSIRO Sustainable Ecosystems, Townsville, Qld, Australia</i>
11:57	0319	Prediction of feed conversion efficiency in growing beef heifers based on N isotopic fractionation <i>Richard Dewhurst¹, Mark McGee¹, ¹Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath, Ireland</i>
12:10	Poster Viewing - Group 3	
13:00	Lunch	
SESSION 6: Approaches to reducing the green house gas footprint of herbivores		
14:00	S6P1	Grassland and herbivore production- dealing with greenhouse gas emissions – the role of carbon sequestration <i>Dr Jean-François Soussana, Unit Director, Agronomy Unit (URAC), INRA-Theix, Avenue du Brezet, 63039 Clermont-Ferrand, France</i>
14:30	S6P2	Strategies to mitigate nitrous oxide emissions from herbivore production systems <i>Dr Rene Schils, Animal Sciences Group, Wageningen University and Research Centre, P.O. Box 2176 NL-8203 AD Lelystad, The Netherlands</i>
15:00	0305	Effect of the enrichment of ruminant rations with omega 3 fatty acids on the environmental impacts of beef production systems <i>Thi Tuyet Hanh Nguyen^{1,4}, Hayo Van Der Werf², Maguy Eugène¹, Patrick Veysset¹, Jean Devun³, Guillaume Chesneau⁴, Michel Doreau¹, ¹INRA, UR1213 Herbivores, Saint-Genès-Champagnelle, France, ²INRA, UMR1069 Soil Agro and hydroSystem Spatialisation, Rennes, France, ³Institut de l'Elevage, Saint-Genès-Champagnelle, France, ⁴Valorex, Combourtillé, France</i>
15:13	0051	Diurnal pattern of urinary and faecal nitrogen excretion by dairy cows fed ryegrass pasture twice daily indoors. <i>Cameron Clark¹, Garry Waghorn¹, Pablo Gregorini¹, Sharon Woodward¹, <u>David Clark¹</u>, ¹DairyNZ, Hamilton, New Zealand</i>
15:26	0355	Effect of water-soluble carbohydrate in fresh forage on growth and methane production by growing lambs <i><u>Eun Kim^{2,1}</u>, Jamie Newbold¹, Nigel Scollan¹, ¹Aberystwyth University, Aberystwyth, UK, ²Kyungpook National University, Kyungpook, Democratic People's Republic of Korea</i>
15:39	S6P3	Nutritional and host effects on methanogenesis in the ruminant <i>Dr Harry Clark, The New Zealand Agricultural Greenhouse Gas Research Centre, (NZAGHGRC), AgResearch, New Zealand</i>
16:09	Coffee Break	

16:39	0316	<p>Manipulation of the rumen microbial ecosystem to reduce methane emissions in ruminants through the intervention at early life stage of pre-ruminants and their mothers</p> <p>Leticia Abecia¹, A Ignacio Martin-Garcia¹, Gonzalo Martinez¹, Nigel W. Tomkins², Jamie Newbold³, <u>David R. Yanez-Ruiz</u>¹, ¹<i>Estacion Experimental del Zaidin (CSIC), Granada, Spain</i>, ²<i>CSIRO Livestock Industries, Queensland, Australia</i>, ³<i>IBERS, Aberystwyth University, Aberystwyth, UK</i></p>
16:52	0109	<p>Determination of ruminal methane production using a fully automated in vitro gas system - a modelling approach</p> <p><u>Mohammad Ramin</u>¹, Mikko Griinari², Pekka Huhtanen¹, ¹<i>Department of Agricultural Research for Northern Sweden, Swedish University of Agricultural Sciences, SE-901 83, Umeå, Sweden</i>, ²<i>Department of Animal Nutrition and Management, Kungsängen Research Centre, Swedish University of Agricultural Sciences, SE-753 23, Uppsala, Sweden</i></p>
17:05	S6P4	<p>Diversity of Gut Methanogens in Herbivorous Animals</p> <p>Professor Andre-Denis Wright, Department of Animal Science, University of Vermont (UVM), Burlington, Vermont 05405, USA</p>
17:35	0167	<p>Development of Tier 3 enteric methane emission factors for Holstein and Norwegian dairy cows at two levels of concentrate supplementation</p> <p><u>Tianhai Yan</u>¹, David Wills¹, Alistair Carson¹, ¹<i>Agri-Food and Biosciences Institute, Hillsborough, UK</i></p>

FRIDAY 09 SEPTEMBER 2011

SESSION 7: Nutrition and quality of herbivore products		
08:30	S7P1	<p>Developments in modifying the lipid profile of animal products</p> <p>Professor Kevin Shingfield, MTT, Finland</p>
09:00	0081	<p>Feeding ground flaxseed to increase proportions of omega-3 fatty acids in beef from cull cows</p> <p><u>Kevin Miller</u>¹, James Drouillard¹, ¹<i>Kansas State University, Manhattan, Kansas, USA</i></p>
09:13	0350	<p>Fatty acid composition of <i>longissimus dorsi</i> muscle of early and late maturing heifers offered supplements containing either safflower oil or ruminally-protected tuna oil while at pasture</p> <p><u>Aidan Moloney</u>¹, Kevin Shingfield², Peter Dunne³, ¹<i>Teagasc, Animal & Grassland Research and Innovation Centre, Dunsany, County Meath, Ireland</i>, ²<i>MTT Agrifood Reseach Finland, Jokioinen, FIN 31600, Finland</i>, ³<i>Teagasc, Animal & Grassland Research and Innovation Centre, Dunsany, County Meath, Ireland</i></p>
09:26	0239	<p>The impact of plant secondary compounds on animal product quality</p> <p><u>Vasta Valentina</u>¹, Luciano Giuseppe¹, Ben Salem Hichem², Biondi Luisa¹, Priolo Alessandro¹, Makkar Harinder³, ¹<i>DISPA, Sezione di Scienze delle Produzioni Animali, University of Catania, Catania, Italy</i>, ²<i>Laboratoire des Productions Animales et Fourragères, INRAT, Ariana, Tunisia</i>, ³<i>Livestock Production Systems Branch, Animal Production and Health Division, FAO, Rome, Italy</i></p>
09:39	S7P2	<p>Interactions between dietary lipids of animal origin and human health</p> <p>Professor Andrew Salter University of Nottingham</p>

10:09	0027	Effects of increasing the proportions of high quality grass silage after peak lactation on milk yield and milk composition in Swedish Red Breed dairy cows <i>Mikaela Patel¹, Eva Spörndly¹, Ewa Wredle¹, Jan Bertilsson¹, ¹Swedish University of Agricultural Sciences, Uppsala, Sweden</i>
10:22	0080	Dietary levels of un-degradable dietary protein affects fibre diameter and nitrogen excretion in alpacas <i>Kirrin Lund¹, John Milton^{1,2}, Dominique Blache¹, Shane Maloney¹, ¹The University of Western Australia, Perth, Western Australia, Australia, ²Independent Lab Services, Perth, Western Australia, Australia</i>
10:35		Coffee Break
11:05	0175	In vitro evaluation of four additives to reduce ruminal biohydrogenation <i>Sophie Laverroux¹, Marisela Arturo-Schaan², Michel Doreau¹, ¹INRA, Saint Genès-Champagnelle, France, ²CCPA, Janzé, France</i>
11:18	0038	Auto-oxidation of ortho-diphenolic substrate and deactivation of polyphenol oxidases (catecholase) during wilting and post harvest damage in red clover <i>Michael Lee¹, John Tweed¹, Michael Sullivan², ¹Aberystwyth University, IBERS, Aberystwyth, UK, ²US Dairy Forage Research Center, Wisconsin, USA</i>
11:31	0058	Carcass quality of rabbits fed diets with increasing level of sulla (<i>Hedysarum flexuosum</i>) <i>GUERMAH Hocine¹, KADI Si Ammar¹, BERCHICHE Mokrane¹, ¹M.MAMMERI University, Tizi-Ouzou, Algeria</i>

SESSION 8: Concluding Presentation

11:44	S8P1	Role of herbivores in securing Food Security Professor Maggie Gill, Chief Scientific Adviser and Professor of Integrated Land Use, College of Physical Sciences, University of Aberdeen
12:14		Closing Address Professor Nigel Scollan, Conference Host, IBERS, Aberystwyth University, Wales UK
12:30		Conference Close

POSTER DISPLAYS

TUESDAY 06 SEPTEMBER 2011: GROUP 1

Serial No.	Poster Group/ Board Location	Title and Author(s)
002	P1/018	<p>Effects of tannin extracts on in vitro growth of pathogenic and ruminal acidosis-causing bacteria</p> <p>Jong-Su Eun¹, Byeng-Ryel Min², Byungjin Min³, Dale ZoBell¹, Allen Young¹, ¹Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, UT, USA, ²Department of Agricultural and Environmental Sciences, Tuskegee University, Tuskegee, AL, USA, ³Department of Food and Nutrition Science, Tuskegee University, Tuskegee, AL, USA</p>
003	P1/019	<p>The influence of Iranian (Dezfoul) garlic (<i>Allium sativum</i>) on in vitro gas production parameters</p> <p>M. H. Taheri¹, M. Chaji¹, T. Mohammadabadi¹, M. Sari¹, M. Eslami¹, ¹Khuzestan Ramin Agriculture and Natural Resource University, Khuzestan, Iran</p>
004	P1/020	<p>The in vitro fermentation kinetics and gas production parameters of <i>prosopis cineraria</i> by rumen fluid</p> <p>T. Mohammadabadi¹, M. Chaji¹, ¹khuzestan Ramin Agriculture and Natural Resource University, Ahwaz, Iran</p>
005	P1/021	<p>The effect of sheep rumen protozoa on in vitro degradation of sugarcane pith treated with high pressure steam</p> <p>M. Chaji¹, T. Mohammadabadi¹, ¹khuzestan Ramin Agriculture and Natural Resource University, Ahwaz, Iran</p>
006	P1/022	<p>The in vitro ruminal fermentative parameters of cotton seed meal treated with pistachio hull as a tannin source</p> <p>T. Mohammadabadi¹, M. Chaji¹, ¹khuzestan Ramin Agriculture and Natural Resource University, Ahwaz, Iran</p>
007	P1/023	<p>The effect of Iranian anise (<i>Pimpinella anisum</i>) on in vitro ruminal gas production kinetic of Lucerne hay</p> <p>M. Asemi¹, M. Chaji¹, M. Eslami¹, T. Mohammadabadi¹, ¹khuzestan Ramin Agriculture and Natural Resource University, Ahwaz, Iran, ²Islamic Azad university of Share Kord, ShahreKord, Iran</p>
008	P1/024	<p>The effect of sulphuric acid on in vitro gas production parameters of sugarcane top in Arabian sheep</p> <p>S. Mahmodi¹, M. Chaji¹, M. Eslami¹, T. Mohammadabadi¹, ¹khuzestan Ramin Agriculture and Natural Resource University, Ahwaz, Iran</p>
0016	P1/025	<p>Growth performance of growing goats fed on different concentrations of sodium bicarbonate under tropical field conditions</p> <p>MUHAMMAD AASIF SHAHZAD¹, MUHAMMAD SARWAR¹, MAHR NISA¹, ¹Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Punjab, Pakistan</p>
0018	P1/026	<p>Improving the vitamin E status of young sheep with native, salt tolerant shrubs (<i>Atriplex spp.</i>) used in the revegetation of saline landscapes in Australian farming systems</p> <p>Chelsea Fancote^{1,2}, H.C Norman^{2,4}, P.E Vercoe¹, K.L Pearce⁴, I.H Williams¹, ¹The University of Western Australia, School of Animal Biology, 35 Stirling Highway, Crawley, WA 6009, Australia, ²CSIRO Centre for Environment and Life Sciences, Private Bag 5, Wembley, WA 6913, Australia, ³Division of Veterinary and Biomedical Science, Murdoch University, Murdoch, WA 6150, Australia, ⁴Future Farm Industries Co-operative Research Centre, 35 Stirling Highway, Crawley, WA 6009, Australia</p>

- 0019 P1/078 **Impact of dietary nitrogen supply on renal electrolyte excretion in growing goats**
Svenja Starke¹, Alexandra Muscher¹, Gerhard Breves¹, Korinna Huber¹,
¹*Department of Physiology, Hannover, Lower Saxony, Germany*
- 0020 P1/079 **Modulation of electrolyte homeostasis by dietary nitrogen intake in growing goats**
 Alexandra Muscher¹, Gerhard Breves¹, Korinna Huber¹, ¹*Department of Physiology; University of Veterinary Medicine Hannover, Hannover, Germany*
- 0022 P1/027 **Food habits of goats on rangelands with different cover of fourwing saltbush (*Atriplex canescens*)**
Leticia Gaytán-Alemán¹, Miguel Mellado¹, Gerado Véliz-Deras¹, ¹*Universidad Autónoma Agraria Antonio Narro, Torreón, Coah., Mexico*
- 0024 P1/028 **Dietary cation-anion difference: effects on metabolism, health and lactation performance of periparturient cows in Karst area**
Wu Wen-xuan¹, Yang Yi¹, Duan Yong-bang¹, Li Ling-yun¹, ¹*College of Animal Sciences, Guizhou University, Guiyang city, Guizhou Province, China*
- 0026 P1/029 **The effect of addition of ensiled mulberry leaves in the diet of beef cattle on their growth and slaughter performance**
Wu Hao¹, Meng Jie¹, Ren Rongrong², Meng Qingxiang¹, ¹*State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China*, ²*Beijing Shengshu Agro-Forest Technology Co. Ltd., Beijing, China*
- 0028 P1/030 **Selection for nutrients by young and adult goats on a microphyll desert scrub**
Miguel Mellado¹, Jose E. Garcia¹, Leticia Gaytan¹, Angeles de Santiago¹,
¹*Universidad Autonoma Agraria Antonio Narro, Departamento de Nutricion Animal, Saltillo, Coah., Mexico*
- 0032 P1/031 **The influence of immune stress on the immune parameters and nitrogen metabolism in preruminant calves**
Naifeng Zhang¹, Hui Li¹, Qiyu Diao¹, Yan Tu¹, Chenggang Jiang¹, ¹*Feed research institute of chinese academy of agricultural sciences, Beijing, China*
- 0036 P1/080 **Effect of genome shuffling on endo- β -1,4-glucanase production in *Bacillus licheniformis* JK7 isolated from the rumen of Korean native goat**
Jakyeom Seo¹, Santi Devi Upadhaya¹, Jae Yong Song^{2,1}, Min Ah Park^{2,1}, Jong Soo Chang², Jong Kyu Ha¹, ¹*Dept. of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University,, Seoul, Republic of Korea*, ²*Dept. of Agricultural Science, Korea National Open University,, Seoul, Republic of Korea*
- 0043 P1/091 **Effect of pasture site and stocking density on milk yield and composition of yak-cattle crossbreds (*Bos grunniens* x *Bos taurus*) along a transhumance route of the Eastern Himalayan Mountains of Nepal**
 Shanker Raj Barsila¹, Naba Raj Devkota², Florian Leiber¹, Michael Kreuzer¹,
Svenja Marquardt¹, ¹*ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland*, ²*Tribhuvan University, Institute of Agriculture and Animal Science, Department of Animal Nutrition, Rampur, Chitwan, Nepal*
- 0044 P1/038 **Effects of Crina and monensin on fermentation pattern and digestibility of high-concentrate diet in rumen simulation technique**
Yanling Li^{1,2}, Wenzhu Yang¹, Karen Beauchemin¹, Qiyu Diao², Naifeng Zhang², ¹*Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada*, ²*Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China*
- 0045 P1/039 **Improving the nutritive value of sugarcane bagasse for ruminants by culturing with a white-rot fungus *Ceriporiopsis subvermispora***
Kanji Okano¹, Haruka Tanaka¹, Tomoya Usagawa², ¹*The University of Shiga Prefecture, Hikone, Shiga, Japan*, ²*Ishikawa Prefectural University, Nonouchi, Isikawa, Japan*

- 0050 P1/040 **Estimation of indigestible NDF of grasses and legumes from cell wall components and in vitro organic matter digestibility**
Monika Krämer¹, Martin Riis Weisbjerg¹, ¹*Aarhus University, Faculty of Agricultural Sciences, Department of Animal Health and Bioscience, Research Centre Foulum, P.O. Box 50, DK-8830 Tjele, Denmark*
- 0052 P1/041 **Changes of membrane potential of abomasal smooth muscle cells and the influence of beta-hydroxybutyrate**
Lisa Zurr¹, Sabine Leonhard- Marek¹, ¹*University of Veterinary Medicine, Departement of Physiology, Hannover, Germany*
- 0057 P1/042 **Effect of pH on potassium transport in the digestive tract of ruminants**
Maren Wagener¹, Sabine Leonhard-Marek¹, ¹*Department of Physiology, University of Veterinary Medicine, Hannover, Germany*
- 0060 P1/043 **Effect of harvest time and physical form of alfalfa silage on chewing time and particle size distribution in boli, rumen content and faeces**
 Louise Foged Kornfelt^{1,2}, Martin Riis Weisbjerg², Peder Nørgaard¹, ¹*University of Copenhagen, Frederiksberg C, Denmark*, ²*Aarhus University, Tjele, Denmark*
- 0061 P1/044 **Comparison of *in situ* and *in vitro* methods for assessment of *in vivo* rumen starch degradation**
Martin Riis Weisbjerg¹, Marta Vilas Boas², Kirsi Huhtala³, Mogens Larsen¹, Torben Hvelplund¹, ¹*Aarhus University, Tjele, Denmark*, ²*Università Cattolica del Sacro Cuore, Piacenza, Italy*, ³*University of Helsinki, Helsinki, Finland*
- 0067 P1/045 **An evaluation of the herbage allowance and type of concentrate on rumen environment of grazing dairy cows during autumn**
Ruben G. Pulido¹, Jordan Sotelo¹, Fernando Wittwer², Mirela Noro², ¹*Universidad Austral de Chile, Inst. Ciencia Animal, Valdivia, Los Rios, Chile*, ²*Universidad Austral de Chile, Inst. Ciencias Clinicas Veterinarias, Valdivia, Los Rios, Chile*
- 0072 P1/046 **Inclusion of ear elephant tree leaves (*Enterolobium cyclocarpum*) as a protein source for growing goats**
 Arturo Ortiz-Rodea¹, Rolando Rojo-Rubio¹, Nazario Pescador-Salas², Carlos Garcia-Montes de Oca², Manuel Gonzalez-Ronquillo², Anastacio Garcia-Martinez¹, Benito Albarran-Portillo¹, ¹*Centro Universitario UAEM Temascaltepec. Universidad Autonoma del Estado de Mexico, Temascaltepec, Estado de Mexico, Mexico*, ²*Facultad de Medicina Veterinaria y Zootecnia. Universidad Autonoma del Estado de Mexico, Toluca, Estado de Mexico, Mexico*
- 0077 P1/047
 (not for display) ***In vitro* and *in situ* determination of sweet sorghum bagasse ensiled with urea or urea and molasses**
Shahab-Odin Zafari Naeini¹, Mohamad Khorvash², Ebrahim Rowghani¹, Ali Reza Bayat¹, ¹*Shiraz University, Shiraz, Iran*, ²*Isfahan University of Technology, Isfahan, Iran*
- 0078 P1/048 **Effects of different dietary supplementation levels of ensiled mulberry leaves on growth performance and serum parameters of Chinese yellow cattle**
P. Q. Wu¹, Q. X. Meng¹, L. P. Ren¹, R. R. Ren¹, C. Song¹, Z. Y. Qin¹, ¹*China Agricultural University, Beijing, China*
- 0079 P1/049 **Adoption of improved feeding and mating strategies and their impact on productivity of Bali cattle under small holder conditions in Lombok, Indonesia**
D Dahlanuddin¹, Ketut Puspadi², Yusuf Akhyar Sutaryono¹, Cam McDonald³, Monica van Wensveen³, ¹*Fakultas Peternakan Universitas Mataram, Mataram, Lombok, NTB, Indonesia*, ²*Balai Pengkajian Teknologi Pertanian NTB, Mataram, Lombok, NTB, Indonesia*, ³*CSIRO Sustainable Ecosystems, Brisbane, Qld, Australia*

- 0084** P1/050 **Limitations associated with recording reticulo-rumen motility and methane eructations in cattle**
Anne-Katrine Skovsted Koch¹, Peder Nørgaard¹, Frank Oxvang Mortensen²,
¹University of Copenhagen, Faculty of Life Sciences, Dep. of Basic Animal and
 Veterinary Sciences, 1870 Frederiksberg C, Denmark, ²University of
 Copenhagen, Faculty of Life Sciences, Dep. of Basic Sciences and
 Environment, 1870 Frederiksberg C, Denmark
- 0087** P1/032 **Preliminary comparative study on rumen fermentation for grazing yak (*Bos grunniens*), indigenous cattle (*Bos taurus*) and cattle-yak (*Bos taurus* ♂ × *Bos grunniens* ♀) in the Qinghai-Tibetan plateau**
Hucheng Wang¹, Ruijun Long¹, Zhanhuan Shang¹, Jianwei Zhou¹, ¹Tibetan
 Rangeland and Yak Research Institute, College of Pastoral Agriculture Science
 and Technology, Lanzhou University, Lanzhou, China
- 0107** P1/081 **Changes in performance parameters, hepatic and endocrine regulation of metabolism during a negative energy balance at two different stages of lactating dairy cows**
Josef Gross¹, H. Anette van Dorland², Frieder J. Schwarz¹, Rupert M.
 Bruckmaier², ¹Technical University of Munich, Chair of Animal Nutrition,
 Freising, Germany, ²University of Bern, Veterinary Physiology, Bern,
 Switzerland
- 0111** P1/082 **Comparative analysis between microscopic count and molecular-based DGGE approaches to examine ruminal protozoal community diversity**
Emilio Martinez^{1,2}, Jim Kidd², Tony Swain², Athol Klieve^{1,2}, Diane Ouwerkerk²,
 Dennis Poppi¹, ¹School of Agriculture and Food Science, The University of
 Queensland, Brisbane, Australia, ²Agri-Science Queensland, Department of
 Employment, Economic Development and Innovation, Brisbane, Australia
- 0116** P1/092 **Characteristics of fallow lands extensively grazed by Polish Heath Sheep in North-West Poland**
Ewa Strzelec¹, Krzysztof Głowacz¹, Andrzej Łozicki¹, Krzysztof Klimaszewski¹,
 Dominik Popielarczyk¹, Olga Poleszczuk¹, Roman Niżnikowski¹, ¹Warsaw
 University of Life Sciences, Warsaw, Poland
- 0121** P1/083 **Biohydrogenation intermediates of linolenic acid are formed by different mechanisms during incubations with bovine ruminal fluid**
Anne Honkanen¹, Vesa Toivonen², Nest McKain³, R. John Wallace³, Kevin J.
 Shingfield², ¹University of Helsinki, Department of Agricultural Sciences,
 Helsinki, Finland, ²MTT Agrifood Research, Finland, Jokioinen, Finland,
³University of Aberdeen Rowett Institute of Nutrition & Health, Aberdeen, UK
- 0140** P1/084 **Effects of L-tryptophan on the gastrointestinal hormone secretion and the pancreatic α-amylase activity in Korean native steers**
Hong Gu Lee¹, ¹Pusan National University, Miryang, Gyeongnam, Republic of
 Korea
- 0144** P1/085 **Bacterial protein breakdown by holotrich rumen protozoa**
Alejandro Belanche¹, Gabriel de la Fuente¹, Jon M Moorby¹, Charles J
 Newbold¹, ¹IBERS, Aberystwyth University, Aberystwyth, UK
- 0177** P1/086 **Variations in microbial population and fermentation traits along the digestive tract of grass- or browse-fed goats**
J.O. Zeitz¹, S. Ineichen¹, C.R. Soliva¹, F. Leiber¹, A. Tschuor², U. Braun², M.
 Kreuzer¹, M. Clauss², ¹ETH Zurich, Zurich, Switzerland, ²University of Zurich,
 Zurich, Switzerland
- 0178** P1/063 **The hedonic value of food diversity in sheep is not only a matter of choice**
Angélique Favreau^{1,2}, Cécile Ginane¹, René Baumont¹, ¹INRA Clermont-
 Ferrand/Theix UR1213 Herbivores, 63122 Saint Genès Champanelle, France,
²INRA, UMR791 Modélisation systémique appliquée aux ruminants, 75231
 Paris, France

- 0179** P1/064 **Differences in the anthelmintic activity of sainfoin (*Onobrychis viciifoliae*) depend on the varieties : possible relationships with the flavonoid composition**
 FOTEINI MANOLARAKI¹, LYDIA SMITH², CHRISTINE HAYOT¹, WILBERT PELIKAAN¹, HEIDI HALBWIRTH⁴, KARL STICH⁴, DIETER TREUTTER⁵, IONELA REGOS⁵, IRENE MUELLER-HARVEY⁶, ELISABETTA STRINGANO⁶, HERVE HOSTE¹, ¹INRA/ENVIT, UMR 1225 IHAP, TOULOUSE, France, ²NIAB, National Institute Agricultural Botany,, CAMBRIDGE, UK, ³Wageningen Institute of, WAGENINGEN, The Netherlands, ⁴Institute für Verfahrenstechnik, Umwelttechnik und Technische Biowissenschaften, Technische Universität Wien,, WIEN, Austria, ⁵Technische Universität München, Fachgebiet Obstbau,, FREISING, Germany, ⁶Agriculture, Nutritional Sciences Research Unit-Chemistry and Biochemistry Laboratory, University Reading,, READING, UK
- 0181** P1/093 **Effects of two forage-based nutritional regimens on intake and weight gain of three genotypes of young red deer (*Cervus elaphus*) during autumn, winter and spring in New Zealand**
 David Stevens¹, Ian Corson¹, ¹AgResearch Ltd, Mosgiel, New Zealand
- 0184** P1/065 **The effect of substituting the rumen degradable nitrogen of sunflower oilcake meal with urea on digestibility, intake and microbial protein yield in sheep fed low quality forage**
 Georgina Croxford¹, Abubeker Hassen¹, Willem Van Niekerk¹, Herman Mynhardt¹, Roelf Coertze¹, ¹Department of Animal and Wildlife sciences, University of Pretoria, Pretoria, South Africa
- 0185** P1/066 **Accuracy of n-alkane method to estimate diet composition in sheep fed contrasting forages and concentrate diets**
 Ravneet Kaur¹, Sergio C Garcia¹, ¹University of Sydney, Sydney, Australia
- 0186** P1/067 **The effect of supplementing different ratios of non-protein nitrogen to fermentable metabolizable energy on digestibility, intake and microbial protein yield in sheep**
 Dala Du Plessis¹, Willem Van Niekerk¹, Abubeker Hassen¹, Herman Mynhardt¹, Roelf Coertze¹, ¹Department of Animal and Wildlife Sciences, University of Pretoria, Pretoria, South Africa
- 0189** P1/087 **Microbial detoxification of fluoroacetate in herbivores**
 Carl Davis¹, Lex Leong¹, Stuart Denman¹, Chris McSweeney¹, ¹CSIRO, Brisbane, Queensland, Australia
- 0191** P1/068 **Feeding behavior of male, female and castrated male goats subjected to different nutritional levels**
 Simone Pedro da Silva¹, Izabelle Auxiliadora Molina de Almeida Teixeira¹, Amélia Katiane de Almeida¹, Diogo da Costa Soares¹, Evandro Menezes de Oliveira¹, Luanna Sampaio Fonseca¹, Kléber Tomás de Resende¹, Douglas de Souza Castagnino¹, ¹Universidade Estadual Paulista (Unesp), Jaboticabal/São Paulo, Brazil
- 0192** P1/069 **Fast-gas chromatography analysis: Perspectives on the resolution of odd- and branched-chain fatty acids**
 Rachel Gervais¹, Bruno Vlaeminck², Veerle Fievez², Ellen Colman², ¹Département des sciences animales, Université Laval, Québec, QC, Canada, ²Laboratory for Animal Nutrition and Animal Product Quality (LANUPRO), Faculty of Bioscience Engineering, Ghent University, Melle, Belgium
- 0196** P1/070 **Comparison of Mobile bag starch disappearance versus glycaemic response for studying starch digestion in horses**
 Christelle Philippeau¹, Marie Varloud², Audrey Fouet¹, Véronique Julliard¹, ¹AGROSUP-USC INRA Nutrition du Cheval Athlète, DIJON, France, ²IN VIVO NSA, SAINT-NOLFF, France
- 0197** P1/094 **Effect of goat grazing on tederal pasture(*Bituminaria bituminosa*)**
 Pilar Méndez¹, Luis Bermejo², Elena Morales¹, Sergio Álvarez¹, ¹Instituto Canario de Investigaciones Agrarias, Tenerife, Spain, ²Universidad de La Laguna, Tenerife, Spain

- 0200** P1/071 **A quantitative approach to representing variation in rumen acidity**
Andre Bannink¹, Jim France², Jennifer Ellis (St-Pierre)^{1,2}, Ermias Kebreab³, Secondino Lopez⁴, Jan Dijkstra⁵, ¹Wageningen UR, Lelystad, The Netherlands, ²University of Guelph, Guelph, Canada, ³University of California, Davis, USA, ⁴Universidad de Leon, Leon, Spain, ⁵Wageningen University, Wageningen, The Netherlands
- 0201** P1/072 **The effects of sward pre-grazing herbage mass on dairy cow rumen function**
Eva Lewis¹, Norann Galvin¹, Fergal Coughlan¹, John Paul Murphy¹, Michael O'Donovan¹, Cathal Wims^{1,2}, ¹Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, ²School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland
- 0205** P1/095 **Evolution of the land use efficiency by Brazilian bovine husbandry since 1970, based on official databases**
Paula Meyer¹, Tarley Barros², Eduardo Cassiano², Carolina Marino², Paulo Rodrigues², ¹Brazilian Institute of Geography and Statistics, Pirassununga, Sao Paulo, Brazil, ²Veterinary Medicine and Animal Science College, University of Sao Paulo, Pirassununga, Sao Paulo, Brazil
- 0206** P1/073 **Ingestive behaviour and nutrient digestibility of Holstein cows fed diets containing maize silage from silos with different covering methods**
Rafael Camargo do Amaral¹, João Luiz Pratti Daniel¹, Adir de Sá Neto¹, Edward Hernando Cabezas Garcia¹, Maity Zopollatto¹, Janaína Rosolem Lima¹, Igor Freitas Silva¹, Luiz Gustavo Nussio¹, ¹University of São Paulo-ESALQ, Piracicaba, SP, Brazil
- 0209** P1/074 **Effects of adding a mycotoxin-sequestering agent on milk aflatoxin M₁ concentration and the performance and immune response of dairy cattle fed an aflatoxin B₁ contaminated diet**
Oscar Queiroz¹, Staples Charles¹, Hun Jung¹, Adegbola Adesogan¹, ¹Department of Animal Sciences, University of Florida, Gainesville, USA
- 0210** P1/075 **Effect of ethanol and acetic acid on ingestive behaviour and selective consumption by high producing dairy cows**
João Luiz Pratti Daniel¹, Rafalel Camargo do Amaral¹, Adir de Sá Neto¹, Edward Hernando Cabezas Garcia¹, Alvaro Wosniak Bispo¹, Maity Zopollatto¹, Luiz Gustavo Nussio¹, ¹University of São Paulo- ESALQ, Piracicaba, SP, Brazil
- 0211** P1/076 **Milk odd- and branched-chain fatty acids: biomarkers to optimize microbial metabolism by ruminants?**
F. Gadeyne¹, M. Aschemann², T. Ariko³, S. De Campeneere⁴, B. Vlaeminck¹, P. Lebzien², V. Fievez¹, ¹Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium, ²Institute of Animal Nutrition, Friedrich-Loeffler Institute, Federal Research Institute for Animal Health, Brunswick, Germany, ³Department of Nutrition and Animal Products Quality, Estonian University of Life Sciences, Tartu, Estonia, ⁴Institute of Agricultural and Fisheries Research, Animal Science Unit, Melle, Belgium
- 0213** P1/077 **Ruminal fermentation parameters in ruminally fistulated cows fed polyclonal antibodies and adapted or not to highly fermentable carbohydrates diets**
Tarley Barros¹, Carolina Marino¹, Rodrigo Pacheco², Fernanda Ferreira¹, Flavio Perna Junior¹, Eduardo Cassiano¹, Mauricio Martins¹, Paula Meyer³, Mario Arrigoni², Paulo Rodrigues¹, ¹University of Sao Paulo, Pirassununga, Sao Paulo, Brazil, ²University of Sao Paulo state, Botucatu, Sao Paulo, Brazil, ³Brazilian Institute of Geography and Statistics, Pirassununga, Sao Paulo, Brazil

- 0217** P1/033 **A short-term test to assess sheep propensity towards Mediterranean forages offered as micro-swards**
Valeria Giovanetti¹, Mauro Decandia¹, Marco Acciaro¹, Andrea Cabiddu¹, Maria Sitzia¹, Giovanni Molle¹, ¹*Agris Sardegna Department of Research on Animal Production, 07040 Olmedo, Italy*
- 0218** P1/034 **Effects of chicory / perennial ryegrass swards compared with perennial ryegrass swards on gastro-intestinal parasites in grazing beef steers**
Christina L. Marley¹, Rhun Fychan¹, John W. Davies¹, Ruth Sanderson¹, Elizabeth Genever², Andy B. Forbes³, ¹*Institute of Biological, Environmental and Rural Sciences, Aberystwyth, UK*, ²*EBLEX, Warwickshire, UK*, ³*Merial Animal Health, Lyon, France*
- 0220** P1/088 **Genomic analysis of *Anaerovibrio lipolytica* strain 5S, a rumen lipolytic bacteria**
Florence Privé¹, Eric Pinloche¹, Sharon Huws¹, Nigel Scollan¹, Charles Newbold¹, ¹*IBERS, Aberystwyth University, Aberystwyth, UK*
- 0221** P1/089 **Novel lipolytic activity isolated from bovine rumen bacteria metagenomic libraries**
Florence Privé¹, Sharon A. Huws¹, Nigel Scollan¹, Olga V. Golyshina², Peter N. Golyshin², Charles J. Newbold¹, ¹*IBERS, Aberystwyth University, Aberystwyth, UK*, ²*School of Biological Sciences, Bangor University, Bangor, UK*
- 0223** P1/001 **Effect of protein supplementation of lambs grazing natural pastures.**
Lucía Piaggio¹, Analía Pastorín¹, María de Jesús Marichal², ¹*Secretariado Uruguayo de la Lana, Montevideo, Uruguay*, ²*Facultad de Agronomía, Montevideo, Uruguay*
- 0224** P1/002 **Investigation of the relationship between sward organic matter digestibility and sward leaf proportion from 20 years data**
Marion Beecher^{1,2}, Eva Lewis¹, Tommy Boland², Norann Galvin¹, Christina Fleming¹, Brendan O'Neill^{1,2}, Michael O'Donovan¹, ¹*Animal and Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co.Cork, Ireland*, ²*School of Agriculture, Food Science & Veterinary Medicine, UCD, Belfield, Dublin 4, Ireland*
- 0226** P1/003 **The effect of supplementing grazed grass with mixed ration on rumen pH and rumen ammonia, volatile fatty acid and lactic acid concentrations**
Eva Lewis¹, Fergal Coughlan¹, John Paul Murphy¹, Norann Galvin¹, Michael O'Donovan¹, Brendan O'Neill^{1,2}, ¹*Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*, ²*School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland*
- 0232** P1/004 **Effects of litter size and nutritional restriction over calcium and phosphorus deposition in fetus and gravid uterus of Santa Inês ewes**
Fernando A. Souza¹, Luigi Francis L. Cavalcanti¹, Iran Borges¹, Veridiana B. Silva¹, Gilberto L. Macedo Jr.², Ana L.C.C. Borges¹, ¹*Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil*, ²*Federal University of Uberlândia, Uberlândia, Minas Gerais, Brazil*
- 0234** P1/005 **Application of neutral detergent soluble crude protein to estimate precaecal protein digestibility of concentrate feedstuffs for horses**
Friederike Hippenstiel¹, Hendrik Klein¹, Jens Benninghoff¹, Annette Zeyner², Karl-Heinz Südekum¹, ¹*University of Bonn, Bonn, Germany*, ²*University of Rostock, Rostock, Germany*

- 0235** P1/006 **First harvest forage yield and nutritive quality of four *Cratylia argentea* accessions in the humid tropics of México. I. Forage yield and chemical composition**
Epigmenio Castillo-Gallegos¹, Julieta Gertrudis Estrada-Flores², Braulio Valles-de la Mora¹, Octavio Alonso Castelan-Ortega³, Eliazar Ocaña-Zavaleta¹, Jesus Jarillo-Rodriguez¹, ¹*Centro de Enseñanza, Investigación Y Extensión en Ganadería Tropical, Facultad de Medicina Veterinaria y Zootecnia, UNAM, Martínez de la Torre, Veracruz, Mexico*, ²*Centro de Investigación En Ciencias Agropecuarias, Facultad de Medicina veterinaria y Zootecnia, UAEM, Toluca, Estado de Mexico, Mexico*, ³*Facultad de Ciencias Agropecuarias, UAEM, Toluca, Estado de Mexico, Mexico*
- 0236** P1/007 **First harvest forage yield and nutritive quality of four *Cratylia argentea* accessions in the humid tropics of México. II. Ruminant digestion**
Epigmenio Castillo-Gallegos¹, Julieta Gertrudis Estrada-Flores², Braulio Valles-de la Mora¹, Octavio Alonso Castelan-Ortega³, Eliazar Ocaña-Zavaleta¹, Jesus Jarillo-Rodriguez¹, ¹*Centro de Enseñanza, Investigación Y Extensión en Ganadería Tropical, Facultad de Medicina Veterinaria y Zootecnia, UNAM, Martínez de la Torre, Veracruz, Mexico*, ²*Centro de Investigación En Ciencias Agropecuarias, Facultad de Medicina veterinaria y Zootecnia, UAEM, Toluca, Estado de Mexico, Mexico*, ³*Facultad de Ciencias Agropecuarias, UAEM, Toluca, Estado de Mexico, Mexico*
- 0244** P1/008 **Phosphorus concentration in protein supplements offer to cattle fed low quality hay**
Fernanda Granzotto¹, Antonio Ferriani Branco¹, Alexandre Leseur dos Santos², Julio Cesar Barreto¹, Silvana Teixeira¹, Jenifer Sifuentes¹, Clóves Cabreira Jobim¹, Sabrina Coneglian¹, ¹*Universidade Estadual de Maringá, Maringá, Paraná/Sul, Brazil*, ²*Universidade Federal do Paraná, Maringá, Paraná/Sul, Brazil*
- 0245** P1/096 **Feeding and grazing behavior of Angus beef calves and heifers differing in SNPs associated to residual feed intake**
Ana Trujillo¹, Alberto Casal¹, Juan Marchelli², Pablo Chilbroste², ¹*Facultad de Agronomía. Universidad de la Republica, Montevideo, Uruguay*, ²*Facultad de Agronomía. Universidad de la Republica, Paysandu, Uruguay*
- 0246** P1/009 **The effect of forage type on sheep NDF passage kinetics determined by slaughter**
Anja Guldbjerg¹, Peter Lund¹, Martin Riis Weisbjerg¹, ¹*Department of Animal Health and Bioscience, Aarhus University, Tjele, Denmark*
- 0247** P1/010 **Effect of different levels of inclusion of weeds on nutritional quality and rumen fermentation kinetics of forage diets based on maize stover**
Raquel Martínez-Loperena¹, Octavio Castelán-Ortega¹, Manuel González-Ronquillo¹, Julieta Estrada-Flores¹, ¹*Universidad Autónoma del Estado de México, Toluca, Estado de México, Mexico*
- 0249** P1/011 **Additive treatment and glycerol supplementation effects on *in vitro* digestibility and fermentation of a total mixed ration**
Sam Churl Kim², Adegbola Adesogan¹, Hung Han^{1,2}, Jae Shin¹, Juan Romero¹, Oscar Queiroz¹, Kathy Arriola¹, Charles Staples¹, Hyeon Dong Kim^{1,2}, Hyuk Jun Lee^{1,2}, ¹*Department of Animal Sciences, University of Florida, Gainesville, Florida, USA*, ²*Department of Animal Science, Gyeongsang National University, Jinju, Republic of Korea*
- 0250** P1/012 **Utilization of nanotechnology for the development of a marker of fecal output in dairy cattle**
Eloisa Saliba¹, GERALDO BARBOSA¹, NORBERTO RODRIGUEZ¹, GUILHERME MOREIRA¹, CRISTOVÃO FILHO¹, NÉLIO GONÇALVES¹, FILIPE SILVA¹, IRAN BORGES¹, ¹*UFMG, MG, Brazil*

- 0255 P1/035 ***In vitro* gas production of ten pasture grasses grown in the humid tropics of México**
Jaqueline Sánchez-Mora¹, Julieta Gertrudis Estrada-Flores², Epigmenio Castillo-Gallegos¹, Octavio Alonso Castelán-Ortega³, Braulio Valles-de la Mora¹, Jesús Jarillo-Rodríguez¹, Eliazar Ocaña-Zavaleta¹, ¹Centro de Enseñanza, Investigación Y Extensión en Ganadería Tropical, Facultad de Medicina Veterinaria y Zootecnia, UNAM, Martínez de la Torre, Veracruz, Mexico, Mexico, ²Centro de Investigación en Ciencias Agropecuarias, Facultad de Medicina Veterinaria y Zootecnia, UAEM, Toluca, Estado de Mexico, Mexico, ³Facultad de Ciencias Agropecuarias, UAEM, Toluca, Estado de Mexico, Mexico
- 0257 P1/036 **Dry matter intake and digestibility of rations with graded levels of ground pods of *Enterolobium cyclocarpum* as a replacement for concentrates in Pelibuey lambs**
Angel Piñeiro-Vázquez¹, Armín Ayala-Burgos¹, Juan Ku-Vera¹, ¹Universidad Autónoma de Yucatán, Mérida, Yucatán, Mexico
- 0279 P1/051 **Effect of essential oils of *Zataria multiflora* on in vitro rumen fermentation using fattening lamb diet**
Razieh Talebzadeh¹, Daryoush Alipour¹, Mohammad Jamal Saharkhiz², Arash Azarfar³, Mostafa Malecky¹, ¹Bu-Ali Sina University, Hamedan, Iran, ²Shiraz University, Shiraz, Iran, ³Lorestan University, Khorramabad, Iran
- 0288 P1/052 **Effects of linseed supplementation on milk composition and on liver, adipose and mammary gland metabolism of periparturient dairy cattle**
Nuria Mach¹, Ronald Zom¹, Aura Widjaja¹, Piet van Wikselaar¹, Eddy Weurding², Roselinde Goselink¹, Jürgen van Baal², Mari Smits^{1,2}, Ad van Vuuren¹, ¹Wageningen UR Livestock Research, Lelystad, The Netherlands, ²Wageningen University, Wageningen, The Netherlands, ³Agrifirm Innovation Center, Apeldoorn, The Netherlands
- 0293 P1/053 **Ingestive behaviour of Hereford steers under different summer grazing managements of a mixed grass and legume pasture**
Virginia Beretta¹, Alvaro Simeone¹, Diego Cortazzo¹, Juan Marchelli¹, Gustavo Viera¹, Andres Zabala¹, ¹Universidad de la Republica, Paysandu, Uruguay
- 0302 P1/054 **Effects of Yerba Mate (*Ilex paraguariensis*) supplementation during the dry period on dairy cows' milk yield and oxidative status**
Belinda Holmes¹, Federica Caponnetto¹, Pietro Celi¹, ¹University of Sydney, Sydney, Australia
- 0303 P1/055 **A meta-analysis of the responses to non-protein nitrogen supplementation by cattle grazing native pastures in the seasonally dry tropics**
Rob Dixon¹, ¹The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Rockhampton, Australia
- 0304 P1/056 **The relationship between the concentration of phosphorus in the diet and in faeces of cattle grazing tropical grass and grass-legume pastures**
Rob Dixon¹, David Coates², ¹The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Rockhampton, Qld, Australia, ²CSIRO Sustainable Ecosystems, Townsville, Qld, Australia
- 0306 P1/057 **Effects of fat to protein ratio in early lactation on subsequent milk yield, milk lactose, urea nitrogen, citric acid and somatic cell count of dairy cows**
Ugur SERBESTER¹, Mahmut CINAR¹, Ayhan CEYHAN¹, Murat GORGULU², ¹Nigde University, Bor Vocational Scholl, Nigde, Turkey, ²Cukurova University Agriculture Faculty Department of Animal Science, Adana, Turkey

- 0309** P1/058 **The effects of essential oils of thyme oleaster and orange peel on milk fatty acid composition in dairy cows**
Zeynep SAHAN¹, Murat GORGULU¹, Ugur SERBESTER², Fatih OZOGUL¹,
¹Cukurova University, Agriculture Faculty, Department of Animal Science, Adana, Turkey, ²Nigde University, Bor Vocational Scholl, Nigde, Turkey
- 0310** P1/059 **Anionic salt supplementation and intra-rumen delivery of 25OHD increase urinary calcium excretion in steers fed a forage diet**
Joseph McGrath¹, Darryl Savage¹, John Nolan¹, Ian Godwin¹, Nick Rodgers¹, Robert Elliot¹, ¹University of New England, Armidale, NSW, Australia
- 0311** P1/060 **Responses of pregnant dairy goats to feed restriction**
Carla Joice Härter¹, Izabelle Auxiliadora M. A. Teixeira¹, Lisiane Dorneles de Lima², Douglas Sousa Castagnino¹, Astrid Rivera Rivera¹, Herimá Giovanni O. Silva³, Kleber Tomas de Resende¹, ¹UNESP, Jaboticabal/SP, Brazil, ²UNOPAR, Londrina/PR, Brazil, ³UESB, Itapetinga/BA, Brazil
- 0315** P1/061 **In vitro studies on the effects of grass silages containing < 50% of crude protein as true protein on up to now not identified substances in bovine ruminal fluid**
Anika Wichern¹, Selvihan Özmen¹, Sarah Theermann¹, Nina Gresner¹, Heinrich Bollwein¹, Martin Höltershinken¹, ¹Clinic for Cattle, University of Veterinary Medicine, Hannover, Germany
- 0317** P1/062 **In vitro studies on the effects of grass silages containing < 50% of crude protein as true protein on carbohydrate metabolism in bovine ruminal fluid**
Martin Höltershinken¹, Lisbeth Lump¹, Anika Wichern¹, Nina Gresner¹, Sarah Theermann¹, Heinrich Bollwein¹, ¹Clinic for Cattle, University of Veterinary Medicine, Hannover, Germany
- 0324** P1/013 **On-farm estimation of individual energy balance in dairy cows from body weight measurements and body condition scores**
Vivi M. Thorup¹, David Edwards¹, Nicolas C. Friggens², ¹Aarhus University, Tjele, Denmark, ²INRA, Paris, France
- 0325** P1/014 **A short-term test to assess horse feeding propensity towards pasture forages grazed as micro-swards**
Giovanni Molle¹, Valeria Giovanetti², Giovanni Paolo Biggio¹, Andrea Taras¹, Maurizio Picciau¹, Alice Pollicardo¹, Marco Acciaro², Mauro Decandia², ¹Department of Research for Horses, Ozieri, Sardinia, Italy, ²Department of Research on Animal Production, Olmedo, Sardinia, Italy
- 0330** P1/090 **Comparison of bacterial populations from different regions of the large intestine of horses' using terminal restriction fragment length polymorphism and 454 pyrosequencing**
Kirsty Dougal¹, Pat Harris², Justin Pachebat¹, Jamie Newbold¹, ¹Aberystwyth University, Aberystwyth, UK, ²Waltham centre for pet nutrition, Melton Mowbray, UK
- 0336** P1/015 **The effect of direct-fed microbials (DFM) in diets for weaned Brahman calves in the south of Lake Maracaibo**
Florencio Jimenez¹, ¹Universidad del Zulia, Maracaibo, Venezuela
- 0337** P1/016 **Fecal shedding and persistence of *Escherichia coli* O157:H7 from cattle fed finishing diets containing corn or wheat distillers' dried grain with solubles**
Jennyka Hallewell^{1,2}, Tim McAllister², James Thomas¹, Calvin Booker³, Sherry Hannon³, Kim Stanford⁴, ¹University of Lethbridge, Lethbridge Alberta, Canada, ²Agriculture and Agri-Food Canada, Lethbridge Alberta, Canada, ³Feedlot Health Management Services Ltd, Okotoks, Alberta, Canada, ⁴Alberta Agriculture and Rural Development, Lethbridge, Alberta, Canada

- 0338 P1/017 **Effects of grass silages with low true protein on γ -aminobutyric acid in bovine ruminal fluid in vitro**
Sarah Theermann¹, Nina Gresner¹, Anika Wichern¹, Heinrich Bollwein¹, Martin Höltershinken¹, ¹*Clinic vor Cattle, University of Veterinary Medicine Hannover, Foundation, Hannover, Germany*
- 0348 P1/97 **Grazing down process in tropical grasslands: effect on the short-term intake rate of heifers**
Paulo César de Faccio Carvalho¹, Jean Carlos Mezzalira¹, Lidiane Fonseca¹, Júlio Kuhn Da Trindade¹, Carolina Bremm¹, ¹*Federal University of Rio Grande do Sul, Porto Alegre/Rio Grande do Sul, Brazil*
- 0352 P1/037 **Faecal crude protein as a marker to estimate the digestibility of Italian Ryegrass for grazing sheep**
Eduardo Azevedo¹, César Henrique Poli¹, Diego David¹, Paulo César Carvalho¹, Gláucia Amaral¹, Lidiane Fonseca¹, Vívian Fischer¹, Carolina Bremm¹, Felipe Jochims¹, ¹*Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil*

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0030	P2/004	Herbage utilisation efficiency on mulato palisade grass swards subjected to strategies of rotational stocking management Domicio Nascimento Jr. ¹ , Carlindo S. Rodrigues ³ , Sila C. Da Silva ² , Marcia C. T. Silveira ¹ , Leandro M. Barbero ¹ , Karine S. Pena ¹ , Salim J. Sousa Jr. ² , Bráulio M.L. Sousa ¹ , Veridiana A. Limão ² , ¹ <i>Universidade Federal de Vicosa, Vicosa, Minas Gerais, Brazil</i> , ² <i>Escola Superior de Agricultura Luiz de Queiroz, Piracicaba, São Paulo, Brazil</i> , ³ <i>Universidade Estadual do Sul da Bahia, Teixeira de Freitas, Bahia, Brazil</i>
0034	P2/084	Estimation of feed ingredient and intake in cattle using stable isotope analyses Yuta Yanagi ¹ , Hajime Kumagai ¹ , Kazato Oishi ¹ , Hiroyuki Hirooka ¹ , Masayuki Kitagawa ¹ , ¹ <i>Graduate School of Agriculture, Kyoto, Japan</i>
0035	P2/047	Effect of two different types of tannins on the biohydrogenation steps of polyunsaturated fatty acids in the rumen. An <i>in vitro</i> study Mauro Antongiovanni ¹ , Arianna Buccioni ¹ , Stefano Rapaccini ¹ , Sara Minieri ¹ , ¹ <i>University of Florence (Italy), Firenze, Italy</i>

- 0039** P2/048 **The potential of grass silages with contrasting polyphenol oxidase activity versus red clover to protect C18 polyunsaturated fatty acid across the rumen of beef steers**
Michael Lee¹, Vince Theobald¹, Naomi Gordon¹, John Tweed¹, Rhun Fychan¹, Nigel Scollan¹, ¹*Aberystwyth University, IBERS, Aberystwyth, UK*
- 0040** P2/049 **The influence of grass silages with contrasting polyphenol oxidase activity versus red clover on rumen ammonia and the flow of amino acids to the duodenum of beef steers**
Michael Lee¹, Vince Theobald¹, Naomi Gordon¹, John Tweed¹, Rhun Fychan¹, Nigel Scollan¹, ¹*Aberystwyth University, IBERS, Aberystwyth, UK*
- 0046** P2/005 **Effect of herbage allowance and grass silage supplementation on grazing behaviour of dairy cows in autumn pasture**
Ruben G Pulido¹, Miguel Ruiz-Albarran¹, Oscar Balocchi², Mirela Noro³, Fernando Wittwer³, Sergio Joachin^{1,2}, ¹*Universidad Austral de Chile, Inst. Ciencia Animal, Valdivia, Region de los Rios, Chile*, ²*Universidad Austral de Chile, Inst. Produccion Animal, Valdivia, Region de los Rios, Chile*, ³*Universidad Austral de Chile, Inst. Ciencias Clinicas Veterinarias, Valdivia, Region de los Rios, Chile*
- 0047** P2/085 **Effect of Castration on Performance of Sudan Nubian Kids**
Assia Nasr¹, Hafiz Ali¹, ¹*Sudan University of Science and Technology, Khartoum North, Sudan*, ²*University of Juba, Khartoum North, Sudan*
- 0048** P2/086 **Effect of Castration on Some Blood Metabolites of Sudan Nubian Male Kids**
Assia Nasr¹, Hafiz Ali¹, ¹*Sudan University of Science and Technology, Khartoum North, Sudan*, ²*University of Juba, Khartoum North, Sudan*
- 0053** P2/050 **Correlations between phenolic fractions in tropical forages and ruminal C18 fatty acid metabolites in vitro**
Anuraga Jayanegara¹, Michael Kreuzer¹, Florian Leiber¹, ¹*ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland*
- 0054** P2/006 **Structural characteristics of Elephant grass cv. Napier swards under different grazing severities**
Domicio Nascimento Junior¹, Helida C.F. Monteiro², Bráulio M.L. Sousa¹, Dilermando M. Fonseca¹, Edenio Detmann¹, Fernanda C. Gomes¹, Camila Z. Assis¹, ¹*Universidade Federal de Vicosa, Vicosa, MG, Brazil*, ²*Universidade Estadual de Montes Claros, Janauba, MG, Brazil*
- 0055** P2/060 **The comparison of CNCPS and in situ assessment of protein and NDF in lucerne and maize silages**
Mária Chrenková¹, Zuzana Ceresnáková¹, Martin R. Weisbjerg², Zuzana Formelová¹, Mária Poláčiková¹, ¹*Animal Production Research Centre, Nitra, Slovakia*, ²*Faculty of Agricultural Science, Aarhus University, Tjele, Denmark*
- 0059** P2/051 **Comparison of finishing performance, carcass characteristics of growing bulls with the same age and belong to five different cattle breeds in China**
Xiangxue Xie¹, Qingxiang Meng¹, Liping Ren¹, ¹*China Agricultural University, Beijing, China*
- 0063** P2/087 **Mathematical model to calculate the energy and protein requirement for sheep**
Radu Burlacu¹, Cosmin Nitu¹, ¹*the Agricultural University and Veterinary Medicine, Bucharest, Bucharest, Romania*
- 0066** P2/088 **Effect of dietary supplementation with Hainanmycin on ruminal methane production and protozoa and fungi numbers relative to bacteria in vitro**
Hangshu Xin¹, Yonggen Zhang¹, Wei Liu¹, ¹*Northeast Agricultural University, Harbin, China*

- 0068 P2/052 **Impact of climate change on the conduct of steppe's sheep breeding. case of commune hadj mechri, laghouat (algeria)**
mouhous azeddine¹, hammouda fethi rachid¹, ¹*faculté sciences agronomiques et sciences biologiques, université mouloud mammeri, tizi-ouzou, Algeria*, ²*faculté sciences biologiques environnementales, université Houari Boumediene, alger, Algeria*
- 0075 P2/089 **Yield, chemical composition and in vitro gas production of maize hybrids cropped in high valleys of Mexico in fresh or hay**
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- 0076 P2/053 **Carryover effects of crude glycerine fed during the growing phase on finishing cattle performance and carcass characteristics**
Celine Aperce¹, Cody Schneider¹, Leanne Litton¹, Kevin Miller¹, Cadra VanBibber¹, Solange Uwituze¹, Christian Alvarado¹, Kirsty Blaine¹, Jim Higgins¹, Jim Drouillard¹, ¹*Kansas State University, Manhattan, Kansas, USA*
- 0082 P2/054 **Effects of Different Additives on the Aflatoxin Content of Alfalfa Silage**
Fuyu ZHANG¹, Guangpeng MA¹, Yunwei YANG¹, ¹*Grassland Institute,China Agricultural University, Beijing, China*, ²*Chinese Rural Technology Development Center,Ministry of Science and Technology, Beijing, China*
- 0088 P2/055 **Brewer's grains as protein source for growing rabbits under Algerian context: effects on growth and slaughter traits**
Ghania Lounaouci-Ouyed¹, Mokrane Berchiche¹, Thierry Gidenne², ¹*Université de Tizi-ouzou Faculté des Sciences Biologiques, Tizi-ouzou, Algeria*, ²*UMR 1289 TANDEM INRA de Toulouse, Toulouse, France*
- 0089 P2/056 **Effects of forage to concentrate ratio in the diet and pH on ruminal fermentation in Rusitec fermenters**
Julio Ernesto Vargas^{1,2}, Sonia Andrés¹, David R. Yañez-Ruiz³, Lorena López-Ferreras⁴, Secundino López¹, ¹*Instituto de Ganadería de Montaña (CSIC-Universidad de León), León, Spain*, ²*Universidad de Caldas, Manizales, Caldas, Colombia*, ³*Estación Experimental del Zaidín (CSIC), Granada, Spain*, ⁴*Centro de Biología Molecular Severo Ochoa (CSIC-UAM), Madrid, Spain*
- 0090 P2/031 **Could *Quinella*-like microorganisms be involved in the formation of saturated oxygenated fatty acids in the rumen of lactating sheep fed diets containing sunflower oil and marine algae?**
Alvaro Belenguer¹, Pablo G. Toral^{1,2}, Kevin J. Shingfield², Gonzalo Hervás¹, Vesa Toivonen², Pilar Frutos¹, ¹*Instituto de Ganadería de Montaña (CSIC-Universidad de León), Grulleros, León, Spain*, ²*Animal Production Research, MTT Agrifood Research Finland, Jokioinen, Finland*
- 0091 P2/032 **The structural diversity of condensed tannins in willows (*Salix* spp.): a first screening to improve the nutritional quality of ruminant products**
Luca Falchero¹, Ron H. Brown¹, Angela Karp², Steve Hanley², Ian Shield², Irene Mueller-Harvey¹, ¹*Agriculture Department - University of Reading, Reading, UK*, ²*BBRSC Rothamsted Research, Harpenden, UK*

- 0093** P2/033 **Morphological and chemical composition of hand-plucked samples of Tifton-85 pasture managed under different herbage allowance grazed by sheep in rotational stocking system**
Cintia Maria Battiston Loureiro¹, Ana Claudia Ruggieri¹, Telma Teresinha Berchielli¹, Americo Garcia Silva Sobrinho¹, Wilton Ladeira da Silva¹, Ricardo Andrade Reis¹, ¹*Universidade Estadual Julio de Mesquita Filho, UNESP, Jaboticabal, Sao Paulo, Brazil*
- 0094** P2/034 **Responses of growth performance and nutrient digestibility to partial or total substitution of corn grains with non-cereal by-products in the diet of growing crossbred bulls**
Fenghua Shi¹, Qingxiang Meng¹, Hao Wu¹, Liping Ren¹, ¹*China Ariculture University, BeiJing, China*
- 0097** P2/035 **Nitrogen balance in dairy heifers fed with sugar cane combined with different protein sources**
Roberta Carrilho Canesin¹, Diego Azevedo Mota², Giovani Fiorentini¹, Juliana Duarte Messana¹, Bruna Laurindo Rosa¹, Telma Teresinha Berchielli¹, ¹*FCAV/UNESP, Jaboticabal, São Paulo, Brazil*, ²*UFAM, Parintins, Amazonas, Brazil*
- 0099** P2/036 **Validation of Nutrient Requirements of Dairy Cattle model in a Brazilian Dairy Farm**
Jenifer Souza¹, Milene Osmari¹, Antonio Branco¹, Julio Barreto¹, Fernanda Granzotto¹, Silvana Teixeira¹, ¹*Universidade Estadual de Maringá, Maringá - PR, Brazil*
- 0100** P2/037 **Quantification of ruminal bacterial groups in wethers fed only pasture: effect of feeding schedule and bacterial dynamics according the time from the beginning of the meal**
Analía Pérez-Ruchel¹, José Luis Repetto², Pablo Zunino³, Martín Fraga³, Karen Perelmuter³, Carolina Iturria¹, Wilder Saavedra¹, Cecilia Cajarville¹, ¹*Departamento de Nutrición Animal, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay*, ²*Departamento de Bovinos, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay*, ³*Departamento de Microbiología, Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay*
- 0101** P2/007 **Performances of two handheld spectrometers to analyse grass silage in order to improve their valorisation in herbivore diets**
Kathy Danhieu¹, Virginie Decruyenaere¹, Claudine Clément¹, Vincent Baeten¹, Frédéric Vanwindekens¹, Didier Stilmant¹, ¹*Walloon agricultura research centre, Libramont, Belgium*
- 0102** P2/038 **Oxidative stress and inflammatory response in dairy cattle in an induced subacute acidosis protocol**
Helen Golder^{1,2}, Ian Lean^{1,2}, Ahmad Rabiee^{1,2}, Ray King³, Pietro Celi¹, ¹*The University of Sydney, Faculty of Veterinary Science, Camden, New South Wales, Australia*, ²*SBScibus, Camden, New South Wales, Australia*, ³*Dairy Australia, Southbank, Victoria, Australia*
- 0104** P2/090 **Performance and ruminal parameters of lambs fed maize silage inoculated with *Lactobacillus buchneri* and the combination of *L. buchneri* and *L. plantarum***
Fernanda Carvalho Basso¹, Ricardo Andrade Reis¹, Carlos Henrique Silveira Rabelo¹, João Victor Yamagushi¹, Pedro Augusto Ribeiro Salvo¹, Erika Christina Lara¹, ¹*Animal Science Department, Agricultural and Veterinary Sciences College, São Paulo State University., Jaboticabal, São Paulo, Brazil*

- 0105** P2/091 **Intervention of the insulino/somatotropic axes in the development of the digestive function in pre-weaning calves fed sodium (Na)-butyrate supplemented diet**
Kazuo Katoh¹, Shinichi Kato¹, Sang-Gun Roh¹, Shuichi Owada¹, Paul Guilloteau², ¹Graduate School of Agricultural Science, Sendai, Miyagi, Japan, ²INRA, Saint-Gilles, France
- 0106** P2/008 **Differentiation between true methanogen inhibitors and different sinks for hydrogen using a new automated batch culture system**
Stefan Muetzel¹, Michael H Tavendale¹, Gerald P Cosgrove¹, David Pacheco¹, ¹AgResearch Ltd, Palmerston North, New Zealand
- 0114** P2/039 **Improved growth performance, nutrient digestibility in pre-ruminant calves supplied with bee pollen and its polysaccharides**
 Ji-Hong Yan², Yan Tu¹, Guo-Feng Zhang¹, Qi-Yu Diao¹, Nai-Feng Zhang¹, Cheng-Gang Jiang¹, ¹Feed Research Institute of Chinese Academy of Agricultural Sciences, Beijing, China, ²Bee Research Institute of Chinese Academy of Agricultural Sciences, Beijing, China
- 0123** P2/092 **Effect of peppermint (*Mentha piperita* L.) and sage (*Salvia officinalis* L.) as a source of phytofactors on ruminal methanogenesis**
 Malgorzata Szumacher-Strabel¹, Pawel Zmora¹, Emilia Pers-Kamczyc¹, Agnieszka Nowak¹, Lukasz Pecio², Anna Stochmal², Adam Cieslak¹, ¹Poznan University of Life Sciences, Department of Animal Nutrition and Feed Management, Poznan, Poland, ²Institute of Soil Science and Plant Cultivation, Department of Biochemistry and Crop Quality, Pulawy, Poland
- 0124** P2/040 **Forage quality as affected by two grazing dairy cows rates in a plain pasture of northeastern Italy**
Filippo Rimi¹, Matteo Serena^{1,2}, Stefano Macolino¹, Umberto Ziliotto¹, ¹Department of Environmental Agronomy and Crop Production, University of Padova, Legnaro (PD), Italy, ²Department of Plant and Environmental Sciences, New Mexico State University, Las Cruces (NM), USA
- 0126** P2/009 **Passage characteristics of ¹³C-labelled carbohydrate fractions in dairy cows fed high and low levels of concentrates**
Daniel Warner¹, Wilbert F. Pellikaan¹, Huug Boer¹, Seerp Tamminga¹, Pablo Gregorini¹, Bart Tas¹, Jan Dijkstra¹, ¹Wageningen University, Animal Nutrition Group, Wageningen, The Netherlands
- 0127** P2/063 **Effect of *Saponaria officinalis* L. on *in vitro* gas production kinetics in cattle**
Pawel Zmora¹, Malgorzata Szumacher-Strabel¹, Emilia Pers-Kamczyc¹, Joanna Szczechowiak¹, Barbara Szajwaj², Anna Stochmal², Adam Cieslak¹, ¹Poznan University of Life Sciences, Department of Animal Nutrition and Feed Management, Poznan, Poland, ²Institute of Soil Science and Plant Cultivation, Department of Biochemistry and Crop Quality, Pulawy, Poland
- 0130** P2/041 **Associations between plasma leptin, IgA and food intake in parasite-naive or immune lambs of two genotypes following *T. circumcincta* infection**
Konstantinos Zaralis^{1,2}, Bert Tolkamp¹, Ilias Kyriazakis³, Alastair Wylie⁴, Jos Houdijk¹, Mike Stear⁵, ¹SAC Animal Health Group, Edinburgh, UK, ²Swedish University of Agricultural Sciences, Skara, Sweden, ³School of Agriculture, Food and Rural Development, Newcastle University, Newcastle upon Tyne, UK, ⁴Agri-food and Biosciences Institute, Belfast, UK, ⁵Faculty of Veterinary Medicine, University of Glasgow, Glasgow, UK

- 0132** P2/010 **Potential mineral deficiencies for Ndama cattle grazing Urochloa sp. based tropical pastures in the Bas-Congo province of the Democratic Republic of Congo**
 Pascale Picron², Amaury Goubau², Thomas Lecomte³, Michel Romnée¹, Jérôme Bindelle², Virginie Decruyenaere¹, Yves Beckers², Didier Stilmant¹, ¹Walloon Agricultural Research Centre, Libramont, Belgium, ²Gembloux Agro-Biotech, University of Liege, Gembloux, Belgium, ³Société des Elevages du Bandundu Occidental, Kinshasa, The Democratic Congo
- 0135** P2/042 **The effect of casein, branch chain amino acids plus phenylalanine, and non-protein nitrogen on microbial protein production in cattle fed a low quality tropical forage**
Tanda Panjaitan^{1,2}, Karen Turnbull², Simon Quigley², Stuart McLennan³, Tony Swain³, Dennis Poppi², ¹Balai Pengkajian Teknologi Pertanian (BPTP), Nusa Tenggara Barat, Indonesia, ²Schools of Animal Studies and Veterinary Science, University of Queensland, Gatton, Qld, Australia, ³Queensland Primary Industries and Fisheries, Department of Employment, Economic Development, Yeerongpilly, Qld, Australia
- 0137** P2/043 **Compared effects of two tannin rich resources on the experimental infections of lambs with *Haemonchus contortus* and *Trichostrongylus colubriformis***
Smaragda Sotiraki¹, Celia Arroyo Lopez², Foteini Manolaraki², Alexandros Stefanakis¹, Vasilios Skampardonis¹, Nikolaos Voutzourakis¹, Herve Hoste², ¹NAGREF VRI, Thessaloniki, Greece, ²UMR 1225 INRA/DGER. Ecole Nationale Vétérinaire de Toulouse, Toulouse, France
- 0142** P2/011 **Preference of Pelibuey hair sheep for the ground pods of five different tropical tree species**
 Eduardo Briceño-Poot¹, Armín Ayala-Burgos¹, Humberto Esquivel-Mimenza¹, Julio Espinoza-Hernández¹, Alexis Ruiz-González¹, Miguel Uc-Dzib¹, Juan Ku-Vera¹, ¹University of Yucatan, Merida, Yucatan, Mexico
- 0150** P2/044 ***Megasphaera elsdenii* addition to *in vitro* cultures of equine caecal microorganisms fed oligofructose or starch**
Hannah Leventhal¹, Teresa Slough¹, Solange Uwituze¹, Jim Drouillard¹, ¹Kansas State University, Manhattan, KS, USA
- 0151** P2/045 **Ingestive behaviour changes associated to grain or hay supplementation to Hereford steers grazing a Ryegrass pasture during winter**
 Virginia Beretta¹, Alvaro Simeone¹, Juan Elizalde², Oscar Bentancur¹, Andrés Contatore¹, Diego Rodríguez¹, Martín Vago¹, ¹Universidad de la Republica, Paysandu, Uruguay, ²Consultant, Rosario, Argentina
- 0153** P2/046 **Crude vs. refined glycerol supplementation to dairy cows in early lactation - effects on dry matter intake, lactation performance and metabolism**
Anna Werner Omazic¹, Jan Bertilsson¹, Madeleine Tråvén², Kjell Holtenius¹, ¹Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, Uppsala, Sweden, ²Swedish University of Agricultural Sciences, Department of Clinical Sciences, Uppsala, Sweden
- 0158** P2/012 **Tillering dynamics in spring of signal grass deferred on variable heights in early autumn**
 Sabrina S. Santana¹, Dilermando M. Fonseca¹, Domicio Nascimento Junior¹, Manoel E.R. Santos¹, Marcia C. T. Silveira¹, ¹Universidade Federal de Vicosa, Vicosa, Minas Gerais, Brazil

- 0159** P2/029 **The effect of feeding rice straw and tree legumes on liveweight maintenance of mature Ongole cows (*Bos indicus*) in Indonesia**
Dianne Mayberry¹, Risa Antari², Theo Syahnar², Dicky Pamungkas², . Marsetyo³, Dennis Poppi¹, ¹University of Queensland, Gatton, Queensland, Australia, ²Beef Cattle Research Institute, Grati, East Java, Indonesia, ³University of Tadulako, Palu, Central Sulawesi, Indonesia
- 0160** P2/030 **Effects of ruminal infusion of garlic oil on ruminal fermentation dynamics of goats**
Zhi Zhu¹, Weiyun Zhu¹, ¹College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, China
- 0166** P2/062 **Nutritional evaluation of sorghum grain (*Sorghum bicolor* L. Moench) as silage or reconstituted using the in vitro gas production technique**
Ulises A Gonzalez G¹, Manuel Gonzalez-Ronquillo¹, Luis Corona Gochi², Julieta G Estrada F¹, ¹Universidad Autonoma del Estado de Mexico, Toluca, Mexico, Mexico, ²Universidad Nacional Autonoma de Mexico, Mexico, DF, Mexico
- 0168** P2/066 **Improving the nutrition and health of cattle in Cambodia by successful introduction of forages to small-holder farmers**
Russell Bush¹, Suon Sothoeun², Jim Young¹, Luzia Rast¹, Peter Windsor¹, ¹University of Sydney, Camden, NSW, Australia, ²Department of Animal Health & Production, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia
- 0171** P2/064 **Dose- and time-dependent changes of rumen fatty acids in goat on diets supplemented with algae**
Honglong Zhu¹, Shengyong Mao¹, Weiyun Zhu¹, ¹Nanjing Agricultural University, Nanjing, Jiangsu, China
- 0193** P2/013 **Respirometry, net energy requirements and methane production of Holstein, Gir and crossbred Holstein-Gir dairy heifers fed tropical grass**
Ana Luiza C.C. Borges¹, Ricardo R. Silva¹, José R.M. Ruas², Helena F. Lage¹, Carlos G. Pancoti¹, Lúcio C. Gonçalves¹, Iran Borges¹, Norberto M. Rodriguez¹, ¹Federal University of Minas Gerais, Belo Horizonte, Minas Gerais/Sudeste, Brazil, ²EPAMIG, Belo Horizonte, Minas Gerais/Sudeste, Brazil
- 0199** P2/014 **Evaluation of the fermentative and nutritive characteristics of the silage made from banana (*Musa acuminata* cola, sub. cavendish) by-product feeding for ruminants**
SERGIO ALVAREZ¹, PILAR MENDEZ¹, TOMAS PEREZ², ¹INSTITUTO CANARIO DE INVESTIGACIONES AGRARIAS, LA LAGUNA, TENERIFE, Spain, ²CANARIAS FORESTAL S.L., SANTA CRUZ, TENERIFE, Spain
- 0202** P2/015 **Effects of additive on aerobic stability and nutritive value of maize silage stored during different time periods when harvested at advancing maturity stages**
Elisabet Nadeau¹, Emelie Svensson¹, Konstantinos Zaralis¹, Carl Helander¹, Thomas Pauly², Annika Arnesson¹, ¹Department of Animal Environment and Health, Swedish University of Agricultural Sciences (SLU), Skara, Sweden, ²Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden

- 0212** P2/016 **Effect of crude fibre on woody plants digestion by roe deer (*Capreolus capreolus*)**
Matus Rajskey¹, Miroslav Vodnansky², Maria Chrenkova¹, Rudolf Kropil³, Dusan Rajskey³, ¹*Animal Production Research Centre, Nitra, Slovakia*, ²*Middle European Institute of Wildlife Ecology, Vienna, Austria*, ³*Technical University, Zvolen, Slovakia*
- 0214** P2/027 **Rumen fermentation parameters in cows receiving polyclonal antibodies and adapted or not to highly fermentable carbohydrates diets after an acidosis challenge**
Eduardo Cassiano¹, Tarley Barros¹, Carolina Marino¹, Rodrigo Pacheco², Fernanda Ferreira¹, Flavio Perna Junior¹, Mauricio Martins¹, Paula Meyer³, Mario Arrigoni², Paulo Rodrigues¹, ¹*University of Sao Paulo, Pirassununga, Sao Paulo, Brazil*, ²*University of Sao Paulo state, Botucatu, Sao Paulo, Brazil*, ³*Brazilian Institute of Geography and Statistics, Pirassununga, Sao Paulo, Brazil*
- 0227** P2/093 **A novel approach: Relationship of protein molecular structures to degraded protein balance, protein intestinal digestibility and metabolisable protein**
Peiqiang Yu¹, ¹*University of Saskatchewan, Saskatoon, SK, Canada*
- 0228** P2/057 **Substitution of soybean meal for inactive dry yeast in diets of beef cattle: intake and total and partial apparent digestibilities of nutrients**
Andressa Campos¹, Odilon Pereira¹, Sebastiao Valadares Filho¹, Karina Ribeiro¹, Lilian Rosa¹, ¹*Brazilian Society of Animal Science, Vicosa, Minas Gerais, Brazil*
- 0229** P2/017 **Microbial inoculants effects on the quality and stability of bermudagrass haylage**
Kathy Arriola¹, Adegbola Adesogan¹, Oscar Queiroz¹, Juan Romero¹, Evandro Muniz^{1,2}, Miguel Zarate¹, Joseph Hamie¹, Lucas Paranhos¹, Jan Kivipelto¹, ¹*University of Florida. Department of Animal Sciences, Gainesville Florida, USA*, ²*Embrapa Tabuleiros Costeiros, Aracaju Fergipi, Brazil*
- 0248** P2/018 **Comparative investigations of food comminution in herbivores - faecal particle size and its relation to body mass**
Kerstin Erlinghagen-Lückerath¹, Jürgen Hummel¹, Karl-Heinz Südekum¹, ¹*Universität Bonn, Bonn, Germany*
- 0251** P2/019 **The management of common pool resources, cases of collective grasslands, inventory and characterization of their management in the region of hadj mechri. laghouat (Algeria).**
MOUHOUS Azeddine¹, ¹*University Mouloud MEMMERI, TIZIOUZOU, Algeria*
- 0254** P2/022 **Consequences of feeding management on body condition and reproductive performance in primiparous Charolais cows**
Emilie Recoules^{1,3}, Anne De La Torre³, Jacques Agabriel³, David Egal⁴, Fabienne Blanc^{1,2}, ¹*Clermont Université, VetAgro Sup, UR 2008.03.102, EPR, BP 10448, 63000 Clermont-Ferrand, France*, ²*INRA, USC 2005, 63370 Lempdes, France*, ³*INRA-UR1213 Herbivores, Theix, 63122 Saint-Genès Champanelle, France*, ⁴*INRA-UE1296, Unité expérimentale des Monts d'Auvergne, 63820 Laqueuille, France*
- 0258** P2/067 **Supplementary effect of thermotolerant probiotic yeast (*Saccharomyces cerevisiae*) on growth and carcass traits in Nellore lambs**
Harikrishna Cherala¹, Mahender M¹, Ramana Reddy Y¹, Gnana Prakash M¹, Sudhakar K¹, Pavani M¹, ¹*Sri Venkateswara Veterinary University, Hyderabad, India*

- 0259 P2/068 **Fattening and slaughter performance of Simmental bulls fed isoenergetic diets with varying levels of grass silage**
 Thomas Ettle¹, Anton Obermaier¹, Hubert Spiekers¹, Heribert Meiser¹, Sabine Weinfurter¹, ¹Bavarian State Research Center for Agriculture, Institute for Animal Nutrition and Feed Management, Poing, Germany
- 0260 P2/069 **Growth performance of growing goats fed on different concentrations of sodium bicarbonate under tropical field conditions**
 Muhammad Aasif Shahzad¹, Muhammad Sarwar¹, Mahr Un Nisa¹, ¹Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Pakistan
- 0261 P2/070 **Fattening performance and meat characteristics of crossbred cattle (*Bos indicus*) and crossbred water buffalo (*Bubalus bubalis*) in the Philippines**
 Makoto Kondo¹, Tomomi Ban¹, Rosalina M Lapitan², Arnel N del Barrio², Jesus RV Herrera², Thelma S Saludes², Abraham Tandang², Madoka Fujii¹, Momoka Yamaguchi¹, Toshihiro Nade³, Hiroki Matsui¹, Tsutomu Fujihara¹, ¹Mie University, Tsu, Mie, Japan, ²Philippine Carabao Center, Los Banos, Laguna, The Philippines, ³Nippon Veterinary and Life Science University, Musashino, Tokyo, Japan
- 0262 P2/071 **Effect of different level of soybean oil on methane emission and cellulolytic bacteria in vitro**
 wang hongrong¹, Wu Rina¹, Yu Lihuai¹, ¹Yangzhou University, Jiangsu Province, China
- 0263 P2/072 **Serum mineral concentration in dairy heifers fed with different protein sources diets**
 Roberta Carrilho Canesin¹, Diego Azevedo Mota², Telma Teresinha Berchielli¹, Giovanni Fiorentini¹, Andressa Ferreira Ribeiro¹, Bruna Laurindo Rosa¹, ¹São Paulo State University, Jaboticabal, São Paulo, Brazil, ²Federal University of Amazonas, Parintins, Amazonas, Brazil
- 0264 P2/073 **Molecular diversity of Methanogens in the hindgut of Bactrian camels (*Bactrianus camelus*) from two zoos**
 Kathryn L. Turnbull¹, Rachel P. Smith¹, Andre-Denis G. Wright¹, ¹University of Vermont, Burlington, VT, USA
- 0265 P2/074 **Differences in the rumen methanogen population of lactating Jersey and Holstein dairy cows under the same diet regimen**
 Erin E. King¹, Rachel P. Smith¹, Benoit St-Pierre¹, Andre-Denis G. Wright¹, ¹University of Vermont, Burlington, VT, USA
- 0266 P2/075 **Integrative predictions of free water intake, urine volume and fecal water excretion in dairy cows under thermoneutral condition**
 Hajer KHELIL-ARFA¹, Anne BOUDON¹, Gaelle MAXIN¹, Philippe FAVERDIN¹, ¹INRA,Agrocampus Rennes, UMR 1080, Production du Lait, Saint-Gilles, Rennes, France
- 0267 P2/076 **Effect of a constant high ambient temperature on the intake and excretion of water in dry and lactating Holstein cows**
 Hajer KHELIL-ARFA¹, Philippe FAVERDIN¹, Anne BOUDON¹, ¹INRA,Agrocampus Rennes,UMR 1080,Production du Lait,Saint-Gilles, Rennes, France
- 0268 P2/077 **Greenhouse gas emissions from alternative dairy calf-to-beef production systems**
 Paul Crosson¹, Pdraig Foley², Pdraig O'Kiely¹, ¹Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath., Ireland, ²University College Dublin, School of Agriculture, Food Science and Veterinary Medicine, Ireland

- 0269 P2/078 **Effects of enzyme supplementation in OPF either or not pre-inoculated with white rot fungi to improve rumen degradability *in vitro***
 Hasliza Abu Hassim^{1,2}, Marta Lourenco¹, Yong Meng Goh², Veerle Fievez¹, ¹*University of Ghent, Ghent, Belgium*, ²*Universiti Putra Malaysia, Selangor, Malaysia*
- 0270 P2/079 **Biennial canola for forage and ecosystem improvement in dryland cropping systems**
 Ronald Kincaid¹, Kristen Johnson¹, Jennifer Michal¹, Scot Hulbert¹, William Pan¹, Jaci Barbano¹, ¹*Washington State University, Pullman, WA, USA*
- 0271 P2/080 **Molasses-based n-alkane tablets to estimate feed intake and digestibility in cattle consuming low quality roughage diets**
Melkamu Bezabih^{1,2}, Wilbert F. Pellikaan¹, Wouter H. Hendriks¹, ¹*Wageningen University, Wageningen, The Netherlands*, ²*Hawassa University, Hawassa, Ethiopia*
- 0272 P2/081 **Effects of polyethylene glycol on *in vitro* rumen fermentation characteristics of six Mediterranean tree and shrub leaves**
Aziza Boubaker¹, M. Rosa Mosquera-Losada², Mohamed Cherif¹, Boulbeba Rekik¹, Antonio Rigueiro Rodriguez², ¹*Ecole Supérieure d'Agriculture de Mateur, Mateur, Tunisia*, ²*Ecole Polytechnique, Université Santiago de Compostela, Lugo, Spain*
- 0273 P2/082 **Use of nutritional blocks as supplement for sheep in dry tropical highlands of Central Mexico**
Francisca Avilés Nova¹, Octavio Castelán Ortega², Anastacio García Martínez¹, Julieta Estrada Flores³, Paulina Vázquez Mendoza¹, Benito Albarrán Portillo¹, ¹*Universidad Autónoma del Estado de México/Centro Universitario Temascaltepec, Temascaltepec Estado de México, Mexico*, ²*Universidad Autónoma del Estado de México/Facultad de Ciencias Agrícolas, Toluca Estado de México, Mexico*, ³*Instituto de Investigación en Ciencias Agropecuarias y rurales-Universidad Autónoma del Estado de México, toluca Estado de México, Mexico*
- 0274 P2/083 **Botanical composition of sheep diet and nutritive value of consumed forages in highlands of Mexico**
Francisca Avilés Nova¹, Octavio Castelán Ortega², Rolando Rojo Rubio¹, Julieta Estrada Flores³, Cecilia Milpa Cruz¹, ¹*Universidad Autónoma del Estado de México/Centro Universitario Temascaltepec, Temascaltepec Estado de Mexico, Mexico*, ²*Universidad Autónoma del Estado de México/Facultad de Ciencias Agrícolas, Toluca, Estado de México, Mexico*, ³*Instituto de Investigación en Ciencias agropecuarias y rurales-Universidad Autónoma del Estado de México, Toluca, Estado de México, Mexico*
- 0276 P2/065 **Evaluation of rice distillers grain and soluble as an alternative feed resources for livestock**
 Manik Chandra Pakhira¹, Purnendu Biswas¹, Lalmohan Mondal¹, ¹*West Bengal University of Animal & Fishery Sciences, Kolkata, West Bengal, India*
- 0277 P2/020 **Performance of beef suckler cows and growth of their calves where grass is grazed to contrasting residual sward heights**
Mark McGee¹, William Minchin¹, Edward O'Riordan¹, ¹*Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath, Ireland*

- 0299** P2/061 **Performance of Santa Inês lambs supplemented with whole cottonseed and its co products**
Paulo de Mello Tavares Lima¹, Pedro Batelli de Oliveira¹, Aline Campeche Lopes², Pauline Galvão Viana¹, Helder Louvandini², Concepta Concepta Margaret McManus Pimentel³, Verônica Alves Gonçalves da Silva¹, Fabíula Amorim de Sousa¹, ¹*Universidade de Brasília - UnB, Brasília, Distrito Federal, Brazil*, ²*Centro de Energia Nuclear na Agricultura - CENA, Piracicaba, São Paulo, Brazil*, ³*Universidade Federal do Rio Grande do Sul - UFRGS, Porto Alegre, Rio Grande do Sul, Brazil*
- 0313** P2/021 **In vivo effect of plant species on gastrointestinal nematodes of sheep**
Mawahib Ahmed¹, Ignatius Nsahlai¹, Mark Laing¹, ¹*University of KwaZulu_Natal, Pietermaritzburg, South Africa*
- 0318** P2/023 **Effect of Vitamin E and Selenium Supplementation on the Oestrus Responses and the Diameter of Dominant Follicles in Boer Crosses**
Anna Aryani Amir¹, Halimatun Yaakub², Abdul Razak Alimon², ¹*Institute of Tropical Agriculture, Universiti Putra Malaysia, Kuala Lumpur, Malaysia*, ²*Department of Animal Sciences, Faculty of Agriculture, Universiti Putra Malaysia, Kuala Lumpur, Malaysia*
- 0326** P2/024 **Different forage types and their influence on digestive variables in goats**
Jürgen Hummel¹, Ayman Kassab², Heinrich Lüttgenau¹, Karl-Heinz Südekum¹, ¹*Institut für Tierwissenschaften, Universität Bonn, Bonn, Germany*, ²*Animal Production Dep., Sohag University, Sohag, Egypt*
- 0340** P2/025 **Influence of source of protein in supplements, urea or soybean meal, and level of supplement intake on rumen kinetics in cattle fed low quality hay**
Antonio Ferriani Branco¹, Fernanda Granzotto¹, Silvana Teixeira¹, Julio Cezar Barreto¹, Cloves Cabreira Jobim¹, Alexandre Leseur Santos¹, Sabrina Marcantonio Coneglian¹, Jenifer Sifuentes Souza¹, ¹*Universidade Estadual de Maringá, Maringá, Brazil*
- 0353** P2/058 **Intestinal Digestibility of Rumen Undegraded Protein of Co-Products from New Generation of BioEthanol Processing Plant Using Three-Step In Vitro Method**
I. Hettiarachchi Gamage¹, P. Yu¹, ¹*University of Saskatchewan, Saskatoon, Canada*
- 0354** P2/059 **Chemical Profiling: New Strategies to More Efficiently Utilize Cereal Grains (Oat, Barley, Corn) and Bioethanol Co-products for Beef Cattle**
D. Damiran¹, P. Yu¹, ¹*University of Saskatchewan, Saskatoon, Canada*
- 0356** P2/026 **The effect of supplementing highly wilted grass silage with water soluble carbohydrates and starch rich feeds on degradation of the diets and efficiency of microbial protein synthesis in the rumen of sheep**
T. Znidarsic¹, J. Verbic¹, D. Babnik¹, Š Velikonja-Bolta¹, ¹*Agriculture Institute of Slovenia, Ljubljana, Slovenia*
- 0368** P2/028 **The impact of selection for leanness on lamb carcass composition, intramuscular fat, and muscle metabolic type, is not influenced by nutritional variation within Australian production systems.**
Graham E Gardner¹, Liselotte Pannier¹, Fiona Anderson¹, Khama R Kelman¹, Andrew Williams¹, Robin H Jacob², Alex J Ball³, David W Pethick¹, ¹*Murdoch University, Murdoch, Australia*, ²*Department of Agriculture and Food WA, South Perth, Australia*, ³*Meat & Livestock Australia, University of New England, Armidale, Australia*

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Serial No.	Poster Group/ Board Location	Title and Author(s)
0009	P3/099	<p>Influence of pasture feeding of dairy cows on the fatty acid composition of protected designation of origin Asiago d'Allevo cheese</p> <p><u>Manuela Renna</u>¹, <u>Paolo Cornale</u>¹, <u>Carola Lussiana</u>¹, <u>Antonio Mimosi</u>¹, <u>Luca Maria Battaglini</u>¹, ¹<i>Dipartimento di Scienze Zootecniche, University of Torino, Grugliasco (TO), Italy</i></p>
0012	P3/085	<p><i>In vitro</i> total gas and methane output of ensiled wheat and barley grains as affected by stages of ripeness at harvest and urea treatment</p> <p><u>Emma J. Mc Geough</u>^{1,2}, <u>David Kenny</u>², <u>Martin O'Brien</u>¹, <u>Padraig O'Kiely</u>¹, ¹<i>Teagasc Animal and Grassland Research & Innovation Centre, Dunsany, Co. Meath, Ireland</i>, ²<i>University College Dublin, School of Agriculture, Food Science & Veterinary Medicine, Belfield, Dublin 4, Ireland</i></p>
0013	P3/086	<p><i>In vitro</i> methane and total gas production as influenced by whole-crop wheat silage grain to straw ratio and level of inclusion of whole-crop wheat silage in grass silage based diets</p> <p><u>Emma J. Mc Geough</u>^{1,2}, <u>David Kenny</u>², <u>Martin O'Brien</u>¹, <u>Padraig O'Kiely</u>¹, ¹<i>Teagasc Animal and Grassland Research & Innovation Centre, Dunsany, Co. Meath, Ireland</i>, ²<i>University College Dublin, School of Agriculture, Food Science & Veterinary Medicine, Belfield, Dublin 4, Ireland</i></p>
0014	P3/087	<p>Effect of urine production on milk urea nitrogen as estimator of urinary nitrogen and urea excretion in North America and Northern Europe in dairy cattle. A meta-analysis.</p> <p><u>Jan Wouter Spek</u>^{1,2}, <u>Andre Bannink</u>¹, <u>Jan Dijkstra</u>², ¹<i>Wageningen UR Livestock Research, Lelystad, The Netherlands</i>, ²<i>Wageningen University, Wageningen, The Netherlands</i></p>
0017	P3/088	<p>Effect of niacin supplementation on nitrogen balance and nitrogen efficiency in lactating German Holstein cows fed a ration with a negative rumen nitrogen balance</p> <p><u>Martina Aschemann</u>¹, <u>Peter Lebzien</u>¹, <u>Karl-Heinz Südekum</u>², <u>Sven Daenicke</u>¹, ¹<i>Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Federal Research Institute of Animal Health, Bundesallee 50, 38116 Braunschweig, Germany</i>, ²<i>Institute of Animal Science, University of Bonn, Endenicher Allee 15, 53115 Bonn, Germany</i></p>
0031	P3/100	<p>Relative feed intake, nutrients utilization, nitrogen balance and milk yield of Murrah buffaloes fed organic and inorganically (conventional) produced roughage-concentrate diets</p> <p><u>Sultan Singh Singh</u>¹, <u>S B Maity</u>¹, <u>S K Nag</u>¹, ¹<i>Indian Grassland and Fodder Research Institute, Jhansi, Uttar Pradesh, India</i></p>
0033	P3/089	<p>Screening of different white rot fungi to improve the feed value of wheat straw</p> <p><u>John Cone</u>¹, <u>Van Tuyen Dinh</u>¹, <u>Johan Baars</u>², <u>Anton Sonnenberg</u>², ¹<i>Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands</i>, ²<i>Plant Research International, WUR, Wageningen, The Netherlands</i></p>

- 0042 P3/090 **Buckwheat fractions and rutin incubated with bovine rumen fluid: effects on *in vitro* fermentation and methane formation**
 Florian Leiber¹, Carmen Kunz¹, Michael Kreuzer¹, ¹ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland
- 0065 P3/091 **Dose-dependent additions of *Eremophila glabra* reduce methane production in Rusitec**
 Xixi Li^{1,2}, Zoey Durmic^{1,2}, Shimin Liu¹, Philip Vercoe^{1,2}, ¹The Univeristy of Western Australia, Crawley, Western Australia, Australia, ²Future Farm Industries CRC, Crawley, Western Australia, Australia
- 0070 P3/092 **Effect of increasing proportion of alfalfa in alfalfa-ryegrass mixed diets on intake, digestion and methane emissions in sheep**
 Vincent Niderkorn¹, Cecile Martin¹, Aline Le Morvan¹, Yvanne Rochette¹, Elodie Brison¹, Rene Baumont¹, ¹INRA, UR1213 Herbivores, Saint-Genès Champagnelle, France
- 0074 P3/093 ***In vitro* rumen methanogenesis of different perennial grass species**
 Peter Purcell^{1,2}, Martin O'Brien¹, Tommy Boland², Dermot Grogan³, Pádraig O'Kiely¹, ¹Teagasc Grange, Dunsany, Co. Meath, Ireland, ²University College Dublin, Belfield, Dublin 4, Ireland, ³Department of Agriculture, Fisheries and Food (DAFF), Backweston, Co. Kildare, Ireland
- 0085 P3/094 **Methane production in pregnant ewes**
 Ali Kiani¹, Andre Chwalibog¹, ¹Lorestan University, Khoramabad, Iran, ²University of Copenhagen, Copenhagen, Denmark
- 0092 P3/095 **Effect of the partial replacement of concentrate with feed blocks including greenhouse wastes on ruminal fermentation and methane production in dairy goats**
 MANUEL ROMERO¹, EVA RAMOS¹, IGNACIO MARTIN¹, ROGELIO NOGALES¹, EDUARDA MOLINA¹, ¹Estación Experimental del Zaidin (Spanish Research Council), Armilla, Granada, Spain
- 0095 P3/096 **Effect of ricinoleic acid on *in vitro* rumen methanogenesis**
 Eva Ramos-Morales¹, Nest McKain², R. John Wallace², ¹Consejo Superior de Investigaciones Científicas, Estación Experimental del Zaidín, Granada, Spain, ²University of Aberdeen, Rowett Institute of Nutrition and Health, Aberdeen, UK
- 0096 P3/097 **Endogenous synthesis of rumenic acid in the mammary gland of dairy ewes**
 Pablo G. Toral¹, Elena Bichi¹, Gonzalo Hervás¹, Pilar Gómez-Cortés², Miguel A. de la Fuente², Manuela Juárez², Pilar Frutos¹, ¹Instituto de Ganadería de Montaña (CSIC-ULE). Finca Marzanas s/n, Grulleros, León, Spain, ²Instituto de Investigación en Ciencias de la Alimentación (CSIC-UAM), C/ Nicolás Cabrera, 9. Campus de Cantoblanco, Madrid, Spain
- 0103 P3/001 **Lactating dairy cows fed indoors with either cut pasture or Lucerne cubes.**
 Kevin Macdonald¹, Garry Waghorn¹, Rob Weintjes¹, ¹DaryNZ, Hamilton, New Zealand
- 0108 P3/002 **Effects of supplemental copper and Linpro on performance and carcass traits of finishing heifers**
 Christian Alvarado¹, Celine Aperce¹, Kevin Miller¹, Cadra Van Bibber¹, Solange Uwituzé¹, James Drouillard¹, James Higgins², ¹Kansas State University, Department of Animal Science & Industry, Manhattan, Kansas, USA, ²Kansas State University, Department of Statistics, Manhattan, Kansas, USA

- 0110 P3/067 **Plant-mediated proteolysis among red clover (*Trifolium pratense* L.) cultivars and the relationship with the polyphenol oxidase activity**
Margitta Seebeck¹, Nina Weiher¹, Petra Voss¹, Friedhelm Taube¹, Martin Gierus¹, ¹Grass and Forage Science/Organic Agriculture - Christian Albrechts University, Kiel, Germany
- 0113 P3/068 **Lipid supplementation and basal diet influence oxidative and lipogenic metabolism in muscle and adipose tissues in cattle**
Muriel Bonnet¹, Isabelle Cassar-Malek¹, Dominique Bauchart¹, Yves Chilliard¹, Catherine Jurie¹, Agnès Thomas¹, Jérôme Normand², ¹INRA, UR1213, Saint-Genès-Champagnelle, France, ²Institut de l'Elevage, Lyon, France
- 0115 P3/069 **Genetic and non-genetic effects on ultimate meat pH of lamb meat**
Kelly Pearce¹, Robyn Warner³, Robin Jacob², David Hopkins⁴, Sue Mortimer⁵, David Pethick¹, ¹Murdoch University, Murdoch, WA, Australia, ²Department of Agriculture and Food Western Australia, Perth, WA, Australia, ³CSIRO, Werribee, Victoria, Australia, ⁴Industry and Innovation NSW, Cowra, NSW, Australia, ⁵Industry and Innovation NSW, Trangie, NSW, Australia
- 0118 P3/098 **Effect of high sugar grasses on methane emissions simulated using a dynamic model**
Jennifer Ellis^{1,2}, Andre Bannink⁶, James France¹, Anthony Parsons³, Grant Edwards⁴, Suzanne Rasmussen³, Ermias Kebreab⁵, Jan Dijkstra¹, ¹Centre for Nutrition Modelling, Dept Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada, ²Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands, ³AgResearch, Palmerston North, New Zealand, ⁴Lincoln University, Lincoln, New Zealand, ⁵Dept of Animal Science, University of California, Davis, California, USA, ⁶Wageningen UR Livestock Research, Lelystad, The Netherlands
- 0120 P3/083 **Methanogen population in Swedish cows fed different levels of high quality forage**
Rebecca Danielsson¹, Jan Bertilsson¹, Mikko Griinari¹, Anna Schnürer², ¹Animal nutrition and management, Uppsala, Sweden, ²Microbiology, Uppsala, Sweden
- 0122 P3/070 **Effect of ground flaxseed and exogenous hormones on plasma and muscle fatty acid composition, growth performance, and carcass characteristics of finishing cattle**
Cadra Van Bibber¹, Leanne Litton¹, Kevin Miller¹, James Drouillard¹, ¹Kansas State University, Manhattan, Kansas, USA
- 0125 P3/049 **Evaluation of volatile fatty acid stoichiometry models to predict enteric methane production in lactating Holstein cows**
Jan Dijkstra^{1,3}, Andre Bannink², Jennifer Ellis^{1,3}, James France³, Ermias Kebreab⁴, Yael Morvay¹, ¹Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands, ²Livestock Research, Animal Sciences Group, Wageningen University and Research Centre, Lelystad, The Netherlands, ³Centre for Nutrition Modelling, Department of Animal and Poultry Science, University of Guelph, Guelph, Canada, ⁴Department of Animal Science, University of California, Davis, USA
- 0129 P3/071 **Effect of diet and CSN1S1 genotype on nutritional, productive and metabolic responses of milking Girgentana goats**
Adriana Bonanno¹, Adriana Di Trana², Vincenzo Bellina¹, Gabriele Tornambè¹, Antonino Di Grigoli¹, Massimo Todaro¹, Paola Di Gregorio², Giuseppe Maggio², ¹Università degli Studi di Palermo, Palermo, Italy, ²Università degli Studi della Basilicata, Potenza, Italy

- 0133 P3/072 **Characterization of polyphenol oxidase activity in different forage ecotypes with different phenolic substrates**
Andrea Cabiddu¹, Michael R. F. Lee³, Mauro Decandia¹, Giovanni Molle¹, Lorenzo Salis¹, Mirella Vargiu², Ana L. Winters³, ¹*Agris-DIRPA, Olmedo, Italy*, ²*Agris DIRVE, Cagliari, Italy*, ³*IBER University Wales s, Aberystwyth, UK*
- 0134 P3/050 **Effects of lipid sources in steers performance and methane emission finished in feedlot**
Telma Teresinha Berchielli^{1,2}, Giovani Fiorentini^{1,2}, Isabela Pena Carvalho de Carvalho^{1,2}, Alexandre Berndt⁴, Rosa Frighetto³, Roberta Carrilho Canesin^{1,2}, Josiane Fonseca Lage^{1,2}, ¹*FCAV-UNESP, Jaboticabal, São Paulo, Brazil*, ²*FAPESP, São Paulo, São Paulo, Brazil*, ³*Embrapa Meio Ambiente, Jaguariúna, São Paulo, Brazil*, ⁴*Embrapa Pecuária Sudeste, São Carlos, São Paulo, Brazil*
- 0136 P3/051 **Potential differences on methane emissions between lactating suckler cows of different breeds grazing extensive diverse pastures**
P. Ricci¹, C. Umstätter¹, A. Waterhouse¹, ¹*SAC, Edinburgh, UK*
- 0138 P3/073 **Beef meat production in harsh climate and Alpine landscape: effects of using pastures rather than grass silage on growth and meat quality traits**
Isabelle Gangnat¹, Wilbert Pellikaan¹, Thomas van der Poel¹, Margit Velik², ¹*Animal Nutrition Group, Wageningen University and Research, Wageningen, The Netherlands*, ²*Lehr- und Forschungszentrum Raumberg-Gumpenstein, Irdning, Austria*
- 0139 P3/052 **Voluntary intake, apparent digestibility and urinary nitrogen excretion by hair sheep fed increasing levels of foliage of *Leucaena leucocephala* mixed with *Cynodon nlemfuensis* grass**
Alexis Ruiz-González¹, Samuel Albores-Moreno¹, Eduardo Briceño-Poot¹, Armin Ayala-Burgos¹, Francisco Solorio-Sánchez¹, Juan Ku-Vera¹, ¹*University of Yucatan, Merida, Yucatan, Mexico*
- 0145 P3/053 **Effect of time duration of ruminal urea infusions on ruminal ammonia concentrations and portal-drained viscera extraction of arterial urea-N in lactating Holstein cows**
Betina Amdisen Røjen¹, Niels Bastian Kristensen¹, ¹*Dept. of Animal Health and Bioscience, Aarhus University, Tjele, Denmark*
- 0146 P3/054 **Effect of progressive inoculation of fauna-free sheep with holotrich protozoa and total-fauna on rumen fermentation and methane emissions**
Alejandro Belanche¹, Gabriel de la Fuente¹, Sophie E Doran¹, Jon M Moorby¹, Charles J Newbold¹, ¹*IBERS, Aberystwyth University, Aberystwyth, UK*
- 0147 P3/055 **Effects of condensed tannin extracts from sainfoin (*Onobrychis viciifolia* Scop) on rumen *in vitro* methane production and fermentation characteristics**
Bayissa Hatew¹, Wilbert F. Pellikaan¹, Wouter H. Hendriks¹, Irene Mueller-Harvey², Elisabetta Stringano², ¹*Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands*, ²*Chemistry & Biochemistry Laboratory, Animal Science Research Group, Reading University, Reading, UK*

- 0148 P3/074 **Causes of variation in fatty acid content and composition in grass silages**
Nazir Ahmad Khan¹, John W. Cone¹, Veerle Fievez², Wouter H Hendriks¹, ¹*Animal Nutrition Group, Department of Animal Sciences Wageningen University, PO Box 338, 6700 AH Wageningen, The Netherlands*, ²*Department of Animal Production, Faculty of Bioscience Engineering, Ghent University, LANUPRO, Proefhoevestraat 10, 9090 Melle, Belgium*
- 0149 P3/075 **Milk protein yield in response to post-ruminal supplementation of arginine, isoleucine and valine in dairy cows**
Muhammad Naveed Hague¹, Henri Rulquin¹, Sophie Lemosquet¹, ¹*INRA, Agrocampus Ouest, UMR1080, Dairy research, 35590 Saint Gilles, France*
- 0152 P3/056 **Faecal phosphorus emission from organic and conventional dairy farms in Sweden**
Maria Nordqvist¹, Rolf Spörndly¹, Kjell Holtenius¹, ¹*Swedish University of Agricultural Sciences, Uppsala, Sweden*
- 0154 P3/057 **On-farm evaluation of the effect of coffee pulp supplementation on milk yield and dry matter intake of dairy cows grazing tropical grasses in Central Mexico.**
Octavio Castelán-Ortega¹, Julieta Estrada-Flores¹, Paulina Pedraza-Beltrán¹, Isael Estrada-López¹, Adolfo Rayas-Amor¹, Gilberto Yong-Angel¹, ¹*Universidad Autónoma del Estado de México, Toluca, Estado de México, Mexico*
- 0156 P3/058 **Milk fatty acid profile from dairy cows grazing a diverse pasture**
Sabrina Greenwood¹, Grant Edwards¹, ¹*Lincoln University, Lincoln, New Zealand*
- 0157 P3/076 **Chemical composition in milk and cheese goat fed on pasture, supplemented with different protein levels.**
Luz Raquel Bernal-Martínez¹, Carina Vazquez-Fontes¹, Carlos Alberto Garcia-Montes de Oca¹, Manuel Gonzalez-Ronquillo¹, Nazario Pescador-Salas¹, ¹*Universidad Autonoma del Estado de México, México, Mexico*
- 0161 P3/059 **Variability of SF₆ and CH₄ gas concentrations in the breath samples of sheep and cattle: defining criteria for the systematic exclusion of data when using the SF₆ tracer technique to measure CH₄ emissions**
Natasha Swainson¹, Ian Brookes², Simone Hoskin¹, Harry Clark¹, ¹*AgResearch Ltd, Palmerston North, New Zealand*, ²*Massey University, Palmerston North, New Zealand*
- 0162 P3/060 **Hydrogen emissions from sheep: A spill-over for methanogenesis?**
Natasha Swainson¹, Cécile Martin^{2,1}, Stefan Muetzel¹, Cesar Pinares-Patiño¹, ¹*AgResearch Ltd, Palmerston North, New Zealand*, ²*INRA UR1213 Herbivores, Clermont-Ferrand/Theix, France*
- 0164 P3/077 **Milk fatty acids profile of goat milk with different levels of protein in the diet**
 Carlos A Garcia Montes de Oca¹, Manuel Gonzalez-Ronquillo¹, Carina Vasquez¹, Nazario Pescador S¹, Rey Gutierrez T², Luz R Bernal M¹, ¹*Universidad Autonoma del Estado de Mexico, Toluca, Mexico*, ²*Universidad Autonoma Metropolitana, Xochimilco, Mexico*
- 0165 P3/078 **The value of different dietary fatty acid source of lactating dairy goats: milk yield and fatty acids profile**
 Carlos A Garcia MO¹, Manuel Gonzalez-Ronquillo¹, Nazario Pescador S¹, Julieta G Estrada F¹, Ernesto Morales-Almaraz¹, ¹*Universidad Autonoma del Estado de Mexico, Toluca, Mexico*

- 0169 P3/061 **The impact of animal and diet factors on enteric methane conversion factor in dairy cows**
Tianhai Yan¹, David Wills¹, Conrad Ferris¹, Alistair Carson¹, ¹*Agri-Food and Biosciences Institute, Hillsborough, UK*
- 0170 P3/079 **The effect of different methods of feeding white clover with contrasting concentrations of water soluble carbohydrate on skatole in the milkfat of grazing dairy cows**
Gerald Cosgrove¹, Geoff Lane¹, Jennifer Burke¹, David Pacheco¹, ¹*AgResearch Grasslands, Palmerston North, New Zealand*, ²*Massey University, Palmerston North, New Zealand*
- 0174 P3/062 **Whole farm net greenhouse gas abatement of establishing Kikuyu-based perennial pastures in south-western Australia**
Dean Thomas¹, Jonathan Sanderman², Sandra Eady³, ¹*CSIRO, Floreat, WA, Australia*, ²*CSIRO, Glen Osmond, SA, Australia*, ³*CSIRO, Armidale, NSW, Australia*
- 0176 P3/063 **Effect of diet protein level on nitrogen excretion and greenhouse gases emissions in lactating dairy cows**
Nadège Edouard¹, Mélynda Hassouna², Paul Robin², Philippe Faverdin¹, ¹*INRA UMR1080 Production du Lait, Saint-Gilles, France*, ²*INRA UMR1069 Sol Agro et hydrosystème Spatialisation, Rennes, France*
- 0180 P3/064 **Rate of intake and crop utilisation by non-lactating Friesian x Jersey dairy cows grazing two allowances of swedes (*Brassica napus* L) in late pregnancy during winter**
David Stevens¹, Bryan Thompson¹, Andrew Wall¹, ¹*AgResearch Ltd, Mosgiel, New Zealand*
- 0182 P3/065 **Effect of the addition of reductive acetogenic bacteria on *in vitro* ruminal fermentation and methane emission**
Min-Jung Gu¹, Ho-Il Lee¹, Lovelia Mamuad¹, Che-Ok Jeon², Young-Kyoon Oh³, Sang-Suk Lee¹, ¹*Department of Animal Science & Technology, Suncheon National University, Suncheon, Jeonnam, Republic of Korea*, ²*Department of Life Science, Chung-Ang University, Seoul, Republic of Korea*, ³*National institute of Animal Science, RDA, Suwon, Gyeonggi-do, Republic of Korea*
- 0183 P3/080 **Preservative effect of Economas E[®], a vitamin E replacer, on the meat quality of Hanwoo (Korean native steers)**
Do Hyeong Lee¹, Sang Buem Cho², Eun Joong Kim³, Jong Soo Chang⁴, Nag Jin Choi², ¹*GRRC center, Hankyong University, Anseong, 456-749, Republic of Korea*, ²*Department of Animal Science, Chonbuk National University, Jeonju, 561-756, Republic of Korea*, ³*Department of Animal Science, Kyungpook University, Sangju, 742-711, Republic of Korea*, ⁴*Department of Agricultural Science, Korea National Open University, Seoul, 110-791, Republic of Korea*
- 0187 P3/066 **Repeatability of the methane production of sheep fed *ad libitum***
Samantha Bickell^{1,3}, Andrew Toovey^{2,3}, Dean Revell¹, Philip Vercoe^{1,3}, ¹*School of Animal Biology, The University of Western Australia, Crawley WA 6009, Australia*, ²*CSIRO Livestock Industries, Wembley, WA 6913, Australia*, ³*Sheep Cooperative Research Centre, Armidale, NSW 2351, Australia*
- 0188 P3/081 **Polymers of triglycerides generated during heating of fat do not protect linoleic acid from ruminal biohydrogenation**
Muhammad Kaleem^{1,2}, Francis Enjalbert^{1,2}, Yves Farizon^{1,2}, Annabelle Troegeler-Meynadier^{1,2}, ¹*INPT, ENVT, ENSAT, Toulouse, France*, ²*INRA, UMR Tandem, Castanet-Tolosan, France*

- 0190 P3/082 **Effect of increasing maturity in timothy-dominated grass silage offered with or without concentrates on meat quality of finishing Norwegian Red bulls**
Åshild T. Randby¹, ¹Norwegian University of Life Sciences, Ås, Norway
- 0194 P3/024 **Quantity and quality of goat milk from a herd grazing on a cultivated pasture with tederá (*Bituminaria bituminosa*) and barley as main constituent.**
Pilar Méndez¹, Sergio Álvarez¹, Elena Morales², Luis Bermejo², ¹Instituto Canario de Investigaciones Agrarias, Tenerife, Spain, ²Universidad de La Laguna, Tenerife, Spain
- 0195 P3/025 **Utilisation of ensiled by-products mixture in the feeding of lactating goats**
SERGIO ALVAREZ¹, PILAR MENDEZ¹, MARIA FRESNO¹, TOMÁS PÉREZ², ¹INSTITUTO CANARIO DE INVESTIGACIONES AGRARIAS, LA LAGUNA, TENERIFE, Spain, ²CANARIAS FORESTAL S.L., SANTA CRUZ, TENERIFE, Spain
- 0204 P3/026 **Performance of Nellore steers grazing *Brachiaria brizantha* cv. xaraes supplemented with different lipid sources during the spring**
Andre Valente¹, Ricardo Reis¹, Isabela Carvalho¹, Telma Berchielli¹, Ana Ruggieri¹, Nailson Santos¹, Daniel Casagrande¹, ¹Unesp, Jaboticabal, Sao Paulo, Brazil
- 0207 P3/036 **Intensification alternatives for pasture-based systems in Australia: nitrogen balance and greenhouse gas emissions**
Santiago Fariña¹, Sergio Garcia¹, William Fulkerson¹, ¹The University of Sydney, Sydney, NSW, Australia
- 0208 P3/037 **Methane inhibition by different mitigation agents in a batch *in vitro* rumen fermentation system**
Joaquin Miguel Castro Montoya^{1,2}, Sam De Campeneere², Bernard De Baets³, Veerle Fievez¹, ¹Laboratory of Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium, ²Institute of Agricultural and Fisheries Research, Animal Science Unit, Melle, Belgium, ³Department of Applied Mathematics, Biometrics and Process Control, Ghent University, Ghent, Belgium
- 0215 P3/038 **The effect of lipid sources on the methane emission of beef cattle at pasture using the SF6 tracer technique**
Isabela P.C. Carvalho¹, Telma T. Berchielli^{1,2}, Alexandre Berndt³, Rosa T. S. Frighetto⁴, Giovanni Fiorentini¹, ¹UNESP, Jaboticabal, Brazil, ²INCT/CA Member, Brazil, Brazil, ³EMBRAPA, São Carlos, Brazil, ⁴EMBRAPA, Jaguariúna, Brazil
- 0216 P3/039 **Construction and installation of six modular open-circuit chambers for monitoring gas emissions from large ruminants**
Nico Peiren¹, Bart Sonck¹, Joaquin Castro Montoya^{1,2}, Daniël De Brabander¹, Veerle Fievez², Sam De Campeneere¹, ¹Institute for Agricultural and Fisheries Research, Animal Sciences Unit, Melle, Belgium, ²Ghent University, Laboratory for Animal Nutrition and Animal Product Quality, Melle, Belgium
- 0219 P3/040 **Molecular analysis of methanogenic archaea in the forestomach of the alpaca (*Vicugna pacos*) reveals differences in population structure between individual hosts**
Benoit St-Pierre¹, André-Denis G. Wright¹, ¹The University of Vermont, Burlington, Vt, USA

- 0222 P3/027 **Development of fat depots in cattle and associations with beef quality**
 Paul Greenwood^{1,2}, Jason Siddell^{1,2}, Malcolm McPhee^{1,2}, Brad Walmsley^{1,2}, Geert Geesink^{1,3}, David Pethick^{1,4}, ¹*Australian Cooperative Research Centre for Beef Genetic Technologies, Armidale, NSW, Australia*, ²*Industry & Investment NSW, Armidale, NSW, Australia*, ³*University of New England, Armidale, NSW, Australia*, ⁴*Murdoch University, Murdoch, WA, Australia*
- 0225 P3/028 **Effect of Wheat DDGS to Grain Ratio on Changes of Protein Subfraction Profiles in Grain-Based Feed (Oats, Barley and Corn)**
 Daalkhaijav Damiran¹, Peiqiang Yu¹, ¹*University of Saskatchewan, Saskatoon, SK, Canada*
- 0237 P3/029 **Evaluation of the main lamb feeding system in the Central regions of Tunisia**
 Nizar Moujahed¹, Yosra Bouazizi¹, Mohamed Ali Ben Romdhane¹, Chokri Ben Mostfa¹, Cyrine Darej¹, ¹*INAT, LRAA, Cité Mahragène, Tunis/Tunis, Tunisia*
- 0240 P3/030 **Effect of Feeding Differently Processed Sweet Sorghum Bagasse Based complete Diet on Growth and Carcass Traits in Growing Ram Lambs**
 N. Nalini Kumari¹, Y. Ramana Reddy¹, M. Blummel^{2,1}, D. Nagalakshmi¹, T. Monika¹, M. Pavani¹, M. sudhakar Reddy¹, Ch. Ravinder Reddy³, B.V.S. Reddy³, ¹*S.V. Veterinary University, Andhra Pradesh, India*, ²*ILRI, Hyderabad, Andhra Pradesh, India*, ³*ICRISAT, Hyderabad, Andhra Pradesh, India*
- 0241 P3/041 **Optimization of Roughage to Concentrate Ratio in Sweet Sorghum Bagasse Based Complete Ration for Efficient Microbial Biomass Production in Sheep Using *In Vitro* Gas Technique**
 N. Nalini Kumari¹, Y. Ramana Reddy¹, M. Blummel², D. Nagalakshmi¹, T. Monika¹, M. Pavani¹, M. Sudhakar Reddy¹, Ch. Ravinder Reddy³, B.V.S. Reddy³, ¹*S.V. Veterinary University, Andhra Pradesh, India*, ²*ILRI, Hyderabad, Andhra Pradesh, India*, ³*ICRISAT, Hyderabad, Andhra Pradesh, India*
- 0242 P3/042 **The effect of incremental levels of Sandalwood oil on methane emissions and animal performance in sheep**
 Jolien Veneman¹, John Newbold¹, Hink Perdok¹, Walter Gerrits², Jan Dijkstra², Sander van Zijderveld¹, ¹*Provimi Holding B.V., Research Centre De Viersprong, Velddriel, The Netherlands*, ²*Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands*
- 0243 P3/031 **Sensory qualities of *Longissimus* muscle from finished young bulls offered diets enriched in linseed and antioxidants supplements**
 Didier Micol¹, Dominique Bauchart¹, Catherine Jurie¹, Karine Meteau², Agnes Thomas¹, Denys Durand¹, Jean Francois Hocquette¹, ¹*INRA-URH1213, Theix Saint Genes Champanelle, France*, ²*INRA-EASM1206, Le Magneraud Saint Pierre d'Amilly, France*
- 0275 P3/032 **Specie and strain characterisation of different silage inoculants**
 Ida Hindrichsen¹, Erlanda Augustsson¹, Jim Holliday¹, Bente Lund¹, Merete Mørk Jensen¹, Margaret Raun¹, Jonas Jatkauskas², Christer Ohlsson¹, ¹*Chr. Hansen A/S, Hørsholm, Denmark*, ²*Institute of Animal Science, Baisogala, Lithuania*

- 0280 P3/043 **Potential methane production using different feed formulation by *in vitro* rumen fermentation**
Seon-Ho Kim¹, Sang-Suk Lee¹, Che-Ok Jeon², Young-Kyoon Oh³, Md. Jahangir Alam¹, Lovelia Mamuad¹, Chang-Dae Jeong¹, ¹*Sunchon National University, Suncheon, Jeonnam, Republic of Korea*, ²*Chung-Ang University, Seoul, Republic of Korea*, ³*National Institute of Animal Science, Suwon, Gyeonggi-do, Republic of Korea*
- 0281 P3/033 **Effects of fattening lambs on rapeseed cake or DDGS diets with hay or pasture grazing**
Bronislaw Borys¹, ¹*National Research Institute of Animal Production, Krakow, Poland*
- 0282 P3/034 **Lipid profile of raw and grilled lamb meat when using rapeseed cake or DDGS diets with hay or pasture grazing**
Bronislaw Borys¹, Stanislaw Grzeskiewicz², Urszula Siekierko², Andrzej Borys², Eugenia Grzeskowiak², ¹*National Research Institute of Animal Production, Krakow, Poland*, ²*Institute of Agricultural and Food Biotechnology, Warszawa, Poland*
- 0283 P3/044 **Effects of stearidonic acid-rich Echium oil on methane production in a RUSITEC system**
P. Amaro¹, M.R.G. Maia¹, R.J. Dewhurst², A.J.M. Fonseca¹, A.R.J. Cabrita³, ¹*REQUIMTE, ICBAS, Instituto de Ciências Biomédicas de Abel Salazar, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, 4485-661 Vairão VC, Portugal*, ²*Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, County Meath, Ireland*, ³*REQUIMTE, Departamento de Geociências, Ambiente e Ordenamento do Território, Faculdade de Ciências, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, 4485-661 Vairão VC, Portugal*
- 0284 P3/035 **Effects of Supplementation of Crushed Linseed in Combination with Varying Forage Type and Forage to Concentrate Ratio on Milk Fatty Acid Profile in Lactating Dairy Cows**
Attje-Rieke Sterk^{1,2}, Hassan Taweel², Ad Van Vuuren¹, Jan Dijkstra¹, ¹*Wageningen University, Animal Nutrition Group, Wageningen, The Netherlands*, ²*Agrifirm Innovation Center, Apeldoorn, The Netherlands*
- 0285 P3/045 **The effect of differential physical forms of rapeseed as fat supplement on rumen NDF digestion and methane emission in dairy cows**
Maike Johannes¹, Peter Lund¹, Martin Riis Weisbjerg¹, Anne Louise Hellwing¹, Torben Hvelplund¹, ¹*Aarhus University, Foulum, Denmark*
- 0289 P3/046 **Effect of decreasing phosphorus intake and structure value on intake, milk production and phosphorus status of dairy cows**
 Wilfried van Straalen¹, Bart Tas¹, Ivonne Kok¹, Thomas Schonewille², ¹*Schothorst Feed Research, Lelystad, The Netherlands*, ²*Faculty of Veterinary Medicine, Department of Farm Animal Health, Division of Nutrition, Utrecht, The Netherlands*
- 0290 P3/003 **Response of pen-fed weaner cashmere goats to lucerne hay harvested at different times**
Fujiang Hou¹, Xianjiang Chen¹, Lei Xu¹, Ying Kang¹, Zhibiao Nan¹, Sarah Pain², Lindsay Bell³, Michael Robertson³, William Bellotti⁴, ¹*Lanzhou University, Lanzhou, China*, ²*Massey University, Palmerston North, New Zealand*, ³*CSIRO Ecosystems Sciences, Canberra, Australia*, ⁴*University of Western Sydney, Penrith, Australia*

- 0291 P3/047 **Methane emissions using taniferous native plants in ruminal fermentation *in vitro***
Emmanuel Andrade-Rivero¹, Octavio Alonso Castelán-Ortega¹, Julietta Gertrudis Estrada-Flores¹, ¹*Universidad Autonoma del Estado de Mexico, Estado de Mexico, Mexico*
- 0292 P3/048 **The role of genetic improvement for productivity traits in reducing enteric methane relative to the amount of lamb carcass produced from the Welsh national sheep flock**
Catherine Nakielny², Janet Roden¹, Jamie Newbold¹, ¹*The Institute of Biological, Environmental and Rural Sciences, Aberystwyth, Ceredigion, UK*, ²*KN Consulting, Llandeilo, Carmarthenshire, UK*
- 0294 P3/004 **Dairy ewes fed with fresh citrus by-product feedstuffs: the effect on Vastedda cheese characteristics**
Massimo Todaro¹, Maria Luisa Scatassa¹, ¹*University of Palermo - Department DEMETRA, Palermo, Sicily, Italy*, ²*Istituto Zooprofilattico Sperimentale, Palermo, Sicily, Italy*
- 0295 P3/005 **Can frequent and long-term consumption of beef with elevated concentrations of n-3 fatty acids improve the health of people with metabolic syndrome?**
Scott Kronberg¹, ¹*USDA-ARS, Northern Great Plains Research Laboratory, Mandan, North Dakota, USA*
- 0296 P3/006 **Performance and carcass traits of finishing Nellore steers fed crude glycerin**
Eric van Cleef¹, Jane Ezequiel¹, Juliana Sančanari¹, André D`Aurea¹, Vanessa Fávoro¹, David Silva¹, Flávia Scarpino¹, ¹*São Paulo State University, Jaboticabal, São Paulo, Brazil*
- 0298 P3/007 **Effect of pre-grazing herbage and sward specie richness on forage nutritive value, botanical composition, dry matter intake and milk solids production of dairy cows during the mid-lactation**
Daniel Collucci¹, Sabrina Greenwood¹, Racheal Bryant¹, Grant Edwards¹, ¹*Lincoln University, Lincoln, Canterbury, New Zealand*
- 0300 P3/008 **Effect of incremental amounts of fish oil in the diet on milk fatty acid composition in lactating dairy cows**
Piia Kairenius¹, Anu Ärölä¹, Heidi Leskinen¹, Seppo Ahvenjärvi¹, Aila Vanhatalo², Vesa Toivonen¹, Mikko Griinari³, Kevin Shingfield¹, ¹*MTT Agrifood Research Finland, Animal Production Research, Jokioinen, FI-31600, Finland*, ²*University of Helsinki, Department of Agricultural Sciences, Helsinki, FI-00014, Finland*, ³*The Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, Uppsala, SE-75323, Sweden*
- 0307 P3/014 **The relationship of temperature-humidity index with milk components and energy concentration of dairy cows**
Ugur SERBESTER¹, Ertan YAZGAN², Zeynep SAHAN³, Murat GORGULU³, Ladine CELIK³, ¹*Nigde University, Bor Vocational Scholl, Nigde, Turkey*, ²*Cukurova Agriculture Research Institute, Adana, Turkey*, ³*Cukurova University Agriculture Faculty Department of Animal Science, Adana, Turkey*
- 0308 P3/015 **Analysis of total methanogens in rumen fluid using quantitative real-time PCR and gas chromatography/mass spectrometry**
Christine McCartney^{1,2}, Ian Bull², Richard Dewhurst¹, ¹*Animal & Grassland Research and Innovation Centre, Teagasc, Dunsany, Co. Meath, Ireland*, ²*School of Chemistry, Univeristy of Bristol, Bristol, UK*

- 0312 P3/016 **Effects of season and species on *in sacco* degradability of plant species in the sub-humid subtropical savannah, South Africa**
Nasreldin Basha^{1,3}, Peter Scogings², Ignatius Nsahlai¹, ¹*University of KwaZulu-Natal, Pietermaritzburg, KwaZulu-Natal, South Africa*, ²*University of Zululand, Empangani, South Africa*, ³*University of Khartoum, Khartoum North, Sudan*
- 0314 P3/017 **In vitro evaluation of some plant extracts as a methane-inhibiting agents with diets with different degradability using rumen liquor from goats**
Gonzalo Martinez¹, Leticia Abecia¹, A. Ignacio Martin-Garcia¹, Eva Ramos Morales¹, Eduarda Molina-Alcaide¹, M Jose Ranilla², David R. Yanez-Ruiz¹, ¹*Estacion Experimental d el Zaidin (CSIC), Granada, Spain*, ²*IGM-Universidad de Leon, Leon, Spain*
- 0320 P3/018 **Locally produced protein feeds for dairy bull calves**
Birgitta Johansson¹, Therese Fernqvist¹, Anna Hessel¹, Elisabet Nadeau¹, Annika Arnesson¹, Karl-Ivar Kumm¹, ¹*Swedish university of agricultural sciences, P.O. Box 234, S-532 23 Skara, Sweden*
- 0323 P3/019 **Relationship between intake and excretion of nitrogen in dairy cows**
Cloves Cabreira Jobim¹, Jenifer Sifuentes Souza¹, Antonio Ferriani Branco¹, Julio Cezar Barreto¹, Milene Puntel Osmari¹, Silvana Teixeira¹, ¹*Universidade Estadual de Maringa, Maringa, Brazil*
- 0327 P3/020 **Milk yield and efficiency of nitrogen utilization in dairy cows**
Antonio Ferriani Branco¹, Jenifer Sifuentes Souza¹, Julio Cezar Barreto¹, Milene Puntel Osmari¹, Silvana Teixeira¹, Geraldo Tadeu Santos¹, Bruna Nunes Marsiglio¹, ¹*Universidade Estadual de Maringa, Maringa, Brazil*
- 0328 P3/009 **Factors affecting biohydrogenation of 22:6n-3 during batch in vitro incubations**
Bruno Vlaeminck¹, Veerle Fievez¹, ¹*LANUPRO, Ghent University, Melle, Belgium*
- 0333 P3/021 **Relationships between milk fatty acids and methane emissions in dairy cows fed on diets which altered methane outputs**
M.A.S. Gama^{1,2}, D. Li¹, J.H. Hernandez-Medrano¹, N. Saunders¹, J. Craigon¹, P.C. Garnsworthy¹, ¹*The University of Nottingham, School of Biosciences, Loughborough, UK*, ²*Embrapa Dairy Cattle, Juiz de Fora, MG, Brazil*
- 0334 P3/022 **Conversion of dietary N into milk N may be enhanced by the energy source in isoenergetic diets**
Gonzalo CANTALAPIEDRA-HIJAR¹, Jean-Louis PEYRAUD², Sophie LEMOSQUET², Pierre NOZIÈRE¹, Isabelle ORTIGUES-MARTY¹, ¹*INRA, UH1213 Herbivores. Centre de recherches de Clermont-Ferrand-Theix, F-63122 Saint Genès Champanelle, France*, ²*INRA, UMR1080 Production du Lait, F-35590 Saint-Gilles, France*
- 0335 P3/023 **On-farm dietary nitrogen use efficiency of lactating dairy cows in North-West of Portugal**
P. Magalhães¹, M.R.G. Maia², A.C. Gomes³, A.J.M. Fonseca², A.R.J. Cabrita¹, ¹*REQUIMTE, Departamento de Geociências, Ambiente e Ordenamento do Território, Faculdade de Ciências, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, 4485-661 Vairão VC, Portugal*, ²*REQUIMTE, ICBAS, Instituto de Ciências Biomédicas de Abel Salazar, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, 4485-661 Vairão VC, Portugal*, ³*Cooperativa Agrícola de Vila do Conde, CRL, Rua da Lapa nº 293, 4480-757 Vila do Conde, Portugal*

- 0341 P3/010 **Effect of lasalocid supplementation on performance of lambs grazing natural pastures.**
Lucía Piaggio¹, María Liliana del Pino¹, María de Jesús Marichal²,
¹Secretariado Uruguayo de la Lana, Montevideo, Uruguay, ²Facultad de Agronomía, Montevideo, Uruguay
- 0342 P3/011 **Effect of diet on yield of meat cuts from two indigenous breeds of cattle from Tanzania**
Ally Zakaria¹, Abiliza Kimambo¹, Louis Mtenga¹, Germana Laswai¹,
Angello Mwilawa¹, Dyness Mgheni¹, ¹Sokoine University of Agriculture, Morogoro, Tanzania
- 0345 P3/012 **Study of the effect of reducing methane production on milk composition and fatty acid profile in dairy goats**
Leticia Abecia¹, Pablo G Toral², A Ignacio Martin-Garcia¹, Gonzalo Martinez¹,
Eduarda Molina-Alcaide¹, Nigel W Tomkins⁴, Jamie Newbold³, David R Yanez-Ruiz¹,
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³IBERS, Aberystwyth University, Aberystwyth, Spain, ⁴CSIRO Livestock Industries, Townsville, Australia
- 0349 P3/013 **Effect of yeast supplementation on nutrients utilization and milk production in dairy cows**
Sobhy M.A. Sallam¹, Adel N.M. Nour El-Din¹, Soliman A. Mahmoud²,
¹Alexandria University, Alexandria, Egypt, ²Suez Canal University, Al-Ismaíia, Egypt
- 0351 P3/084 **Muscle and fat colour of early- and late-maturing heifers at two slaughter weights offered supplements designed to enhance beneficial polyunsaturated fatty acids in a grass-based beef production system**
Peter Dunne^{1,3}, Kevin Shingfield², Aidan Moloney¹, ¹Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, County Meath, Ireland,
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ABERYSTWYTH TOWN MAP & UNIVERSITY CAMPUS

Key

- 1 Aberystwyth Train Station and Taxi Rank
- 2 Belle Vue Royal Hotel
- 3 Aberystwyth University Campus Main Entrance and Porter's Lodge (with Penbryn Building and Ta Med Da Restaurant immediately behind)
- 4 Cwrt Mawr and Rosser University Halls of Residence
- 5 Conference Venue (Arts Centre, Aberystwyth University Campus)

