Welcome to WAFL 2017!

The on-farm assessment of animal welfare is entering a new phase. For many years its application was limited mainly to scientific studies on the effects of various husbandry practices. But times are changing and animal welfare is increasingly considered to be an integral part of sustainable livestock production, and not just a legislative burden to agriculture in Europe. Initiatives such as the OIE Standards and the more recent ISO Specification on Animal Welfare Management aim to improve welfare at a global level, and food chains in many parts of the world are now considering and implementing animal friendlier ways of production. These developments require welfare to be assessed by the food business operators themselves, taking welfare assessment out of the laboratory, and putting it into farming practice.

The 7th international conference on Welfare Assessment at Farm and Group Level is organised by Wageningen University & Research, in collaboration with Van Hall Larenstein university of applied sciences. We consider it an honour to host WAFL 2017 in the Netherlands this year. We have made an effort to support the developments described above, by providing an opportunity for business and science to meet and work on innovative and practical ways to improve animal well-being.

There are many people who have contributed to this year’s conference. You can find their names on the following pages. Without their help WAFL 2017 would not have been possible – thank you very, very much! We are also grateful for the professional support we received from Joke Scholte (ArtoFakt), Mike Jacobs (Wageningen Academic Publishers) and Oane de Hoop (OanEvents) who made our lives so much easier.

On behalf of the organising committee, we would like to welcome you to WAFL 2017 and wish you a stimulating and enjoyable conference.

Hans Spoolder

Bas Kemp
Acknowledgements

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Eddie Bokkers
Paul Koene
Kees van Reenen
Inonge Reimert
Frank Tuyttens

Organising committee:
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Bart Gremmen
Ingrid de Jong
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Bas Rodenburg

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Vencomatic Group
Tuesday 5 September Innovation Day

9:00 – 9:30  Reception, coffee
9:30 – 9:45  Welcome and introduction

9:45 – 10:30  Keynote Daniel M. Weary (UBC Canada)
Innovations to improve animal welfare: what have we reached and what should we aim for?

10:30 – 12:00  Pitch presentations welfare innovations
Joep Driessen, Jan Hulsen* and Wiebe Veenstra
Keep cow and calf health and stress-free with cowsignals cuddle box
Elske N De Haas*, Jerine A.J. Van Der Eijk, Lydia E. Nieuwe Weme, Bram Van Mil and T. Bas Rodenburg
Phenolab: ultra-wide band tracking of individual group housed laying hens
Steen H. Møller*, Britt I.F. Henriksen and Anna F. Marsbøll
Full-scale implementation of WelFur-Mink in Europe – only certified pelts will be sold from 2020
Maikel Timmerman, Marion Kluivers-Poodt, Inonge Reimert, Herman Vermeer*, Ruud Barth, Gert Kootstra, Johan Van Riel and Kees Lokhorst
Creating Resilience in Pigs Through Artificial Intelligence (CuRly Pig TAIL)
Margit Dall Aaslyng, Helle Daugaard Larsen*, Glenn Brink Nielsen and Per Black
Measuring tail length and tail bites on pig carcasses
Anne Van Den Oever*, Liebregts Bas and van de Ven Lotte
Q-perch helps fight poultry red mite
M.F. Mul*, J.W. Van Riel, P.G.W. Groot Koerkamp, M. Dicke, G. Schoeber and D. Fetter
The automated mite monitoring tool for advancing integrated pest management for Dermanyssus gallinae
Paul Jackson
Innovative concept building design using passive technology to improve resource efficiency
David Speller
OPTIFarm broiler management
Paul Koene
Adding social network information to automated dairy cow management
Elnaz Khatami
Improving animal health and welfare by on-line SCC monitoring instrument ‘LUCI’
M.A.W. Ruis, A. Mens, R. Zanders and J. Katoele*
Feeding live black soldier fly larvae and effects on health, welfare and production of laying hens
Carla Van Der Pol
HatchCare, the poultry incubator with feed, light, and water

12:00 – 12:30  Plenary discussion
12:30 – 13:30  Lunch
13:30 – 16:00  Innovation market
16:00 – 17:00  Plenary discussion and voting innovation award
17:00 – 22:00  Drinks and dinner, welcome reception WAFL congress
Wednesday 6 September 2017

7:30 – 8:30  Registration & coffee
8:30 – 9:00  Opening & welcome

**Session:** Sustainability and animal welfare  
**Chairperson:** Elsa Vasseur

9:00 – 9:45  **Keynote Imke de Boer**  
Future food systems: implications for animal welfare

9:45 – 10:00  *Carolina A. Munoz*, Angus J.D. Campbell, Paul H. Hemsworth and Rebecca E. Doyle  
On-farm ewe welfare and its relationship with farmer management styles

10:00 – 10:15  *Luiza Toma, Marie J. Haskell*, Andrew P. Barnes and Alistair W. Stott  
Relationship between animal welfare, production and environmental performance of dairy farms

10:15 – 10:45  Coffee break (& posters)

**Session:** Sustainability and animal welfare / Free papers  
**Chairperson:** Jan Tind Sørensen

10:45 – 11:00  *Evelien De Olde*, Eddie Bokkers and Imke De Boer  
The evaluation of animal welfare in sustainability assessment tools

11:00 – 11:15  *Lukas Tremetsberger, Jochen Kantelhardt* and *Christoph Winckler*  
Animal health and welfare state and technical efficiency of dairy farms: possible synergies

11:15 – 11:30  *Sajeev Erangu Purath Mohankumar*, Kian Mintz-Woo, Barbara Amo and Wilfried Winiwarter  
Ethical and agronomical considerations towards a sustainable pig housing system

Farmers’ practices and attitudes towards artificial fed lambs and their mortality in meat systems

11:45 – 12:00  *Helena Telkanranta* and *Anna Valros*  
Could pigs have unidentified behavioural needs that warrant inclusion in future welfare assessments?

12:00 – 13:30  Lunch

**Session:** Animal welfare in society  
**Chairperson:** Daniel Weary

13:30 – 14:15  **Keynote Noelle Aarts**  
The art of dialogue

14:15 – 14:30  *Katherine E. Koralesky* and *David Fraser*  
Dairy industry stakeholder perceptions of British Columbia’s emergency slaughter program

14:30 – 14:45  *Sarah Gauly, Marie Von Meyer-Höfe, Achim Spille* and *Gesa Busch*  
Does the background matter – people’s perception of pictures of pigs in different farm settings
14:45 – 15:00 Lenka Van Riemsdijk*, Paul T.M. Ingenbleek, Gerrita Van Der Veen and Hans C.M. Van Trijp
Addressing the social dilemma in animal-friendly product choice with positioning strategies

15:00 – 15:15 Karianne Muri*, Per Arne Tufte and Randi Oppermann Moe
Sheep farmers’ behavioural attitudes are associated with intrinsic motivation and job satisfaction

15:15 – 15:30 Manika Rödiger*, Meike Janssen and Ulrich Hamm
Multi-level animal welfare labels reflect consumer preferences: insights from a systematic review

15:30 – 16:30 Tea & posters

16:30 – 18:00 Workshops
Workshop 1 Hanneke Nijland
Workshop animal farming and consumption

Workshop 2 Bas Engel and Bart Ampe
Sensible statistics in animal welfare research

Workshop 3 Sophie de Graaf, Leonie Jacobs, Olga Szczodry and Frank Tuyttens
Towards a unified definition of animal welfare among animal welfare scientists

Workshop 4 Björn Forkman
Welfare Quality: current state-of-the-art and a look into the future

Workshop 5 Paul Koene, Jose Kok and Jens Krause
Zoo Animal Welfare: are we happy together?
Thursday 7 September 2017

**Session:** Social networks in animal welfare  
**Chairperson:** Janice Siegford

8:30 – 9:15  
**Keynote** Jens Krause
Social network analysis: opportunities and challenges for applications in wild and domestic animal populations

9:15 – 9:30  
Yuzhi Li*, Haifeng Zhang, Lee Johnston and Wayne Martin  
Understanding tail biting in pigs through social network analysis

9:30 – 9:45  
Borbala Foris*, Manuela Zebunke, Jan Langbein and Nina Melzer  
Relationship between personality and social behaviour in dairy cattle

9:45 – 10:00  
Simone Foister*, Andrea Doeschl-Wilson, Rainer Roehe, Laura Boyle and Simon Turner  
Can aggressive network structures at mixing be used to predict lesion outcomes in pigs?

10:00 – 10:15  
Jen-Yun Chou*, Emma M. Baxter and Lesley A. Smith  
Effect of environmental enrichment on the social contact patterns of group housed sows

10:15 – 10:45 Coffee break (& posters)

**Session:** Welfare assessment / Genetics and animal welfare  
**Chairperson:** Jim Webster

10:45 – 11:00  
Timothy Giles*, Scott Hulme, Paul Barrow, Nathalie Le Floch, Anne-Marie Chaussé, Panagiotis Sakkas, Tommy Van Limbergen, Suso Mendez, Joaquín Morales and Neil Foster  
Identification of genes which are associated with production diseases in pigs and chickens

11:00 – 11:15  
Genetic selection to enhance animal welfare using meat inspection data from slaughter plants

11:15 – 11:30  
Juan P. Steibel*, Rodolfo J.C. Cantet and Janice M. Siegford  
Modelling intensity of interaction to estimate direct and indirect genetic effects

11:30 – 11:45  
Leonie Jacobs*, Evelyne Delezie, Klara Goethals, Bart Ampe, Luc Duchateau and Frank Tuyttens  
Development and application of a pre-slaughter welfare monitoring protocol for broilers

11:45 – 12:00  
Nienke Van Staaveren*, Bernadette Doyle, Edgar G. Manzanilla, Julia A. Calderón Díaz, Alison Hanlon and Laura A. Boyle  
Validation of lesions on the carcass as indicators of pig welfare on farm

12:00 – 14:00 Lunch & Posters
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<th>Time</th>
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<th>Title</th>
<th>Chair</th>
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<tr>
<td>14:00</td>
<td><strong>Parallel session 1:</strong> Welfare assessment</td>
<td>Should the contribution of one more lame cow depend on how many other cows on the farm are lame?</td>
<td><strong>Chair:</strong> Marie J. Haskell</td>
<td>Peter Sandøe*, Thomas Bøker Lund, Björn Forkman and Matt Denwood</td>
<td>Welfare assessment</td>
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<td>14:30</td>
<td><strong>Parallel session 2:</strong> Welfare assessment</td>
<td>Welfare benchmarking for commercially farmed pigs in the UK</td>
<td><strong>Chair:</strong> Keelin O’Discroll</td>
<td>Fanny Pandolfi*, Ilias Kyriazakis, Katja Stoddart, Nina Wainwright and Sandra E. Edwards</td>
<td>Does animal health and welfare of organic pigs differ between husbandry systems?</td>
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<td>14:00</td>
<td><strong>Parallel session 1:</strong> Welfare assessment</td>
<td>Validation of hock lesions as welfare indicator in dairy cows</td>
<td><strong>Chair:</strong> Marie J. Haskell</td>
<td>Daniela Haager*, Christine Leeb and Christoph Winckler</td>
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<td>Gwendolyn Rudolph, Sabine Dippel, Davide Bochicchio, Sandra Edwards, Barbara Früh, Mirjam Holinger, Diane Holmes, Gudrun Illmann, Denise Knop, Armelle Prunier, Tine Rousing, Christoph Winckler and Christine Leeb*</td>
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<td>Implementation of animal-based measures within an animal-welfare labelling scheme for steers</td>
<td><strong>Chair:</strong> Marie J. Haskell</td>
<td>Sabine Hartmann*, Verena Wesian, Christoph Winckler, Christine Berger, Marlene Berger, Edina Scherzer and Christine Leeb</td>
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<td>The relation between impaired gait and automated monitoring of broiler flock activity levels</td>
<td><strong>Chair:</strong> Keelin O’Discroll</td>
<td>Tom Van Hertem*, Tomas Norton, Daniel Berckmans and Erik Vranken</td>
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<td>Association between animal welfare standards and farm profitability on Canadian freestall dairies</td>
<td><strong>Chair:</strong> Marie J. Haskell</td>
<td>Marianne Villettaz Robichaud, Jeffrey Rushen, Anne Marie De Passillé, Elsa Vasseur*, Derek Haley, Karin Orsel and Doris Pellerin</td>
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<td>Assessment of plumage and integument condition in dual-purpose breeds and conventional layers</td>
<td><strong>Chair:</strong> Keelin O’Discroll</td>
<td>Mona Franziska Giersberg*, Birgit Spindler and Nicole Kemper</td>
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<td>How to measure dairy cows’ responsiveness towards humans in breeding and welfare assessment?</td>
<td><strong>Chair:</strong> Marie J. Haskell</td>
<td>Asja Ebinghaus*, Silvia Ivermeyer, Vanessa Lauks, Laura Santos, Kerstin Brügemann, Sven König and Ute Knierim</td>
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<td>Effects of automated monitoring equipment on laying hen behaviour</td>
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<td>Stephanie Buijs*, Christine Nicol, Francesca Booth, Gemma Richards and John Tarlton</td>
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<td>15:45 –</td>
<td>Using data from electronic sow feeders for investigating the effect</td>
<td>Olga Szczodry*, Bart Ampe, Wouter Kraan, Emilie-Julie Bos, Annelies Van</td>
<td>Positive human-bird interactions improve welfare and production performance in the ostrich</td>
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<td>16:00 –</td>
<td>on feeding behaviour</td>
<td>Nuffel and Frank Tuyttens</td>
<td>Effect of gaseous ammonia on eating and ruminating behaviour in sheep in simulated transport by sea</td>
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<td>16:15 –</td>
<td>Abattoir data provide information on pig welfare at herd level in</td>
<td>Hanne Kongsted* and Jan Tind Sørensen</td>
<td>Evaluation of the AWIN welfare assessment protocol for horses regarding animal-based indicators</td>
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<td>different production systems</td>
<td>Herman Vermeer* and Johan Van Riel</td>
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<td>Irena Czycholl*, Kathrin Böttner, Philipp Klingbeil, Michela Minero,</td>
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<td>Emanuela Dalla Costa, Francesca Dai and Joachim Krieter</td>
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Friday 8 September 2017

Session: Avoiding bias in science  
Chair: Christoph Winckler

9:00 – 9:45  
Keynote Jelte Wicherts  
The weak spots of contemporary science and how to strengthen it

9:45 – 10:00  
Nina Dam Otten*, Tine Rousing and Björn Forkman  
Influence of professional affiliation on expert’s views on animal welfare criteria

10:00 – 10:15  
L. Friedrich*, I. Czycholl, N. Kemper and J. Krieter  
Reliability of the Welfare Quality® animal welfare assessment protocol for sows and piglets

10:15 – 10:45 Coffee break (& posters)

Session: Welfare assessment / Free papers  
Chair: Stephanie Buijs

10:45 – 11:00  
Penny Lawlis* and Tina Widowski  
Training outcomes for animal based measures

11:00 – 11:15  
Tine Rousing*, Peter T. Thomsen and Jan Tind Sørensen  
Qualitative and quantitative animal behaviour measures in on-farm welfare assessments for pig herds

11:15 – 11:30  
Laura Boyle*, John Mee and Joanna Marchewka  
Risks to welfare associated with changes in infrastructure and management in expanding dairy herds

11:30 – 11:45  
Kendy Teng*, Brecht Devleesschauwer, Charline Maertens De Noordhout, Paul McGreevy, Peter Bennett, Jenny-Ann Toribio and Navneet Dhand  
Welfare-adjusted life years: combine welfare compromise and premature death to a whole

11:45 – 12:00  
Catalina Medrano-Galarza*, Stephen Leblanc, Andria Jones-Bitton, Trevor Devries, Anne Marie De Passillé, Jeffrey Rushen, Marcia Endres and Derek Haley  
Interdependence of management and automated milk feeders to ensure dairy calf health

12:00 – 12:30 Closing session  
12:30 – 13:30 Lunch (in a bag)
Scientific abstracts

Session 1. Sustainability and animal welfare

Future food systems: implications for animal welfare
Imke De Boer

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Ethical and agronomical considerations towards a sustainable pig housing system
Sajeev Erangu Purath Mohankumar, Kian Mintz-Woo, Barbara Amon and Wilfried Winiwarter

A vision for sustainable farm animal production
Melina Caroline Tensen

Is compliance with animal welfare standards associated with improved profitability on dairy farms?
Marianne Villettaz Robichaud, Jeffrey Rushen, Anne Marie De Passille, Elsa Vasseur, Derek Haley and Doris Pellerin

The effects of sensors and robots on human animal relationship on farm
Florence Kling-Eveillard, Nathalie Hostiou, Emeline Ganis and Valérie Courboulay

Development of a monitoring tool for measuring and validating the sustainability of dairy farms
Tomke Lindena, Lavinia Flint, Heike Kuhnert, Birthe Lassen and Hiltrud Nieberg

A sustainable option for tie-stalls: providing year-long exercise helps improve dairy cow welfare
Santiago Palacio, Steve Adam, Renée Bergeron, Doris Pellerin, Anne Marie De Passillé, Jeff Rushen, Derek Haley, Trevor Devries and Elsa Vasseur
Clipping the toenails of day-old ostrich chicks: beneficial or detrimental?
Anel Engelbrecht, Schalk Willem Petrus Cloete, Adriaan Olivier, Kenneth Joubert and Maud Bonato

Hidden animals: animal welfare indicators within assessments of sustainability
Christy Goldhawk, Roger Cady, David Heckman, Shabbir Simjee and Matthew Salois

Monitoring body temperature and activity in sows using a sensor-based telemetric system
Elaine Van Erp-Van Der Kooij, Judith B. Roelofs, Jay S. Johnson, Dag Hovden and Lucas P.J.J. Noldus

The impact of health problems in dairy cows on greenhouse gas emissions: a case study with mastitis
Pim F. Mostert, Eddie A.M. Bokkers, Corina E. Van Middelaar and Imke J.M. De Boer

Occurrence of lameness during a 6-month period in four Danish dairy herds
Karina B. Gleerup, Hans Houe, Björn Forkman, Mette S. Herskin and Peter T. Thomsen

Effects of some factors on calves’ viability and growth
Radu Ionel Neamt, Dinu Gavojdian, Florin Cristian Neciu, Ludovic Toma Cziszter and Daniela Elena Ilie

Economic and environmental impact of dry period length in dairy cows
Akke Kok, Corina Van Middelaar, Pim Mostert, Ariëtte Van Knegsel, Bas Kemp, Imke De Boer and Henk Hogeveen

Relation between the prevalence of claw lesions in Flemish dairies and the perception of the farmers
Béke Nivelle, Sanne Van Beirendonck, Jos Van Thielen and Bert Driessen

Comparison of AW indicators & body weight of beef cattle in a silvopastoral system and natural grass
Stella Huertas, Pablo Bobadilla, Frank Van Eerdenburg, Déborah César and Hernán Bueno

Manipulation and slaughter of American bison (Bison bison) in European farms
Hilde Vervaecke

Inclusion of poplar trees in pasture-based pig systems to reduce the heat load of lactating sows dur
Malene Jakobsen, Sarah-Lina Aagaard Schild, Anne Grete Kongsted and Heidi Mai-Lis Andersen

Smothering in UK free-range laying hens: research from the McDonald’s sustainable egg supply group
Ann Catherine Rayner, David Brass, Tom Willings, Peter Garbutt and Ashleigh Bright
Comparison of loose housing and individual housing of sows in early gestation within 4 sow herds
Theo Geudeke

First results: are there links between Welfare Quality® and sustainability indicators of dairying?
Sylvia Warnecke, Harald Schmid, Karen Schröder, Richard Beisecker, Jan Brinkmann, Helmut Frank, Peter Hinterstoisser, Regine Koopmann, Solveig March, Hans Marten Paulsen, Jürgen Sanders, Maximilian Schüler and Kathrin Wagner

Preliminary results on the practice of tail docking in Merino Fine Wool sheep in South Africa
Anna J. Scholtz, Elizabeth Du Toit and Schalk W.P. Cloete

On-farm assessment of welfare in dairy farming and its impacts on measures of sustainability
Stephan Ebschke and Eberhard Von Borell

Development of furnished cages reusing conventional cages for laying hens
Tsuyoshi Shimmura, Naoko Maekawa, Satoshi Hirahara and Toshio Tanaka

Dominance effects on grazing patterns in horses in nature reserves
Hilde Vervaecke, Johan Miechielssens, Jan Van Uytvanck and Maurice Hoffmann

Assessing sustainability of welfare improvement in working equids in Petra, Jordan
Ashleigh Brown

Association of transition health with early culling in dairy cows under pasture-based systems
Pilar Sepúlveda-Varas and Constanza Hernández-Gotelli

Implicit presence of animal welfare features in agricultural economic policy assessment models
Bouda Vosough Ahmadi

Restraint of sows during lactation is a risk for preweaning mortality and increased hair cortisol
Liat Morgan, Eyal Klement, Jerry Meyer, Shiri Novak, Weissam Abu-Ahmad, Ofer Doron, Shakked Navon and Tal Raz

Session 2. Animal welfare in society

The art of dialogue
Noelle Aarts
Dairy industry stakeholder perceptions of British Columbia’s emergency slaughter program
*Katherine E. Koralesky and David Fraser*

Does the background matter? People’s perception of pictures of pigs in different farm settings
*Sarah Gauly, Marie Von Meyer-Höfer, Achim Spiller and Gesa Busch*

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Multi-level animal welfare labels reflect consumer preferences: insights from a systematic review
*Manika Rödiger, Meike Janssen and Ulrich Hamm*

Antibiotic use: balancing consumer concerns and animal welfare
*Fiona Gwendolen Roberts, John Kirkpatrick and Gerald Crown*

Supply chain’s lack of response to emerging needs for clenbuterol-free meat: a case study in Mexico
*Miriam Elizabeth Perez-Luna*

Role of agricultural colleges in framing future farmers’ perception of animal welfare
*Inger Anneberg, Peter Sandøe and Jesper Lassen*

Citizens perceive broiler welfare differently from poultry farmers and poultry veterinarians
*Mariska Van Asselt, E. Dinand Ekkel, Bas Kemp and Elsbeth N. Stassen*

Ambition and reality of the EU animal welfare legislation on long distance animal transport
*Julia Havenstein*

A framework for review of private animal health and welfare standards in QA programmes
*Laura Boyle, Joanna Marchewka, Alison Hanlon and Simon More*

Animal welfare in traditional mountain dairy cattle farms: how do consumers perceive complexity?
*Anna Zuliani, Lars Esbjerg, Klaus G. Grunert and Stefano Bovolenta*
Farmer apprentices’ learning on animal welfare during farm practice is influenced by host farmers
Mette Vaarst and Inger Anneberg

Do villagers trigger farmers’ perceptions of animal welfare standards?
Nina Purwins, Tim Viergutz and Birgit Schulze-Ehlers

Brazilian citizens: expectations for dairy cattle welfare and awareness of contentious practices
Clarissa Silva Cardoso, Angelica Roslindo, Marina A.g. Von Keyserlingk and Maria José Hötzel

Session 3. Social networks in animal welfare

Social network analysis: opportunities and challenges for applications in wild and domestic animal populations
Jens Krause

Understanding tail biting in pigs through social network analysis
Yuzhi Li, Haifeng Zhang, Lee Johnston and Wayne Martin

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Can aggressive network structures at mixing be used to predict lesion outcomes in pigs?
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Effect of environmental enrichment on the social contact patterns of group housed sows
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Effects of a virtual fence on individual and social behaviour and welfare of dairy cows
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Calf management extension programme to improve calf welfare on British dairy farms
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EuroDairy: sharing experiences and best practice of dairy cattle welfare assessment across Europe
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Welfare-adjusted life years: combine welfare compromise and premature death to a whole
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The motivation-based calving facility
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The relationship between response to humans and social aggression in pigs
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Effect of heat stress on piglet welfare – application of a non-invasive gut permeability marker
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Using sensors to monitor behaviour at the dairy farm
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Intratesticular alfaxalone and lidocaine for induction of anaesthesia during castration in piglets
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Immune response of suckled beef calves to dam vaccination against bovine respiratory disease
Bernadette Earley, Katie Tiernan, Amanda Dunn, Steven Morrison, Sinead Waters and Mark McGee

Illumina MiSeq 16S amplicon sequence analysis of bovine respiratory disease associated bacteria
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Dana Campbell, Jim Lea, William Farrer, Sally Haynes and Caroline Lee

Management of cull dairy cows: consensus of an expert consultation in Canada
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Long distance transport of unweaned calves in practice: welfare concerns
Cecilia Pedernera, Iris Baumgärtner, Sabrina Gurtner and Lesley Moffat

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A farmer survey report on calf mortality rates Southern Brazil
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**Innovation day**

Innovation in animal welfare science

Daniel M. Weary

Keep cow and calf health and stress-free with cowsignals cuddle box

Joep Driessen, Jan Hulsen and Wiebe Veenstra

Phenolab: ultra-wide band tracking of individual group housed laying hens

Elske N De Haas, Jerine A.J. Van Der Eijk, Lydia E. Nieuwe Weme, Bram Van Mil and T. Bas Rodenburg

Full-scale implementation of WelFur-Mink in Europe – only certified pelts will be sold from 2020

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Assessment of the welfare of carriage horses in Yogyakarta Province, Indonesia
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Horse drawn carriage is still widely used as transportation and leisure in Yogyakarta Province. This study was aimed to assess the level of animal welfare of carriage horses in Yogyakarta, Indonesia. We assessed the welfare of 225 heads of carriage horses, belong to 65 owners in Yogyakarta Indonesia. From various sources of literatures and management practices on regular basis, 25 indicators which describe the attribute of 5 freedoms, were selected. The individual assessment was defined as directly observable and objective verifiable (e.g. body condition score and presence of skin lesion and wounds, diseases and discomfort by use). Data on farm level were related to feeding, housing and health care management, exercise, training methods, and human-animal interactions. The data were analysed descriptively and compared to some existing welfare assessment, due to absence of particular welfare assessment protocols for developing countries. The results showed that 29, 20.3 and 50.7% of carriage horses had relatively good, moderate and bad welfare respectively. Health and human-animal interaction aspects obtained the worst score. In conclusion, most of horses used for carriage are handled poorly. Welfare assessment based on objective parameters can be used as first step to improve horse welfare in Indonesia, but needs continuous improvement. The animal welfare needs to be strongly and continually promoted in developing country such as Indonesia. Welfare assessment protocol for horses is needed in developing countries.