



BAMST

57th ICoMST

LET'S MEET IN GHENT, BELGIUM

**Global challenges to production,
processing and consumption of meat**

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57th ICoMST

**57th International Congress of Meat Science and Technology
Proceedings**

PROGRAMME IN DETAIL



Sunday 7 August 2011

18:30-19:30 Opening Ceremony

Monday 8 August 2011

Auditorium:

Parallel Session 1

08:30-10:10 Muscle Biochemistry

Chairs: Lametsch R, University of Copenhagen, Frederiksberg, Denmark
Clinquart A, University of Liège, Liège, Belgium

- 08:30 001 Differences in myosin heavy chain mRNA expression levels among chicken muscles reflect differences in protein polymerization by transglutaminase**
Ahhmed MA 1,2, Yoshito T 2, Kawahara S 2, Kaneko G 2, Muguruma M 2
1 Food Technology, Gheran Higher Centre for Agricultural Technologies, Tripoli, Libya; 2 Department of Biochemistry and Applied Biosciences, Faculty of Agriculture, University of Miyazaki, Miyazaki, Japan
- 08:50 002 Phosphoproteomics analysis of postmortem porcine muscle with pH decline rate and time differences**
Huang H 1, Larsen MR 2, Karlsson AH 1, Lametsch R 1
1 Department of Food Science, Faculty of Life Sciences, University of Copenhagen, Copenhagen, Denmark; 2 Department of Biochemistry and Molecular Biology, University of Southern Denmark, Odense, Denmark
- 09:10 003 Proteome basis of muscle-specific beef color stability**
Suman SP 1, Joseph P 1, Li S 1, McClelland KM 1, Rentfrow G 1, Beach CM 2
1 Department of Animal and Food Sciences, 2 Department of Molecular and Cellular Biochemistry, University of Kentucky, Lexington, Kentucky, USA
- 09:30 004 Adenosine monophosphate-activated protein kinase status modulates kinetics of post-mortem pH decline and meat quality in pig Longissimus muscle**
Faura J 1,2, Lebret B 1,2, Ecolan P 1,2, Metayaer-Coustard S 3, Lefaucheur L 1,2
1 INRA, UMR1079 Systèmes d'élevage, Nutrition Animale et Humaine, Saint-Gilles, France; 2 Agrocampus Ouest, UMR1079 Systèmes d'élevage, Nutrition Animale et Humaine, Rennes, France; 3 INRA, UR83 Recherches Avicoles, Nouzilly, France
- 09:50 005 Proteolysis may be controlled by postmortem energy metabolism**
England EM, Scheffler JM, Park S, Kasten SC, Scheffler TL, Zhu H, Fisher KD, Reinholt BM, Van Eyk GR, Stevenson JM, Roberson RC, Gerrard DE
Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, USA

Jan Van Eyck Room:
Parallel Session 2
08:30-10:10 Sustainable Meat Production

Chairs: Bickerstaffe R, Lincoln University, Canterbury, New Zealand
 Millet S, Institute for Agricultural and Fisheries Research, Melle, Belgium

- 08:30 006 Evaluation of meat quality traits from European pig production systems in relation to sustainability: an approach**
Gonzalez J 1, Gispert M 1, Gil M 1, Hvid M 2, Dourmad JY 3, de Greef K 4, Fàbrega E 1
 1 IRTA, Spain; 2 Danish Meat Research Institute, Roskilde, Denmark; 3 INRA Agrocampus Ouest, France; 4 Wageningen UR, Wageningen, the Netherlands
- 08:50 007 Vocalization as a measure of welfare in slaughter pigs at Danish slaughterhouses**
Støier S, Sell AM, Christensen LB, Blaabjerg LO, Aaslyng MD
 Danish Meat Research Institute/Danish Technological Institute, Roskilde, Denmark
- 09:10 008 Cattle with more reactive temperaments have lower resting muscle glycogen**
McGilchrist P 1,2, Cafe LM 1,3, Pethick DW 1,2, Greenwood PL 1,3, Gardner GE 1,2
 1 Australian Cooperative Research Centre for Beef Genetic Technologies, Armidale, NSW, Australia; 2 School of Veterinary & Biomedical Science, Murdoch University, Murdoch, WA, Australia; 3 Industry & Investment NSW, Beef Industry Centre, Armidale, NSW, Australia
- 09:30 009 Differences in Minolta color score and beef tenderness associated with feedlot stress and slaughter method**
Magolski JD 1, Maddock-Carlin KR 1, Anderson VL 2, Schwartz CA 1, Lepper AN 1, Keller WL 1, Sun X 1, Ilse BR 2, Berg EP 1
 1 Department of Animal Sciences, North Dakota State University, Fargo, ND, USA; 2 Carrington Research Extension Center, North Dakota State University, Carrington, ND, USA
- 09:50 010 Carbon dioxide emissions associated with different post-production beef distribution systems in the United States**
Raines CR 1, Eurich LN 1, Capper JL 2
 1 The Pennsylvania State University, Department of Dairy and Animal Science, University Park, Pennsylvania, USA; 2 Washington State University, Department of Animal Sciences, Pullman, Washington, USA

10:10-10:40 Coffee Break

Auditorium:
Plenary Session I
10:40-12:10 Muscle Growth & Meat Quality

Chairs: Picard B, INRA, Saint-Genès-Champanelle, France
 Clinquart A, University of Liège, Liège, Belgium

10:40 Genes influencing muscle development in livestock: past, present and future
 Charlier Carole,
 Unit of Animal Genetics, GIGA-Research, Faculty of Veterinary Medicine, University
 of Liège, Liège, Belgium

11:25 Lessons to learn about postmortem metabolism using the AMPK γ 3^{R200Q}
mutation in the pig
 Gerrard David E.
 Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, USA

The development of pork quality attributes - including color, water holding capacity, and texture - are controlled largely by the rate and extent of postmortem pH decline. In turn, pH decline is thought to follow the anaerobic degradation of glycogen to "lactic acid". The "Hampshire effect" or RendementNapole (RN^o) pig, which has elevated muscle glycogen, propagated the widespread use of "glycolytic potential" to describe muscle's capacity for postmortem glycolysis. Since the evolution of glycolytic potential, there have been great strides in molecular and technical capabilities. Hence, it must be appreciated that the RN^o pig possesses a mutation in the gene encoding the AMP-activated protein kinase (AMPK) γ 3 subunit, which results in a non-conservative amino acid substitution (R200Q). AMPK, a major energy sensor in skeletal muscle, influences enzyme activity, gene and protein expression, fiber type, and mitochondrial biogenesis. The utility of glycolytic potential as indicator of ultimate pH should be reevaluated in the context of the metabolic differences between AMPK γ 3 mutated and normal muscle. Understanding the metabolism and energetics in AMPK γ 3 mutated muscle may provide insight into the mechanisms influencing the rate and extent of postmortem metabolism.

12:10-14:00 Lunch

Poster Viewing

Sessions 1-7

Poster session 1: Animal Genetics and Meat Quality

Poster session 2: Animal Welfare, Slaughter and Meat

Poster session 3: Postmortem metabolism and tenderness

Poster session 4: Muscle Proteome

Poster session 5: Consumer and Sensory Issues

Poster session 6: Nutrition and Health Issues

Poster session 7: Fish and Seafood

Auditorium:
Plenary Session II
14:00-15:30 Meat Consumption

Chairs:Karlsson AH, University of Copenhagen, Frederiksberg, Denmark
Verbeke W, Ghent University, Ghent, Belgium

14:00 Consumer behavior and opportunities for new product development
Grunert Klaus,
MAPP Centre for Research on Customer Relations in the Food Sector, Aarhus
University, Aarhus, Denmark

Successful new product development requires input from the market throughout the produce development process, from identification of opportunities via screening of ideas, development of concepts, development of physical prototypes and launch. Drawing on work done in the EU FP6 projects PROSAFE BEEF and Q-PORKCHAINS and a Danish project, all dealing with new product development in the meat sector, it is shown how the use of consumer insight techniques can a) support the identification of market opportunities, b) make sure that technologies applied are acceptable to consumers, c) aid the selection and optimization of new product concepts and related communication, and d) be used to test product prototypes before final launch.

14:45 Meat and sustainability - What are the key issues and possibilities for improvements
Sonesson Ulf,
Sustainable Food Production, SIK - The Swedish Institute for Food and
Biotechnology, Göteborg, Sweden

15:30-16:00 Coffee Break

16:00-16:30 Poster Discussion Sessions

Sessions 1-7

Poster session 1: Animal Genetics and Meat Quality

Poster session 2: Animal Welfare, Slaughter and Meat

Poster session 3: Postmortem metabolism and tenderness

Poster session 4: Muscle Proteome

Poster session 5: Consumer and Sensory Issues

Poster session 6: Nutrition and Health Issues

Poster session 7: Fish and Seafood

Auditorium:
Parallel Session 3
16:30-17:50 Management of Tenderness

Chairs: Hopkins D, NSW DPI, Corwa, Australia
 De Smet S, Ghent University, Ghent, Belgium

- 16:30 011 Cluster analysis application in research of muscle biochemical determinants for beef tenderness**
Chriki S 1,2, Garner G 2, Jurie C 1, Picard B 1, Micol D 1, Brun JP 1, Journaux L 3, Hocquette JF 1
 1 INRA UR1213, Saint-Genès-Champanelle, France; 2 Beef CRC Murdoch University, Murdoch, WA, Australia; 3 UNCEIA, Paris Cedex 12, France
- 16:50 012 Prediction equations of beef tenderness: implication of oxidative stress and apoptosis**
 Guillemin N 1, Jurie C 1, Micol D 1, Renand G 2, Hocquette JF 1, Picard B 1
 1 INRA UR1213, Unité de Recherches sur les Herbivores, Theix, Saint-Genès-Champanelle, France; 2 INRA, UR1313 Unité de Génétique Animale et Biologie Intégrative, Jouy-en-Josas, France
- 17:10 013 Small heat shock proteins and tenderness in intermediate pHu beef**
Lomiwes D 1, Farouk MM 1, Frost DA 1, Dobbie PM 1, Young OA 2
 1 AgResearch Ltd., Ruakura Research Centre, Hamilton, New Zealand; 2 AUT University, Auckland, New Zealand
- 17:30 014 Meat tenderness: aging management of 9 beef muscles**
Marzin V 1, Tribot Laspiere P 1, Turin F 1, Denoyelle C 2
 1 Institut de l'Élevage (French Livestock Institute), Meat quality service, Villers Bocage, France; 2 Institut de l'Élevage (French Livestock Institute), Meat quality service, Paris Cedex 12, France

Jan Van Eyck Room:
Parallel Session 4
16:30-17:50 Consumer and Novel Products

Chairs: Grunert K, Aarhus University, Aarhus, Denmark
 Verbeke W, Ghent University, Ghent, Belgium

- 16:30 015 Canadian consumers' willingness to pay for pork with different attributes**
Muringai V 1, Moore S 1, Janz J 2, Bruce H 1, Goddard E 1, Anders S 1, Plastow G 1, Ma L 1
 1 Department of Rural Economy, University of Alberta, Alberta, Edmonton, Canada; 2 Department of Agricultural, Food and Nutritional Science, University of Alberta Edmonton, Alberta, Canada

- 16:50 016 The effect of information about beef technologies on consumers' expected and experienced liking of beef**
Van Wezemael L 1, Verbeke W 1, De Smet S 2, Ueland Ø 3
1 Ghent University, Department of Agricultural Economics, Gent, Belgium; 2 Ghent University, Department of Animal Production, Melle, Belgium; 3 Nofima Mat, As, Norway
- 17:10 017 Application of legume flours in low-fat meat product formulations for better consumer acceptance**
Shand PJ 1, Hong GP 1, Wang H 2, Gerlat M 2, Nickerson M 1, Wanasundara JPD 3
1 Department of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon, SK, Canada; 2 Alberta Food Processing Development Centre, Leduc, AB, Canada; 3 Agriculture and Agri-Food Canada, Saskatoon, SK, Canada
- 17:30 018 Effects of lycopene incorporated edible films on oxidative stability of ground beef**
Ozturk G 1, Candogan K 2
1 University of California, department of Food Science, Davis, CA, USA; 2 University of Ankara, Department of Food Science, Ankara, Turkey

Tuesday 9 August 2011

Auditorium:

Parallel Session 5

08:30-10:10 Natural Antioxidants

Chairs: Kilic B, Suleyman Demirel University, Isparta, Turkey
Impens S, Ghent University, Ghent, Belgium

- 08:30 019 Dog rose as functional ingredient in ascorbic acid- and nitrite-free porcine Frankfurters**
Vossen E 1, Utrera M 2, De Smet S 1, Morcuende D 2, Estévez M 2
1 Department of Animal Production, Faculty of Bioscience Engineering, Ghent University, Belgium; 2 Food Technology Department, Faculty of Veterinary Science, University of Extremadura, Spain
- 08:50 020 Evaluation of the antioxidant potential of artichoke (*Cynara scolymus* L.) extract in raw beef patties**
Ergezer H, Serdaroglu M, Akcan T
Ege University, Engineering Faculty, Food Engineering Department, Izmir, Turkey
- 09:10 021 Avocado as a functional ingredient in porcine patties: effect of protein carbonylation**
Utrera M 1, Rodriguez-Carpena G 2, Morcuende D 1, Estévez M 1
1 University of Extremadura, Dep. Animal production and food science, Cáceres, Spain; 2 Autonomous University of Nayarit, Faculty of Veterinary, Mexico
- 09:30 022 Stability of dry fermented sausages enriched in α -linolenic acid and docosahexanoic acid by a lyophilized antioxidant extract of a *Melissa officinalis* L.**
García-Íñiguez de Ciriano M, Larequi E, Berasategi I, Astiasarán I, Ansorena D
University of Navarra, Dept of Nutrition, Food Science, Physiology and Toxicology, Pamplona, Spain
- 09:50 023 The effect of natural preservatives on the microbial quality, lipid stability and sensory acceptability of boerewors**
Mathenjwa SA, Hugo CJ, Bothma C, Hugo A
Department of Microbial, Biochemical and Food Biotechnology, University of the Free State, Bloemfontein, South Africa

**Jan Van Eyck Room:
Parallel Session 6
08:30-10:10 Microbiological Hazards in Meat**

Chairs: Saucier L, Université Laval, Québec, Canada
Houf K, Ghent University, Ghent, Belgium

- 08:30 024 Occurrence of human enteropathogenic *Yersinia spp.* in pigs and contamination of carcasses during slaughter**
Van Damme I, De Zutter L
Ghent University, Department of Veterinary Public Health and Food Safety, Ghent, Belgium
- 08:50 025 Evaluation of the impact of the refrigerated transport of pig carcasses loaded above 7 °C on their microbial quality and safety**
Ellouze M 1, Le Roux A 2, Bozec A 2, Garry P 1, Minvielle B 2
1 IFIP, Maisons-Alfort, France; 2 IFIP, Le Rheu, France
- 09:10 026 A new tool to control meat products safety: a web based application of predictive microbiology models**
Delhalle L, Adolphe Y, Crèvecoeur S, Daube G, Clinquart A
University of Liège, Faculty of Veterinary Medicine, Department of Food Science, Liège, Belgium
- 09:30 027 Effects of hot water surface pasteurisation on lamb carcasses**
Hauge SJ 1,2, Wahlgren M 3, Røtterud OJ 1, Nesbakken T 2
1 Animalia Norwegian Meat and Poultry Research Centre, Oslo, Norway; 2 Norwegian School of Veterinary Science, Oslo, Norway; 3 Nortura SA, Oslo, Norway
- 09:50 028 Transcriptome analysis of virulence determinants of *Listeria monocytogenes* in vitro and in situ**
Rantsiou K 1, Greppi A 1, Acquadro A 2, Cocolin L 1
1 Agricultural Microbiology and Food Technology Sector; 2 Agricultural Genetics, Di.V.A.P.R.A., Faculty of Agriculture, University of Turin, Italy

10:10-10:40 Coffee Break

Auditorium:
Plenary Session III
10:40-12:10 Meat Proteins

Chairs: Santé-Lhoutellier V, INRA, Saint-Genès-Champanelle, France
Raes K, University College West-Flanders, Kortrijk, Belgium

10:40

Protein carbonyls in meat systems: a review

Estévez Mario,

Animal Production and Food Science Department, Food Technology, University of Extremadura, Caceres, Spain

Protein oxidation (P-OX) is an innovative topic of increasing interest among meat researchers. Carbonylation is generally recognised as one of the most remarkable chemical modifications in oxidized proteins. In fact, the quantification of protein carbonyls by the dinitrophenylhydrazine (DNPH) method is the most common procedure for assessing P-OX in meat systems. Numerous studies have investigated the occurrence of protein carbonylation right after slaughter and during subsequent processing and cold storage of meat. However, the significance of protein carbonylation in meat systems is still poorly understood. Beyond their role as markers of protein oxidation, specific protein carbonyls such as α -amino adipic and γ -glutamic semialdehydes (AAS and GGS, respectively) are active compounds that may be implicated in several chemical reactions with relevant consequences on meat quality. The formation of protein carbonyls from particular amino acid side chains contribute to impair the conformation of myofibrillar proteins leading to denaturation and loss of functionality. Recent studies also highlight the potential impact of specific protein carbonyls in particular meat quality traits such as water-holding capacity (WHC), texture, flavour and its nutritional value. As a truly emerging topic, the results from current studies provide grounds from the development of further investigations. The present paper reviews the current knowledge on the mechanisms and consequences of protein carbonylation in meat systems and aims to encourage meat researchers to accomplish further investigations on this fascinating research topic.

11:25

Peptide biomarkers as a way to determine the meat authenticity

Sentandreu Miguel,

Instituto de Agroquímica y Tecnología de Alimentos (CSIC), Valencia, Spain

Meat fraud implies many illegal procedures affecting the composition of meat and meat products, something that is commonly done with the aim to increase profit. These practices need to be controlled by legal authorities by means of robust, accurate and sensitive methodologies capable to assure that fraudulent or accidental mislabelling does not arise. Common strategies traditionally used to assess meat authenticity have been based on methods such as chemometric analysis of a large set of data analysis, immunoassays or DNA analysis. The identification of peptide biomarkers specific of a particular meat species, tissue or ingredient by proteomic technologies constitutes an interesting and promising alternative to existing methodologies due to its high discriminating power, robustness and sensitivity. The possibility to develop standardized protein extraction protocols, together with the considerably higher resistance of peptide sequences to food processing as compared to DNA sequences, would overcome some of the limitations currently existing for quantitative determinations of highly processed food samples. The use of routine mass spectrometry equipment would make the technology suitable for control laboratories.

Auditorium:

Corporate Session

12:10-13:10 Pfizer Animal Health



Chair: De Brabander H, Ghent University, Ghent, Belgium

- 12:10** **Boart taint: an update on worldwide results from the use of Improvac®/ Improvest®.**
Crane John,
Pfizer Animal Health, Kalamazoo, MI, USA
- 12:25** **Meat and carcass characteristics of Improvac vaccinated pigs**
Boler Dustin,
University of Illinois, Department of Animal Sciences, Urbana, IL, and The Ohio State University, Department of Animal Sciences, Columbus, OH, USA
- 12:40** **Environmental advantages for the meat sector of producing Improvac pork**
Baldo Gian Luca,
Life Cycle Engineering, Torino, Italy
- 12:55** **Consumer responses to pig immunological castration in the EU**
Verbeke Wim,
Department of Agricultural Economics, Ghent University, Ghent, Belgium

13:00-14:00 Lunch

The Belgian pork served with this meal is provided by Pfizer Animal Health and is from pigs vaccinated with Improvac®, a vaccine alternative to physical castration for the reduction of boar taint.

Poster Viewing

Sessions 8-12

Poster session 8: Animal Nutrition effects on Meat Quality

Poster session 9: Oxidative Stability of Meat and Meat Products

Poster session 10: Microbiological Safety

Poster session 11: Boar Taint: Entire Males or Immunocastration

Poster session 12: Methods in Meat Science

Auditorium:
Plenary Session IV
14:00-15:30 Microbiological Meat Safety

Chairs: Ryser E, Michigan State University, East Lansing, MI, USA
 Herman L, Institute for Agricultural And Fisheries Research, Melle, Belgium

14:00 **Reduction of verotoxigenic *Escherichia coli* in production of fermented sausages**
 Holck Åskild,
 Norwegian Institute of Food, Fisheries and Aquaculture Research, Ås, Norway

After a number of foodborne outbreaks of verotoxigenic *Escherichia coli* involving fermented sausages, some countries have imposed regulations on sausage production. For example, the US Food Safety and Inspection Service require a 5 log₁₀ reduction of *E. coli* in fermented products. Such regulations have led to a number of studies on the inactivation of *E. coli* in fermented sausages by changing processing and post-processing conditions. Several factors influence the survival of *E. coli* such as pre-treatment of the meat, amount of NaCl, nitrite and lactic acid, water activity, pH, choice of starter cultures and addition of antimicrobial compounds. Also process variables like fermentation temperature and storage time play important roles. Though a large variety of different production processes of sausages exists, generally the reduction of *E. coli* caused by production is in the range 1-2 log₁₀. In many cases this may not be enough to ensure microbial food safety. By optimising ingredients and process parameters it is possible to increase *E. coli* reduction to some extent, but in some cases still other post process treatments may be required. Such treatments may be storage at ambient temperatures, specific heat treatments, high pressure processing or irradiation. HACCP analyses have identified the quality of the raw materials, low temperature in the batter when preparing the sausages and a rapid pH drop during fermentation as critical control points in sausage production. This review summarizes the literature on the reduction verotoxigenic *Escherichia coli* in production of fermented sausages.

14:45 **Risk assessment of foodborne pathogens in the meat production chain**
 Messens Winy,
 European Food Safety Authority, Parma, Italy

Europe's food safety system is governed by the Regulation on General Food Law which established three interdependent principles of risk analysis: risk assessment, risk management and risk communication. Under this system, the independent European Food Safety Authority (EFSA) has been entrusted with risk assessment and risk communication, while the responsibility for risk management lies with the European Commission (EC), the European Parliament (EP) and EU Member States (MSs). Therefore, EFSA is an integral part of the EU food safety system providing risk managers with scientific advice for measures aimed at ensuring the high level of health protection chosen by the Community.

The Biological Hazards (BIOHAZ) Panel provides independent scientific advice on biological hazards in relation to food safety and food-borne diseases. This covers food-borne zoonoses, transmissible spongiform encephalopathies (BSE/TSEs), food microbiology and food hygiene and associated waste management issues. Quantitative microbial risk assessment (QMRA) have been used by the BIOHAZ Panel to support Scientific Opinions. Examples are: *Salmonella* in slaughter and breeding pigs, *Salmonella* in laying hens and broilers and *Campylobacter* in broilers.

As an example, the BIOHAZ Panel recently adopted an Opinion on the QMRA on *Campylobacter* in broilers. It is estimated that there are approximately nine million cases of human campylobacteriosis per year in the EU27. The disease burden of campylobacteriosis and its sequelae is 0.35 million disability-adjusted life years (DALYs) per year and total annual costs are 2.4 billion €. Broiler meat may account for 20% to 30% of these, while 50% to 80% may be attributed to the chicken reservoir as a whole (broilers as well as laying hens). The public

health benefits of controlling *Campylobacter* in primary broiler production are expected to be greater than control later in the chain as the bacteria may also spread from farms to humans by other pathways than broiler meat. Strict implementation of biosecurity in primary production and GMP/HACCP during slaughter may reduce colonization of broilers with *Campylobacter*, and contamination of carcasses. The effects cannot be quantified because they depend on many interrelated local factors. In addition, the use of fly screens, restriction of slaughter age, or discontinued thinning may further reduce consumer risks but have not yet been tested widely. After slaughter, a 100% risk reduction can be reached by irradiation or cooking of broiler meat on an industrial scale. More than 90% risk reduction can be obtained by freezing carcasses for 2-3 weeks. A 50-90% risk reduction can be achieved by freezing for 2-3 days, hot water or chemical carcass decontamination. Achieving a target of 25% or 5% between-flock prevalence (BFP) in all other MS is estimated to result in 50% and 90% reduction of public health risk, respectively. A public health risk reduction > 50% or > 90% could be achieved if all batches would comply with microbiological criteria with a critical limit of 1000 or 500 CFU/gram of neck and breast skin, respectively, while 15% and 45% of all tested batches would not comply with these criteria.

¹ We kindly acknowledge the members of the EFSA BIOHAZ Panel and the members of the Working Group (Paolo Calistri, Pierre Colin, Janet Corry, Arie Havelaar (Chair), Merete Hofshagen, Günter Klein, Maarten Nauta, Diane Newell, Hanne Rosenquist, Moez Sanaa, John Sofos, Mieke Uyttendaele and Jaap Wagenaar) for the preparatory work on the Scientific Opinion on *Campylobacter* in broiler meat production: control options and performance objectives and/or targets at different stages of the food chain.

Auditorium:
Corporate Session
15:30-16:00 Purac



15.30 **A mathematical model for projecting the growth of *Listeria monocytogenes***
 Romein Bas,
 Senior Scientist Modeling PURAC

15:40-16:10 Coffee Break

16:00-16:30 Poster Discussion Sessions

Sessions 8-12

Poster session 8: Animal Nutrition effects on Meat Quality

Poster session 9: Oxidative Stability of Meat and Meat Products

Poster session 10: Microbiological Safety

Poster session 11: Boar Taint: Entire Males or Immunocastration

Poster session 12: Methods in Meat Science

Auditorium:**Parallel Session 7****16:30-17:50 Boar Taint: Entire Males or Immunocastration?**

Chairs:Dunshea F, University of Melbourne, Parkville, Australia
De Brabander H, Ghent University, Ghent, Belgium

- 16:30 029** **Effects of harvest time post-second injection on carcass cutting yields and bacon characteristics of immunologically castrated male pigs**
Boler DD 1,3, Killefer J 1, Meeuwse DM 2, King VL 2, McKeith FK 1, Dilger AC 1
1 University of Illinois, Department of Animal Sciences, Urbana, IL, USA; 2 Pfizer Animal Health, Veterinary Medicine Research & Development, Kalamazoo, MI, USA; The Ohio State University, Department of Animal Sciences, Columbus, OH, USA
- 16:50 030** **Effect of androstenone content and information on consumer acceptance of boar meat salami**
Meier-Dinkel L 1, Frieden L 2, Tholen E 2, Wicke M 1, Mörlein D 1
1 Department of Animal Sciences, Georg-August University of Göttingen, Göttingen, Germany; 2 Institute of Animal Science, University of Bonn, Bonn, Germany
- 17:10 031** **Comparison of meat quality between barrows, boars and boars vaccinated against gonadotropin-releasing hormone**
Aluwé M, Millet S, Langendries KCM, Bekaert KM, Tuytens FAM, De Brabander DL
Animal Sciences, Institute for Agricultural and Fisheries Research, Melle, Belgium
- 17:30 032** **The use of the hot iron method and U-HPLC-MS/MS analysis for the detection of boar taint**
Bekaert KM 1,2, Tuytens FAM 2, De Brabander HF 1, Vandendriessche F 3, Duchateau L 4, Vanhaecke L 1
1 Research Group of Veterinary Public Health and Zoonoses, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium; 2 Animal Sciences Unit, Institute for Agricultural and Fisheries Research, Melle, Belgium; 3 Imperial Meat Products, Lovendegem, Belgium; 4 Research Group of Physiology and Biometry, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium

Jan Van Eyck Room:**Parallel Session 8****16:30-17:50 Animal Nutrition and Meat Quality**

Chairs:Campo MM, University of Zaragoza, Zaragoza, Spain
De Smet S, Ghent University, Ghent, Belgium

- 16:30 033** **The balance between vitamin E and highly peroxidizable fatty acids in muscle and the oxidative stability of beef from cattle grown on forage- or concentrate-based rations**
Luciano G 1, Moloney AP 2, Priolo A 1, Röhrle FT 3, Vasta V 1, Biondi L 1, López-Andrés P 1, Grasso S 1, Monahan FJ
1 DISPA - University of Catania, Catania, Italy; 2 Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath, Ireland; 3 School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland

- 16:50 034** **Effect of plant extracts combined with vitamin E in polyunsaturated fatty acids-rich diets given to cull cows on lipid oxidation of meats after a 9 month frozen storage**
Gobert M 1,2, Bauchart D 2, Parafita E 3, Durand D 2
 1 INRA, Animal Products Quality Unit, Muscle Proteins and Biochemical Group, St-Genès-Champanelle, France; 2 INRA, Herbivore Research Unit, Nutrients and Metabolisms Group, St-Genès-Champanelle, France; 3 ADIV, Process Engineering, Technology and Products Quality Department, Clermont-Ferrand, France
- 17:10 035** **Natural antioxidants incorporated into *Longissimus dorsi* muscles of pasture or grain fed steers and their relation to gene expression**
Descalzo AM 1,2, Nanni M 1,2, Gasparovic A 3, Rossetti L 1, Islas-Trejo A 4, Medrano JF 4, Pordomingo A 5
 1 Instituto Tecnología de Alimentos, CIA-INTA, Castelar, Argentina; 2 Universidad de Morón, Argentina; 3 Universidad Nacional de Entre Ríos, Argentina; 4 Department of Animal Science, UC-Davis, California, USA; 5 EEA-Anguil, INTA, Argentina
- 17:30 036** **Volatile compounds of omega-3 enriched Manchego lamb meat stored under modified atmospheres. Effect of supplementing antioxidants**
Rivas-Cañedo A 1, Lauzurica S 2, De la Fuente J 2, López O 1, Pérez C 3, Muiño I 1, Cañeque V 1, Díaz MT 1
 1 INIA, Department of Food Technology, Madrid, Spain; 2 Complutense University, Faculty of Veterinary Science, Department of Animal Production, Madrid, Spain; 3 Complutense University, Faculty of Veterinary Science, Department of Biology, Madrid, Spain

Thursday 11 August 2011

Auditorium:

Parallel Session 9

08:30-10:10 Nutrition and Health

Chairs: Milkowski A, University of Wisconsin, Madison, WI, USA
Scippo M-L, University of Liège, Liège, Belgium

- 08:30 037** **Contents of polycyclic aromatic hydrocarbons (PAH) and phenolic substances in Frankfurter-type sausages in dependence of smoking conditions using glow smoke**
Pöhlmann M 1, Hitzel A 1, Schwägele F 1, Speer K 2, Jira W 1
1 Max Rubner-Institut (MRI), Federal Research Institute of Nutrition and Food, Analysis Division, Kulmbach, Germany; 2 Technical University of Dresden, Food Chemistry Department, Dresden, Germany
- 08:50 038** **The effects of addition of antioxidants, frying temperature and microwave heating on formation of heterocyclic aromatic amines in pork products**
Kehlet U, Meinert L, Aaslyng MD
DMRI, Danish Technological Institute, Department Raw Meat Quality, Roskilde, Denmark
- 09:10 039** **Does gastrointestinal digestion affect the (geno)toxic activity of different meats?**
Vanhaecke L 1, Vanden Bussche J 1, Moore S 2, Pasmans F 3, Van de Wiele T 4, De Brabander H 1
1 Ghent University, Department of Veterinary Public Health and Food Safety, Laboratory of Chemical Analysis, Merelbeke, Belgium; 2 Liverpool John Moores University, School of Pharmacy and Biomolecular Sciences, Liverpool, United Kingdom; 3 Department of Pathology, Bacteriology and Poultry Diseases, Ghent University, Merelbeke, Belgium; 4 Department of Biochemical and Microbial Technology, Laboratory of Microbial Ecology and Technology, Ghent University, Ghent, Belgium
- 09:30 040** **Changes in heme iron content in beef meat during wet heating. Consequences for human nutrition**
Scislowski V 1, Gandemer G 2,3, Kondjoyan A 4
1 ADIV, Clermont Ferrand, Cedex 2, France; 2 Inra, Centre de Lille, Péronne, France; 3 Centre d'Information des Viande, Paris cedex 12, France; 4 Inra, UR370 QuaPA, St Genes Champanelle, France
- 09:50 041** **Cooked meat calculator; estimating food composition of meat cooked with different types of cooking fat**
Voogt JA 1, Westenbrink S 2, Verkleij TJ 1
1 TNO, Functional Ingredients, Zeist, the Netherlands; 2 RIVM, Centre for Nutrition and Health, Bilthoven, the Netherlands

Jan Van Eyck Room:
Parallel Session 10
08:30-10:10 Improved Meat Products

Chairs:Ansorena D, University of Navarra, Pamplona-Iruña, Spain
 Leroy F, Free University Brussels (VUB), Brussels, Belgium

- 08:30 042 Functional low fat ground beef patty formulated with a blend of hydrolyzed collagen and beef collagen fibre**
 Michelini RP 1, Lemos ALSC 2, Andrade JC 2, Nadai AC 3, Haguiwara MMH 2
 1 FEA/UNICAMP, Campinas-SP, Brazil; 2 ITAL-Food Technology Institute, CTC-Meat Technology Centre, Brazil; 3 Gelita South America, São Paulo-SP, Brazil
- 08:50 043 The effect of inulin as a prebiotic fibre on organoleptic and technological properties of standard and low fat pork breakfast sausages**
Hayes J, Allen P
 Teagasc Food Research Centre, Ashtown, Dublin, Ireland
- 09:10 044 Strecker aldehydes in dry-cured hams as affected by partial replacement of sodium by potassium, calcium and magnesium**
Armenteros M 1, Toldrá F 2, Aristoy MC 2, Ventanas J 1, Estévez M 1
 1 University of Extremadura, Department of Animal Production and Food Science, Cáceres, Spain; 2 Instituto de Agroquímica y Tecnología de Alimentos (CSIC), Paterna, Valencia, Spain
- 09:30 045 Effect of the presence or not of nitrate and pH value on colour, Zn-protoporphyrin levels and sensory properties of dry cured ham**
 Lorés A 1, Pérez-Beriain T 1, Gratacós M 2, Arnau J 2, Roncalés P 1
 1 Department of Animal Production and Food Science, Universidad de Zaragoza, Zaragoza, Spain; 2 Department of Food Technology, IRTA, Monells, Spain
- 09:50 046 Spontaneous acidification of fermented sausages is no guarantee for bacterial contribution to the flavour profile**
Janssens M, Myter N, De Vuyst L, Leroy F
 Vrije Universiteit Brussel, Research Group of Industrial Microbiology and Food Biotechnology (IMDO), Brussels, Belgium

10:10-10:40 Coffee Break

Auditorium:
Plenary Session V
10:40-12:10 Meat Fermentation

Chairs: Rantsiou K, University of Turin, Grugliasco-Torino, Italy
Leroy F, Vrije Universiteit Brussel, Brussels, Belgium

10:40 Biodiversity and dynamics of meat fermentations: the contribution of molecular methods for a better comprehension of a complex microbial ecosystem

Cocolin Luca,
DIVAPRA, Agricultural Microbiology and Food Technology, Faculty of Agriculture,
University of Turin, Grugliasco, Italy

The ecology of fermented sausages is complex and includes different species and strains of bacteria, yeasts and moulds. The developments in the field of molecular biology, allowed for new methods to become available, which could be applied to better understand dynamics and diversity of the microorganisms involved in the production of sausages. Methods, such as denaturing gradient gel electrophoresis (DGGE), employed as a culture-independent approach, allow to define the microbial dynamics during the fermentation and ripening. Such approach has highlighted that two main species of lactic acid bacteria, namely *Lactobacillus sakei* and *Lb. curvatus*, are involved in the transformation process and that they are accompanied by *Staphylococcus xylosus*, as representative of the coagulase-negative cocci. These findings were repeatedly confirmed in different regions of the world, mainly in the Mediterranean countries where dry fermented sausages have a long tradition and history. The application of molecular methods for the identification and characterization of isolated strains from fermentations highlighted a high degree of diversity within the species mentioned above, underlining the need to better follow strain dynamics during the transformation process. While there is an important number of papers dealing with bacterial ecology by using molecular methods, studies on mycobiota of fermented sausages are just a few. This review reports on how the application of molecular methods made possible a better comprehension of the sausage fermentations, opening up new fields of research that in the near future will allow to unravel the connection between sensory properties and co-presence of multiple strains of the same species.

11:25 Diversity and safety hazards of bacteria involved in meat fermentations

Talon Régine,
INRA, UR454 Microbiologie, Saint-Genès Chamanelle, France

Food safety is a major concern for consumers and a major issue for industry which has become aware of the importance of the starter safety assessment. In the European Union, the Food Safety Authority has introduced the Qualified Presumption of Safety (QPS) approach for safety assessment of microorganisms throughout the food chain. This assessment relies on: taxonomy, familiarity, pathogenicity and end use. Productions of toxins as well as biogenic amines by food isolates are both of major concern as they can lead to food poisoning. The other important criterion is the presence of transmissible antibiotic resistance markers. This review underlined that the main hazard of bacteria involved in food fermentations concerns antibiotic resistance and particularly the presence of transferable genetic determinants that may present a risk for public health. Selection of starter strains should consider this hazard. Following the QPS approach, a list of bacteria has been acknowledged acceptable for consumption.

12:10-14:00 Lunch

Poster Viewing

Sessions 13-17

Poster session 13: Animal Production Effects on Meat quality

Poster session 14: Processing and Technology

Poster session 15: Enhanced Meat products

Poster session 16: Lipids and Fatty Acids

Poster session 17: Chemical Safety Issues

Auditorium:

Plenary Session VI

14:00-15:30 Meat and Health

Chairs:Honikel K-O, CLITRAVI-Liaison Center for the Meat Processing Industry in the European Union

Demeyer D, Ghent University, Ghent, Belgium

14:00

Intentional & unintentional causes of chemical residues in meat

Kennedy Glenn,

Agri-Food & Biosciences Institute, Chemical Surveillance Branch, United Kingdom (Northern-Ireland)

14:45

Red meat and colon cancer: should we all become vegetarians, or can we make meat safer?

Corpet Denis,

Université de Toulouse, Institut National Recherche Agronomique, Ecole Nationale Veterinaire Toulouse, Toulouse, France

The effect of meat consumption on cancer risk is a controversial issue. However, recent meta-analyses show that high consumers of cured meats and red meat are at increased risk of colorectal cancer. This increase is significant but modest (20-30%). Current WCRF-AICR recommendations are to eat no more than 500g per week of red meat, and to avoid processed meat. Moreover, our studies show that beef meat and cured pork meat promotes colon carcinogenesis in rats. The major promoter in meat is heme iron, via N-nitrosation or fat peroxidation. Dietary additives can suppress the toxic effects of heme iron. For instance, promotion of colon carcinogenesis in rats by cooked, nitrite-treated and oxidized high-heme cured meat was suppressed by dietary calcium and by α -tocopherol, and a study in volunteers supported these protective effects in humans. These additives, and others still under study, could provide an acceptable way to prevent colorectal cancer.

15:30-16:00 Jan Van Eyck Room:

ICoMST Contact Persons Meeting

15:30-16:00 Coffee Break

16:00-16:30 Poster Discussion Sessions

Sessions 13-17

Poster session 13: Animal Production Effects on Meat quality

Poster session 14: Processing and Technology

Poster session 15: Enhanced Meat products

Poster session 16: Lipids and Fatty Acids

Poster session 17: Chemical Safety Issues

Auditorium:
Parallel Session 11
16:30-17:50 Fatty Acids in Meat

Chairs: Webb E, University of Pretoria, Pretoria, South Africa
 Raes K, University College West-Flanders, Kortrijk, Belgium

- 16:30 047** **Genetic association of delta-six fatty acid desaturase single nucleotide polymorphic molecular marker and muscle long chain omega-3 fatty acids in Australian lamb**
Malau-Aduli AEO 1, Bignell CW 1, McCulloch R 2, Kijas JW 2, Nichols PD 3
 1 University of Tasmania, Animal Production & Genetics, School of Agricultural Science/Tasmanian Institute of Agricultural Research, Hobart, Australia; 2 CSIRO Livestock Industries, Brisbane, Queensland, Australia; 3 CSIRO Marine & Atmospheric Research, Omega-3 Food Futures Flagship, Castray Esplanade, Hobart, Australia
- 16:50 048** **Effects of DGAT1, FABP4, FASN, PPARGC1A, SCD1, SREBP-1 and STAT5A gene polymorphisms on the fatty acid composition in Fleckvieh bulls**
Barton L, Bures D, Kott T, Kottova B
 Institute of Animal Science, Prague, Czech Republic
- 17:10 049** **The relationship between myofiber type and fatty acid composition in skeletal muscles of Wagyu (Japanese Black) and Holstein cattle**
Gotoh T 1, Olavanh S 1, Shiota T 2, Shirouchi B 2, Satoh M 2, Albrecht E 3, Maak S 3, Wegner J 3, Etoh K. 1, Shiotsuka Y 1, Hayashi K 1, Ebara F 1, Etoh T 1
 1 Kuju Agricultural Research Center, Faculty of Agriculture, Kyushu University, Japan; 2 Graduate school of Agriculture, Kyushu University, Japan; 3 Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany
- 17:30 050** **Differential cellularity and fatty acid profile in subcutaneous and mesenteric fat depots from Portuguese bovine breeds**
Costa ASH 1, Lopes PA 1, Estevão M 1, Martins SV 1, Alves SP 2,3, Pinto RMA 4, Pissarra H 1, Correia JJ 1, Pinho M 1, Fontes CMGA 1, Prates JAM 1
 1 Universidade Técnica de Lisboa, Faculdade de Medicina Veterinária, CIISA, Lisboa, Portugal; 2 Unidade de Produção Animal, L-INIA, INRB, Vale de Santarém, Portugal; 3 Universidade do Porto, Instituto de Ciências Biomédicas de Abel Salazar, REQUIMTE, Vairão VC, Portugal; 4 Universidade de Lisboa, Faculdade de Farmácia, iMed.UL, Lisbon, Portugal

Jan Van Eyck Room:
Parallel Session 12
16:30-17:50 Animal Factors and Meat Quality

Chairs: Silveira E, Institute of Food Technology, Campinas, Brazil
 Houf K, Ghent University, Ghent, Belgium

- 16:30 051 The role of animal origin and technological factors for the occurrence of destructured zones in cooked ham**
Müller Richli M 1, Scheeder MRL 1, 2
 1 Swiss college of Agriculture (SHL), Department of Animal Science, Zollikofen, Switzerland; 2 SUISAG, Sempach, Switzerland
- 16:50 052 Development of an eating quality system for the Australian pork industry**
Channon HA 1,2, Hamilton AJ 2, D'Souza DN 1, Dunshea FR 2
 1 Australian Pork Limited, Deakin ACT, Australia; 2 Melbourne School of Land and Environment, The University of Melbourne, Parkville, Australia
- 17:10 053 A comparative study of cooked ham volatile compounds of large white and Iberian pig breeds**
Benet I 1,2, Ibañez C 1, Guardia MD 3, Sola J 1, Arnau J 3, Roura E 2
 1 LUCTA SA, Barcelona, Spain; 2 CNAFS/QAAFI, University of Queensland, Australia; 3 Tecnologia dels Aliments-IRTA, department of Meat technology, Monells, Spain
- 17:30 054 New gourmet pork products by application of the Iberian and Mangalitza breeds**
Straadt IK 1, Aaslyng MD 2, Bertram HC 1
 1 Aarhus University, Department of Food Science, Aarslev, Denmark; 2 Danish Meat Research Institute, Roskilde, Denmark

Friday 12 August 2011

Auditorium: Parallel Session 13 08:30-10:10 Meat Processing

Chairs: Shand Ph, University of Saskatchewan, Saskatoon, Canada
Paelinck H, University College KaHo Sint-Lieven Ghent, Ghent, Belgium

- 08:30 055** Rheological properties of heat-induced gels of myosin solubilized in a low ionic strength solution containing L-histidine
Yoshida Y 1, Hayakawa T 1, Wakamatsu J 1, Iwasaki T 2, Kaneda I 2, Nishimura T 1
1 Hokkaido University, Graduate school of Agriculture, Hokkaido, Japan; 2 Rakuno Gakuen University, Faculty of Dairy Science, Hokkaido, Japan
- 08:50 056** Effect of sodium replacement on gel strength of heated meat extracts
Verkleij TJ, de Jong GAH
Department of Food Ingredients, TNO Zeist, the Netherlands
- 09:10 057** Influence of HPP conditions on selected lamb quality attributes and their stability during chilled storage
McArdle RA, Marcos B, Mullen AM, Kerry JP
Food Chemistry & Technology Department, Food Research Centre Teagasc, Ashtown, Dublin, Ireland
- 09:30 058** Influence of volume flow rate and knife rotational speeds on the structure of meat emulsions manufactured in a continuous high shear grinder-filler system
Irmscher SB, Rühl S, Herrmann K, Gibis M, Weiss J
Food Physics and Meat Sciences, University of Hohenheim, Stuttgart, Germany
- 09:50 059** A robotic cell for pork legs deboning
Subrin K 1, Alric M 2, Sabourin L 1, Gogu G 1
1 Clermont Université, IFMA, EA 3867, Laboratoire de Mécanique et Ingénieries, Clermont-Ferrand, France; 2 Association pour le Développement de l'Institut de la Viande, Clermont-Ferrand, France

Jan Van Eyck Room:
Parallel Session 14
08:30-10:10 Spectroscopic and Other Prediction Tools

Chairs: Allen P, Teagasc Food Research Centre, Dublin, Ireland
 Van Royen G, Institute for Agricultural and Fisheries Research, Melle, Belgium

- 08:30 060** **Measuring changes in internal meat colour, colour lightness and colour opacity as predictors of cooking time**
Pakula C, Stamminger R
 Rheinische Friedrich-Wilhelms-Universität, Household and Appliance Technology Section, Bonn, Germany
- 08:50 061** **An accurate and simple computed tomography approach for measuring the lean meat percentage of pig cuts**
Daumas G, Monziols M
 IFIP Institut du Porc, Le Rheu, France
- 09:10 062** **Fourier transform mid infrared spectroscopy as prediction tool for the interaction parameters salt and water activity of meat products**
Neyrinck E 1, De Smet S 2, Raes K 1
 1 University College West-Flanders, Department of Industrial Engineering and Technology, Research Group EnBiChem, Kortrijk, Belgium; 2 Ghent University, Faculty of Bioscience Engineering, Laboratory for Animal Nutrition and Animal Product Quality, Ghent, Belgium
- 09:30 063** **Preliminary investigation on the relationship of Raman spectra of sheep meat with shear force and cooking loss**
Schmidt H 1, Scheier R 1, Hopkins DL 2,3
 1 University Bayreuth, Research Centre of Food Quality, Kulmbach, Germany; 2 CRC for Sheep Industry Innovation, Armidale, Australia; 3 Centre for Red Meat and Sheep Development, Industry & Investment (Primary Industries) Cowra, Australia
- 09:50 064** **Visible spectroscopy and redox potential as alternatives of ultimate pH for cooking yield prediction**
Vautier A 1, Bozec A 1, Gault E 1, Lhommeau T 1, Martin JL 2, Vendeuvre JL 2
 1 IFIP - French institute for pig and pork industry, La motte au Vicomte, Le Rheu Cedex, France; 2 IFIP - French institute for pig and pork industry, Maisons-Alfort Cedex, France

10:10-10:40 Coffee Break

Auditorium:
Plenary Session VII
10:40-12:10 Innovative Technologies

Chairs: Verkleij T, TNO quality of Life, Zeist, the Netherlands
 Vandendriessche F, Association of the Belgian Meat Products Industry -
 Fenavian vzw, Belgium

10:40

On-line determination and control of fat content in batches of beef trimmings by NIR imaging spectroscopy

Wold Jens Petter,
 Norwegian Institute of Food, Fisheries and Aquaculture Research, Ås, Norway

An NIR imaging scanner was calibrated for on-line determination of the fat content of beef trimmings. A good calibration model was obtained for fat in intact beef ($R=0.98$, $RMSECV=3.0\%$). The developed model could be used on single pixels to get an image of the fat distribution, or on the average spectrum from each trimming/portion of trimmings passing under the scanner. The fat model gave a rather high prediction error ($RMSEP=8.7\%$) and a correlation of 0.84 when applied to 45 single trimmings with average fat content ranging from 1.6-49.3% fat. Test measurements on streams of trimmings making up batches varying from 10 to 24 kg gave a much lower prediction error ($RMSEP = 1.33\%$). Simulations based on true measurements indicate that the $RMSEP$ decreases with increasing batch size and, for the present case, reached about 0.6% for 100 kg batches. The NIR scanner was tested on six batches of intact trimmings varying from 145 to 210 kg and gave similar fat estimates as an established microwave system obtained on the ground batches.

The proven concept should be applicable to on-line estimation of fat in trimmings in order to determine the batch fat content and also to control the production of batches to different target fat levels. A possible requirement for the concept to work properly is that the trimming or layer of trimmings on the belt is not too thick. In this study maximum thickness was about 8 cm. Thicker trimmings might be measured, but careful hardware adjustments is then required.

11:25

Automation and meat quality - Global challenges

Barbut Shai,
 Food Science, University of Guelph, Guelph, Canada

Over the past century, the global meat industry has seen significant changes in the way and methods used to harvest and process fresh meat. An overall result is the increase in line speed used for red meat, poultry and fish. One of the fastest lines today can be seen in poultry (13,500 broilers per hour), where birds are all processed in-line and can be deboned within 3.5 hr. Such developments have also required in depth understanding of pre and post rigor processes to minimize defects such as cold shortening and obtaining tough meat. The development of equipment for electrical stimulation (ES), initially used for beef (now also available as on demand process) is now seen in poultry and some fish plants. That is an example of technology allowing faster output without sacrificing quality. ES is only one part of the operation and must be integrated with other steps such as chilling. The development of maturation-chilling has helped improve speed and quality (texture, shelf life). Utilizing high line speed requires computers and science based decision making process to better control of the environment when replacing certain manual operations. This has also created many challenges, as high speed machines are not always sensitive to things such as size variations and meat quality issues. Therefore, currently there is more development in sensor technology (machine vision, fiber optics, pressure sensors, x-ray, and tracking) to improve accuracy and reliability. Overall, gaining more knowledge would help the industry further advance in areas like efficiency, speed and maintaining meat quality.

Auditorium:
12:10 -12:40 Closing Ceremony

Monday 8 August 2011

Poster session 1: Animal Genetics and Meat Quality

- P001 Meat quality attributes of Mubende goats and their boar crossbreds**
Kamatara K 1, Mpairwe D 1, Christensen M 2, Mutetikka D 1, Asizua D 1, Madsen J 2
Department of Animal Science, Makerere University, Kampala, Uganda; 2 Department of Food Science and Department of Large Animal Sciences, University of Copenhagen, Denmark
- P002 Comparison of venison and beef chemical composition**
Gramatina I 1, Rakcejeva T 1, Silina L 1, Jemeljanovs A 2
1 Latvia University of Agriculture, Faculty of Food Technology, Department of Food Technology, Jelgava, Latvia; 2 Agency of Latvian Agricultural Academy, Research Institute of Biotechnology and Veterinary Medicine "Sigra", Sigulda, Rigas region, Latvia
- P003 Assessment of novel pig sire lines for meat quality traits**
Mitchell CE 1,2, Richardson RI 2, Wallin GA 1
1 JSR Genetics Ltd, Southburn, Driffield, East Yorkshire, UK; 2 School of Clinical Veterinary Science, University of Bristol, Langford, Bristol, UK
- P004 The effects of leptin receptor (LEPR) and melanocortin-4 receptor (MC4R) polymorphisms on fat content, distribution, and composition in a Landrace/Large White x Duroc cross**
Galve A 1, López MA 2, Burgos C 1, Varona L 1, Rodríguez C 1, López Buesa P 1
1 Universidad de Zaragoza, Facultad de Veterinaria, Spain; 2 INIA, Departamento de Mejora Genética, Madrid, Spain
- P005 Effect of breed and diet on subcutaneous beef fat fatty acid indices for enzyme activities and nutritional interest**
Zarlenga M 3, Latimori N 2, Sancho AM 1,3, Pighin DG 1,3,4, Garcia PT 1,3
1 Instituto Tecnología de Alimentos, Instituto Nacional de Tecnología Agropecuaria - INTA, Buenos Aires, Argentina; 2 Estación Experimental INTA Marcos Juárez, Córdoba, Argentina; 3 Facultad de Agronomía y Ciencias Agroalimentarias, Universidad de Morón, Morón, Argentina; 4 Consejo Nacional de Investigaciones Científica y Técnicas - CONICET, Buenos Aires, Argentina
- P006 Differentiation of Korean native chickens and broilers using volatiles profiling**
Seo S 1, Jung S 2, Lee JH 2, Park M 3, Ham JS 3, Jo C 2
1 Chungnam National University, Department of Animal Biosystems, Daejeon, Korea; 2 Chungnam National University, Department of Animal Science and Biotechnology, Daejeon, Korea; 3 National Institute of Animal Science, Suwon, Korea
- P007 Chemical composition, meat color, Warner-Bratzler shear force, cooking loss, fatty acids composition of Korean Hanwoo beef and imported Australian Angus and cross beef**
Cho S
National Institute of Animal Science, Animal Products Research and Development division, Suwon, South Korea
- P008 Chemical composition, meat color, Warner-Bratzler shear force, total collagen contents, cooking loss and fatty acids composition of Korean Hanwoo beef and imported New Zealand Angus beef**
Cho S, Seong P, Kang G, Park B, Jung S, Kim H, Kim Y, Kang S, Kim J, Kim Dh
National Institute of Animal Science, Animal Products Research and Development division, South Korea
- P009 Possibilities of using rustic pigs to manufacture Salami free of sensory enhancers**
Bedia M, Serrano R, Bañón S
Department of Food Science and Technology and Nutrition. Faculty of Veterinary Medicine, University of Murcia, Espinardo, Murcia, Spain

- P010 Influence of genotype on carcass quality of Celta pig breed**
Lorenzo JM, García-Fontán MC, Carril JA, Cobas N, Purriños L, Franco D
Meat Technology Center of Galicia, Chromatographic, Ourense, Spain
- P011 Effect of breed and feeding system on fatty acid profile of breast from Mos Corck breed**
Lorenzo JM, Montes R, Rois D, García-Fontán MC, Purriños L, Franco D
Meat Technology Center of Galicia, Chromatographic, Ourense, Spain
- P012 Pork quality differences between lines divergently selected for residual feed intake**
Faure J 1,2, Lefaucheur L 1,2, Bonhomme N 1,2, Brossard L 1,2, Gilbert H 3, Lebreton B 1,2
1 INRA, UMR1079 Systèmes d'élevage, Nutrition Animale et Humaine, Saint-Gilles, France;
2 Agrocampus Ouest, UMR1079 Systèmes d'élevage, Nutrition Animale et Humaine, Rennes, France;
3 INRA, UR0444 Laboratoire de Génétique Cellulaire, Castanet-Tolosan, France
- P014 The study comparison on the quality of Chuncheon Dakgalbi made with Ross broilers, Hy-line brown chicks and white mini broilers meat**
Lee SK 1, Kim HJ 2, Kang SM 3, Choi WH 1, Muhlisin 1, Ahn BK 4, Kim CJ 4, Kang CW 4
1 Department of Animal Products and Food Science, Kangwon National University, South Korea;
2 Research Center, Meatbank Co., Ltd., South Korea; 3 National Institute of Animal Science, Rural Development Administration, South Korea; 4 College of Animal Bioscience and Technology, Konkuk University, South Korea
- P015 Meat quality and sensory attributes of two Portuguese bovine breeds, Alentejana and Barrosã, under distinct feeding regimens**
Costa ASH, Costa P, Alfaia CM, Lopes PA, Lemos JPC, Prates JAM
Faculdade de Medicina Veterinária, Interdisciplinary Centre of Research in Animal Health, Lisbon, Portugal
- P016 Effect of different chicken breeds as raw materials of Chuncheon Dalkalbi on the quality characteristics and storage quality in combination with modified atmosphere packaging**
Muhlisin 1, Kang SM 2, Choi WH 1, Lee SK1
1 Department of Animal Products and Food Science, Kangwon National University, South Korea;
2 National Institute of Animal Science, Rural Development Administration, South Korea
- P017 Proximate composition of 'Kundi', a Nigeria meat product, from camel meat, compared with 'Kundi' made from 3 breeds of cattle**
Fakolade PO
Osun state University, Osogbo, Osun State, Nigeria
- P018 Lipid content of meat and adipose tissue fatty acid composition in Hybro G+ broilers**
Lilic S 1, Matekalo-Sverak V 1, Baltic ZM 2, Ivanovic S 3
1 Institute of Meat Hygiene and Technology, Belgrade, Serbia; 2 Faculty of Veterinary Medicine, Belgrade, Serbia; 3 Veterinary Institute of Serbia, Belgrade, Serbia
- P019 Assessment of novel pig sire lines for growth traits**
Mitchell CE 1, Waite SJ 1, Hopper R 2, Icely S 2, Wallin GA 1
1 JSR Genetics Ltd, Southburn, Driffield, UK; 2 Harper Adams University College, Newport, Shropshire, UK
- P020 Carcass characteristics of ½ Purunã vs. ½ Canchim bulls finished with 16 or 22 months of age with three different weight**
Oliveira MG, Pinto AA, Prado IN, Moletta JL
Universidade Estadual de Maringá, Zootecnia, Maringá, Brazil
- P021 Carcass characteristics of different genetic groups bulls finished in feedlot**
Pinto AA, Prado IN, Moletta JL, Oliveira MG
Universidade Estadual de Maringá, Zootecnia, Maringá, Brazil
- P022 Carcass characteristics of Purunã vs. ½ Canchim cattle slaughtered at 16 or 22 months with three different concentrate levels**
Pinto AA, Prado IN, Moletta JL, Oliveira MG
Universidade Estadual de Maringá, Zootecnia, Maringá, Brazil

- P023 Effects of IGF-II genotype on chemical characteristics of dry-cured Iberian ham**
 Sánchez del Pulgar J 1, Carrapiso A 2, García C 1
 1 Facultad de Veterinaria de Cáceres, Food Technology, Universidad de Extremadura, Cáceres, Spain; 2 Escuela de Ingeniería Agraria de Badajoz, Food Technology, Universidad de Extremadura, Spain
- P024 Evaluation of molecular marker for meat tenderness in Nellore cattle**
 Balieiro JCC 1, Poleti MD 1, Rosa AF 1, Carita ALG 1, Amaral GO 1, Mattos EC 1, Eler JP 1, Silva SL 2
 1 University of São Paulo (USP), Department of Basic Sciences (ZAB-FZEA), Pirassununga, Brazil; 2 University of São Paulo (USP), Department of Animal Science (ZAZ-FZEA), Pirassununga, Brazil
- P025 The effect of reactivity of Nellore cattle in some meat quality traits**
 Poleti MD 1, Rosa AF 1, Moncau CT 1, Silva VAM 1, Foresti VE 1, Silva SL 2, Balieiro JCC 1
 1 University of São Paulo (USP), Department of Basic Sciences (ZAB-FZEA), Pirassununga, Brazil; 2 University of São Paulo (USP), Department of Animal Science (ZAZ-FZEA), Pirassununga, Brazil
- P026 Live and carcass traits and cut yields from crossbred and purebred Boer whether kid goats**
 McMillin KW 1, Tangkham W 1, Preiss D 2, Cope R 3, Braden K 3
 1 Louisiana State University Agricultural Center, School of Animal Sciences, Baton Rouge, Louisiana, USA; 2 Preiss Family Little Blessings Ranch, Spring Branch, Texas, USA; 3 Angelo State University, Department of Agriculture, San Angelo, Texas, USA
- P027 Amino acid composition analysis of beef, mutton, chevon, chicken and Pork by HPLC method**
 Jorfi R 1, Mustafa S 1,2, Che Man YB 1, 3, Mat Hashim D 1,3, Sazili AQ 4
 1 Halal Products Research Institute, Universiti Putra Malaysia, Selangor, Malaysia; 2 Faculty of Biotechnology and Biomolecular Science, Universiti Putra Malaysia, Selangor, Malaysia; 3 Faculty of Food Science Technology, Universiti Putra Malaysia, Selangor, Malaysia; 4 Department of Animal Science, Faculty of Agriculture, Universiti Putra Malaysia, Selangor, Malaysia
- P028 Effect of double-muscling genotype on animal, carcass and meat quality characteristics from calves of Galician Blond breed**
 González L, Bispo E, Carracedo S, Resch C, Roca A, Moreno T
 Departamento de Producción Animal, Centro de Investigaciones Agrarias de Mabegondo (INGACAL), Coruña, Spain

Poster session 2: Animal Welfare, Slaughter and Meat

- P030 The effect of SmartStretch™ on hot-boned mutton loins**
 Taylor J 1, Hopkins D 1, van de Ven R 2
 1 Industry and Investment NSW, Centre for Red Meat and Sheep Development, Cowra Agricultural Research and Advisory Station, Cowra, New South Wales, Australia; 2 Industry and Investment NSW, Orange Agricultural Institute, Orange, New South Wales, Australia
- P031 Occurrence and aetiology of the ‘wet carcass syndrome’ in sheep in southern Africa**
 Webb EC, Van Niekerk WA
 University of Pretoria, Animal and Wildlife Sciences, Pretoria, South Africa
- P032 Effect of slaughter weight on the quality attributes of meat from Holstein male calf in Argentina**
 Biolatto A 1, Pazos A 2, Vittone S 1, Molto G 3, Monje A 1, Galli I 1, Pighin D 2, Teira G 4, Perlo F 4, Tisocco O 4, Bonato P 4
 1 Estación Experimental Agropecuaria Concepción del Uruguay, Instituto Nacional de Tecnología Agropecuaria (INTA), Entre Ríos, Argentina; 2 Instituto Tecnología de

Alimentos, Centro de Investigación de Agroindustria, Instituto Nacional de Tecnología Agropecuaria (INTA), Buenos Aires, Argentina; 3 Laboratorio de Cromatografía, Facultad de Bromatología, Universidad Nacional de Entre Ríos, Entre Ríos - Argentina; 4 Laboratorio de Industrias Cárnicas, Facultad de Ciencias de la Alimentación, Universidad Nacional de Entre Ríos, Concordia, Argentina

P033 Pre-slaughter handling and slaughtering factors influencing cattle products quality
Fakolade PO

Osun State University, department of Animal Science and Fisheries, Osogbo, Osun state, Nigeria

P034 The effect of pre-slaughter conditions on creatine kinase levels and the quality of mutton from sheep slaughtered at a low throughput abattoir

Chulayo AY, Muchenje V

Department of Livestock and Pasture Science, Faculty of Science and Agriculture, University of Fort Hare, Alice, South Africa

P035 Effect of diet and pre-slaughter stress of beef cattle on biochemical profile and physicochemical parameters

Pighin D 1,3,4, Davies P 2, Pazos A 1,4, Ceconi I 2, Cunzolo S 3,4, Mendez D 2, Buffarini MA 2, Grigioni G 1,3,4

1 Instituto Tecnología de Alimentos, Instituto Nacional de Tecnología Agropecuaria - INTA, Morón, Argentina; 2 EEA INTA Gral. Villegas, Buenos Aires, Argentina; 3 Consejo Nacional de Investigaciones Científica y Técnicas - CONICET, Buenos Aires, Argentina; 4 Facultad de Agronomía y Ciencias Agroalimentarias, Universidad de Morón. Morón, Buenos Aires, Argentina

P036 Meat quality of wild boar (*Sus scrofa*) after live capture by different traps in Sweden

Li X 1, Hestvik G 2, Malmsten J 2, Ågren E 2, Felton L 2, Lundström K 1

1 Swedish University of Agricultural Sciences, Department of Food Science, Uppsala, Sweden; 2 National Veterinary Institute (SVA), Department of Pathology and Wildlife Diseases, Uppsala, Sweden

P037 Correlations of blood lactate content at exsanguination to objective and subjective tenderness of pork loin

Choe JH 1, Choi YM 1, Jung KC 1, Kim JM 2, Hong KC 2, Kim BC 1

1 Division of Food Bioscience and Technology, College of Life Sciences and Biotechnology, Korea University, Seoul, South Korea; 2 Division of Biotechnology, College of Life Sciences and Biotechnology, Korea University, Seoul, South Korea

P038 Two new tools for classifying veal meat color in France: the interprofessional 5 classes color scale and the chromameter

Evrat Georgel C 1, Ribaud D 2, Normand J 3, Marzin V 4

1 Meat Quality Department; 2 Biometrics Department, Institut de l'Elevage (French Livestock Institute), Paris, France; 3 Meat quality Department, Institut de l'Elevage (French Livestock Institute), Lyon, France; 4 Meat quality Department, Institut de l'Elevage (French Livestock Institute), Villers-Bocage, France

P039 Some traits of fallow deer and wild boar meat as affected by hunting withdrawal: first results

Amici A 1, Contò M 2, Ficco A 2, Primi R 1, Serrani F 1, Failla S 2, Meo Zilio D 2

1 Tuscia University, Department of Animal Production, Viterbo, Italy; 2 Italian Center for Research and Experimentation in Agriculture (CRA), Rome, Italy

P040 Effect of slaughter weight on carcass composition and instrumental kid meat quality

Monge P 1, Lemes J 1,2, Campo MM 1, Guerra V 3, Sañudo C 1

1 University of Zaragoza, Zaragoza, Spain; 2 Universidade Federal de Pelotas, Campus Universitário, Pelotas, Brasil; 3 Asociación de Criadores de la cabra Bermeya, Cabrales, Asturias, Spain

P041 Fat cover effects on meat quality attributes of Nellore cattle

Silva SL, Gomes RC, Rosa AF, Bonin MN, Leme TMC, Souza JLF, Zoppa LM, Leme PR
Univesidade de São Paulo, Animal Science, Pirassununga, Brazil

- P042 Phenotypic carcass measurements can explain variance in ultimate pH compliance of beef carcasses**
 McGilchrist P 1,2, Alston CL 3, Thomson KL 4, Gardner GE 1,2, Pethick DW 1,2
 1 Australian Cooperative Research Centre for Beef Genetic Technologies, Armidale, Australia; 2 School of Veterinary & Biomedical Science, Murdoch University, Murdoch, Australia; 3 School of Mathematical Sciences, Queensland University of Technology, Brisbane, Australia; 4 Department of Agriculture & Food of Western Australia, South Perth, Australia
- P043 A new system for sticking control ('vision sticking')**
 Borggaard C, Lykke L, Støier S, Aaslyng MD
 DMRI, Danish Technological Institute, Roskilde, Denmark
- P044 Comparison between computed tomography and dissection for calibrating pig classification methods**
 Daumas G, Monziols M
 IFIP Institut du Porc, Le Rheu, France
- P045 The content of meat - Is there a difference between left and right parts of pig carcasses?**
 Hviid M 1, Erboe S 2, Olsen EV 1,
 1 Danish Meat Research Institute, Measuring Systems and IT, Roskilde, Denmark; 2 Deformalyze ApS, Kgs. Lyngby, Denmark
- P046 Evaluation of ultrasound carcass traits and rump measurements in Nellore cattle**
 Bonin MN 1, Ferraz JBS 1, Silva SL 1, Lanna DPL 2, Manicardi F 1, Gomes RC 1, Santana M 1, Nunes V 1, Novais F 1, Campo JHA 1, Syuffi F 1
 1 College of Animal Science and Food Engineering, Department of Basic Sciences, Brazil; 2 College Agriculture and Animal Science, Department of Animal Science, Brazil
- P047 Blood physiological variables in Piemontese bulls reared under two different management systems**
 Cenci Goga B 1, Moscati L 2, Beghelli D 3, Polidori P 3, Cannizzo FZ 4, Biolatti B 4, Bellino C 4, Barbera S 5
 1 Università degli Studi di Perugia; 2 IZSUM dell'Umbria e delle Marche, Perugia; 3 Università degli Studi di Camerino, Camerino; 4 Dipartimento di Patologia Animale, Università degli studi di Torino, Torino, Italy; 5 Dipartimento di Scienze Zootecniche, Università degli Studi di Torino, Torino, Italy
- P048 Effect of slaughter weight on sensory meat quality in kids**
 Monge P 1, Lemes J 1,2, Campo MM 1, Guerra V 3, Sañudo C 1
 1 University of Zaragoza, Zaragoza, Spain; 2 Universidade Federal de Pelotas, Campus Universitário, Pelotas, Brasil; 3 Asociación de Criadores de la cabra Bermeya, Cabrales, Asturias, Spain
- P049 Physico-chemical characteristics on Sarda suckling lamb meat: effect of sex and weight**
 Manca C, Riu G, Piga C, Scintu MF
 AGRIS-Sardegna, Dipartimento per la Ricerca nelle Produzioni Animali, Olmedo, Italy
- P050 Effects of feeding system on PGI "Agnello di Sardegna" heavy lamb meat**
 Acciaro M, Manca C, Riu G, Fiori M, Sitzia M, Decandia M
 Agris sardegna, Dipartimento per la Ricerca nelle Produzioni Animali, Sassari, Italy
- P051 Animal welfare and different pre slaughter procedures in Uruguay**
 del Campo M 1, Manteca X 2, Brito G 1, de Lima JM 1, Hernández P 3, Montossi F 1
 1 INIA Tacuarembó, Uruguay; 2 Universidad Autónoma de Barcelona, Spain; 3 Universidad Politécnica de Valencia, Spain
- P052 Low voltage electrical stimulation of spent rabbit carcass: physical and structural characteristics**
 Apparao V 1, Wilfred Ruban S 2, Kalaikannan A 3
 1 Department of Meat Science & Technology, Chennai-7, India; 2 Department of Livestock Products Technology, Veterinary College, Hassan, India; 3 Department of Meat Science & Technology, Veterinary College, Namakkal, India

Poster session 3: Postmortem Metabolism and Tenderness

Part 1: Energy Metabolism

- P053 Modelling the decline of pH and temperature during rigor onset**
 van de Ven R 1, Pearce KL 2, Hopkins DL 3
 1 Industry & Investment NSW (Primary Industries) Orange Agricultural Institute, Orange, Australia; 2 Murdoch University, Division of Veterinary and Biomedical Science, Murdoch, Australia; 3 Industry & Investment NSW (Primary Industries) Centre for Red Meat and Sheep Development, Cowra, Australia
- P055 Thigh muscle response of briolers to cold stress in comparison to breast muscle**
 Dadgar S 1, Crowe TG 2, Classen HL 3, Shand PJ 1
 1 University of Saskatchewan, Department of Food and Bioproduct Sciences, Saskatoon, Canada; 2 University of Saskatchewan, Department of Agricultural and Bioresource Engineering, Saskatoon, Canada; 3 University of Saskatchewan, Department of Animal and Poultry Sciences, Saskatoon, Canada
- P056 Relative contribution of ante- and post-mortem factors to Canadian beef carcass and meat quality**
 Juárez M 1, Basarab JA 2, Baron VS 1, López-Campos O 1, Valera M 3, Aalhus JL 1
 1 Agriculture and Agri-Food Canada, Lacombe Research Centre, Lacombe, AB, Canada; 2 Alberta Agriculture and Rural Development, Lacombe Research Centre, Lacombe, AB, Canada; 3 Departamento de Ciencias Agroforestales, Universidad de Sevilla, Seville, Spain
- P057 Rapid pre rigor cooling of beef**
 Rosenvold K, Kemp R, Taukiri K
 AgResearch Ltd, Agri-Foods & Health, New Zealand
- P058 Changes in collagen fractions during PSE meat chicken installation**
 Marchi DF, Beteto FM, Santos GR, Soares AL, Ida EI, Shimokomaki M
 Londrina State University, Departamento de Ciência e Tecnologia de Alimentos, Londrina, Brazil
- P059 The impact of long term grain feeding on glycolytic metabolism of cattle**
 Pighin D 2,3, Warner R 1, Jacob R 4, Beatty D 4, Naththarampatha A 5, Ferguson D 6
 1 Food and Nutritional Sciences, CSIRO, Werribee, Australia; 2 Instituto Tecnología de Alimentos, Instituto Nacional de Tecnología, INTA, Morón, Argentina; 3 Consejo Nacional de Investigaciones Científica y Técnicas, CONICET, Buenos Aires, Argentina; 4 Murdoch University, South Street, Murdoch, Western Australia, Australia; 5 Livestock Production Sciences, Department of Primary Industries - DPI, Werribee, Australia; 6 Livestock Welfare, CSIRO Livestock Industries, Armidale, Australia
- P060 Glycolytico-energetical resources as determinants of physico-chemical criteria of pork meat quality**
 Zybert A, Koćwin-Podsiadła M, Sieczkowska H, Krzęcio E, Antosik K
 Siedlce University of Natural Sciences and Humanities, Pig Breeding and Meat Science, Siedlce, Poland
- P061 Glycolytico-energetical resources as determinants of raw pork meat quality**
 Zybert A, Koćwin-Podsiadła M, Sieczkowska H, Krzęcio E, Antosik K
 Siedlce University of Natural Sciences and Humanities, Pig Breeding and Meat Science, Siedlce, Poland

Part 2: Ageing and Tenderness

- P062 Colour variation during ageing in Piemontese beef**
Brugiapaglia A, Destefanis G
Università di Torino, Dipartimento di Scienze Zootecniche, Grugliasco, Torino, Italy
- P063 The superior tenderness of the posterior part of *longissimus lumborum* from farmed deer was no longer evident after aging**
Craigie CR 1,3, Purchas RW 2, Maltin CA 4, Roehe R 3, Morris ST 1
1 Institute of Veterinary, Animal and Biomedical Sciences (IVABS) Massey University, Palmerston North, New Zealand; 2 Institute of Food, Nutrition and Human Health (IFNHH) Massey University, Palmerston North, New Zealand; 3 SAC Sustainable Livestock Systems, The Roslin Institute Building, Easter Bush, Midlothian, UK; 4 Quality Meat Scotland, The Rural Centre, Ingliston, UK
- P064 Effect of prolonged heat treatments at low temperature on shear force and cooking loss in cows and young bulls**
Christensen L 1, Andersen L 1, Løje H 2, Ertbjerg P 1, Christensen M 1
1 Faculty of Life Sciences, University of Copenhagen, Frederiksberg C, Denmark; 2 Technical University of Denmark, Søtofts Plads, Lyngby, Denmark
- P065 Effect of aging days on tenderness of five muscles from Hanwoo cow with different quality grade**
Park BY, Kang GH, Kim JH, Cho SH, Seong PN, Jeong DW, Jeong SG, Kang SM, Kim HS, Kim DH
Animal Products Research and Development Division, National Institute of Animal Science, Rural Development Administration, Suwon, Korea
- P066 Meat foal colour oxidation**
Sarries MV, Beriain MJ, Insausti K
Universidad Publica de Navarra, Produccion Agraria, Pamplona, Spain
- P067 Effect of aging time on tenderness and color stability of modified-atmosphere packaged beef from mature cows during shelf life**
Pérez-Juan M 1, Vitale M 2, Lloret E 2, Arnau C 2, Realini CE 2
1 Carcass and Meat Quality, IRTA, Finca Camps i Armet, Monells, Girona, Spain; 2 Engineering and Food Process, IRTA, Finca Camps i Armet, Monells, Girona, Spain
- P068 Beef tenderness could be pH compartmentalised**
Lomiwes D 1, Farouk MM 1, Wu G 1, Young OA 2
1 AgResearch Ltd., Ruakura Research Centre, East Street, Hamilton, New Zealand; 2 AUT University, Auckland, New Zealand
- P069 Meat tenderness of Thai native cattle from different area of Thailand**
Tavitchasri P 1, Uaphattanaphong P 2, Artchawakom C 2, Rakthong M 2, Ngamyeesoon N 3, Sethakul J 2
1 Program in Animal Science, Department of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, Chumphon Campus, Chumphon, Thailand; 2 Department of Animal Production Technology and Fisheries, Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand; 3 Department of Plant Production Technology, Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand
- P070 Investigation of instrumental tenderness measurements as an indicator of overall pork tenderness**
Choi MH 1, Choe JH 1, Choi YM 1, Jung KC 1, Lim KS 2, Hong KC 2, Kim BC 1
1 Division of Food Bioscience and Technology, College of Life Sciences and Biotechnology, Korea University, Seoul, South Korea; 2 Division of Biotechnology, College of Life Sciences and Biotechnology, Korea University, Seoul, South Korea
- P071 Beef meat aged at mild temperature: qualitative and microbiological results**
Meo Zilio D, Ballico S, Contò M, Chiariotti A, Failla S
Italian Center for Research and Experimentation in Agriculture, Rome, Italy

- P072 Characterization of antibodies against the connectin/titin 20-kDa fragment increased in chicken sarcoplasm during postmortem aging**
Yamanoue M, Ueda S, Matsunaga K, Onishi K, Sioyama N
Kobe University, Graduate School of Agricultural Science, Kobe, Japan
- P073 Biochemical and structural changes promoted by beef meat marination**
Sharedeh D, Gatellier P, Peyrin F, Astruc T, Daudin JD
UR370 Qualité des Produits Animaux, INRA, Saint-Genès-Champagnelle, France
- P074 Supplementation to improve beta-agonist beef quality - relationship of Vit D3 and 25-hydroxivitamin D3 levels in meat and fat with measured meat tenderness characteristics**
Frylinck L, Moloto KW, Strydom PE, Modika KY
Agricultural Research Council-Animal Production Institute, Irene, South Africa

Poster session 4: Muscle Proteome

- P075 Calpain and calpastatin activity in porcine longissimus and the red and white portions of the semitendinosus**
Cruzen SM 1, Paulino PVR 2, Steadham E 1, Huff-Lonergan E 1, Lonergan SM 1
1 Department of Animal Science, Iowa State University, Ames, Iowa, United States; 2 Department of Animal Science, Universidade Federal de Vicosa, Vicosa, Brazil
- P076 Comparison of *biceps femoris* muscle proteome in dry-cured Xuanwei ham with different quality grades**
Wang Z 1, Gao F 1, Wang X 2, Li X 2, Lin Z 2, Ma C 1
1 College of Food Science and Nutritional Engineering, China Agricultural University, Beijing, China; 2 Dongheng Group, Fuyuan County, Yunnan Province, China
- P077 Proteome changes of beef in Nellore cattle (*Bos indicus*) with different genotypes for tenderness**
Rosa AF, Eler JP, Silva SL, Gomes RC, Poleti MD, Moncau CC, Carità AG, Oliveira ECM, de Balieiro JC
College of Animal Science and Food Engineering, University of São Paulo (FZEA/USP), São Paulo- Brazil
- P078 Iron binding ability of phosvitin in ground beef**
Jung S 1, Jo C 1, Ham JS 2, Ahn DU 3,4, Nam K 5
1 Chungnam National University, Department of Animal Science and Biotechnology, Daejeon, Korea; 2 National Institute of Animal Science, Quality Control and Utilization, Suwon, Korea; 3 Iowa State University, Department of Animal Science, Ames, IA, USA; 4 Seoul National University, major in Biomodulation, Seoul, Korea; 5 Sunchon National University, Department of Animal Science, Sunchon, Korea
- P079 Muscle characteristics from young bulls of different beef breeds**
Jurie C, Picard B, Micol D, Listrat A, Kammoun M, Hocquette J-F
INRA UR1213, Unité de Recherches sur les Herbivores, Theix, Saint Genès Champanelle, France
- P080 Effects of the inhibitors of calpain MDL-28170 and calpeptin on caspase-3 activity and energy changing of chicken during postmortem ageing**
Chen L, Chao F, Xu X-L, Zhou G-H
Key Laboratory of Meat Processing and Quality Control, Ministry of Education, Nanjing Agricultural University, Nanjing, China
- P081 Predicting meat aging using quartz crystal microbalance (QCM)**
Iwasaki T 1, Taniguti H 1, Tsubota N 1, Kawami S 1, NHotta N 1, Maeda N 2, Yamamoto K 1
1 Department of Food Science, Rakuno Gakuen University, Japan; 2 Association of Meat Science and Technology Institute, Japan

- P082** Changes in protein composition related to tenderness in bovine *Longissimus thoracis muscle*
Hollung K 1, Bjarnadottir SG 1,2, Høy M 1, Færgestad EM 1, Veiseth-Kent E 1
1 Nofima Mat AS, Ås, Norway; 2 Department of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences, Ås, Norway
- P083** The effect of extensive and intensive production systems on the histo-chemical properties of Dohne Merino lamb muscles
Hoffman LC 1, Hanekom Y 2, Muller N 2, Brooks N 3, Leygonie C 2
1 Department of Food Science, 2 Department of Animal Sciences, 3 Department of Physiology, University of Stellenbosch, Stellenbosch, South Africa
- P084** Comparison of connective tissue extracted from bovine *Longissimus dorsi* and *Gluteus medius*
Slinde A, Corno L, Coy D, Chan A, Bruce HL
University of Alberta, department of Agricultural, Food and Nutritional Science, Edmonton, Alberta, Canada
- P085** Influence of pig breed and slaughter age on cathepsin B + L activity in raw material and dry-cured hams
Tessema B 1,2, Storrustløyken L 2,3, Alvseike O 3, Hollung K 1
1 Nofima Mat AS, Ås, Norway; 2 Norwegian University of Life Sciences, Department of Chemistry, Biotechnology and Food Science, Ås, Norway; 3 Animalia, Oslo, Norway
- P086** High-oxygen modified atmosphere packaging induced a protein polymerization of myosin heavy chain and a decrease in tenderness of ovine *M. Longissimus* during retail display
Kim YHB, Bødker S, Rosenvold K
AgResearch Ltd, AgriFoods & Health, Hamilton, New Zealand
- P087** Correlations between myosin light chain isoforms and glycolytic characteristics in porcine *Longissimus dorsi* muscle
Choi YM, Choe JH, Jung KC, Kim BC
Korea University, Division of Food Bioscience and Technology, Seoul, South Korea
- P088** Biochemistry and morphological characterization of intra muscular connective tissue of two contrasting bovine muscles
Dubost A, Micol D, Meunier B, Botiaux C, Listrat A
INRA, UR1213-Herbivores, Theix, Saint-Genès Champanelle, France
- P090** Effect of low voltage electrical stimulation on changes in proteome of bovine *Longissimus muscle* during postmortem aging
della Malva A 1, Marino R 1, Grubbs JK 2, Fritchen AN 2, Lonergan SM 2, Huff-Lonergan E 2
1 University of Foggia, Department of Production and Innovation in Mediterranean Agriculture and Food System (PRIME), Foggia, Italy; 2 Iowa State University, Department of Animal Science, Muscle Biology Group, Ames, Iowa, USA
- P091** Age related changes in lipid, collagen and hydroxypyridinium contents related to bovine Nelore *Rhomboideus* muscle (*Bos indicus*) texture
Pedrão MR 1,2, Yamaguchi MM 1, Coró FAG 1, Alfaro AT 3, Shimokomaki M 1,2
1 Federal Technological University, Londrina, Paraná, Brazil; 2 Food Science and Technology, Londrina State University, Londrina, Paraná, Brazil; 3 Federal Technological University, Francisco Beltrão, Paraná, Brazil
- P092** Effect of castration on the protein oxidation and colour stability in aged beef
Silva AA 1, De Melo MP 2, Silva SL 3, Jalbutt TM 1
1 Engenharia de Alimentos, Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo, Pirassununga, SP, Brazil; 2 Departamento de Ciências Básicas, Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo, Pirassununga, SP, Brazil; 3 Departamento de Zootecnia, Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo, Pirassununga, SP, Brazil

- P093 Muscle protein electrophoretic pattern affected by heating treatment**
 Traoré S 1, Aubry L 1, Kajak-Siemaszko K 2, Gatellier P 1, Przybylski W 2, Jaworska D 2, Santé-Lhoutellier V 1
 1 INRA, UR370 QuaPA, Saint Genes Champanelle, France; 2 Warsaw Agricultural University, Warsaw, Poland
- P094 Myogenic progenitor cells in runt pigs**
 Park S, Zhu H, Kasten SC, England EM, Reinholt BM, Van Eyk GR, Roberson RC, Fisher KD, Scheffler TL, Scheffler JM, Gerrard DE
 Virginia Tech, Department of Animal and Poultry Sciences, Blacksburg, VA, USA
- P095 Characterization of porcine satellite cells**
 Zhu H, Park S, Scheffler JM, England EM, Kasten SC, Scheffler TL, Fisher KD, Reinholt BM, Van Eyk GR, Stevenson JM, Roberson RC, Gerrard DE
 Virginia Tech, Department of Animal and Poultry Sciences, Blacksburg, VA, US

Poster session 5: Consumer and Sensory Issues

- P096 The sensitivity of Flemish citizens to androstenone: fine-tuning the methodology and testing the influence of gender, age, region and smoking habits**
 Bekaert KM 1,2, Tuytens FAM 2, De Brabander HF 1, Vandendriessche F 3, Duchateau L 4, Vanhaecke L 1
 1 Ghent university, Faculty of Veterinary Medicine, Research Group of Veterinary Public Health and Zoonoses, Merelbeke, Belgium; 2 Institute for Agricultural and Fisheries Research, Animal Sciences Unit, Melle, Belgium; 3 Imperial Meat Products, Lovendegem, Belgium; 4 Ghent university, Faculty of Veterinary Medicine, Research Group of Physiology and Biometry, Merelbeke, Belgium
- P097 Electronic tongue applied to beef quality: a first approach**
 Ferraro M, Barbera S
 Dipartimento di Scienze Zootechniche, Università degli studi di Torino, Italy
- P098 Effect of serving temperature on temporal sensory perception of sliced dry-cured ham**
 Fuentes V, Ventanas J, Morcuende D, Estévez M, Ventanas S
 University of Extremadura, Department of Animal Production and Food Science, Cáceres, Spain
- P099 Effect of *Moringa oleifera* leaves supplementation on Physico-chemical characteristics of goat meat**
 Moyo B 1, Masika PJ 2, Muchenje V 1
 1 University of Fort Hare, Livestock and Pasture Science, Alice, South Africa; 2 Agricultural and Rural Development Research Institute (ARDRI), University of Fort Hare, Alice, South Africa
- P100 Screening of Japanese sensory descriptors for meat using questionnaire study on Japanese consumers and licensed chefs**
 Sasaki K, Motoyama M
 National Institute of Livestock and Grassland Science, Tsukuba, Japan
- P101 Processed meats and modern life dilemmas**
 Dutra de Barcellos M 1, Grunert KG 2, Scholderer J 2, Perez-Cueto FJA 3
 1 Federal University of Rio Grande do Sul, Post-Graduate Programme in Business Administration (PPGA/UFRGS), Porto Alegre, Brazil; 2 Aarhus University, MAPP Centre for Research on Customer Relations in the Food Sector, Aarhus, Denmark; 3 Ghent University, Department of Agricultural Economics, Ghent, Belgium

- P102 The impact of the technological methods for raw material preliminary preparation on the microstructural and sensory properties formation in canned ready meals**
Semenova A 1, Kuznetsova T 1, Anisimova I 1, Bogdanova A 1
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Standardization and certification, Moscow, Russia
- P103 Sensory characteristics of dry-cured shoulders: influence of crossbreeding**
Reina R 1, Ventanas J 1, García-Casco JM 2, López-Buesa P 3, García C 1
1 University of Extremadura, Department of Food Technology, Cáceres, Spain; 2 AECEBER, Zafra, Spain; 3 University of Zaragoza, Department of Animal Production and Food Science, Zaragoza, Spain
- P104 Volatile compounds from Iberian dry-cured shoulders**
Reina R 1, García C 1, García-Casco JM 2, Silva A 3, Ventanas J 1
1 University of Extremadura, department of Food Technology, Cáceres, Spain; 2 AECEBER, Zafra, Spain; 3 University of Extremadura, Animal Products Innovation Facility, Cáceres, Spain
- P105 Analyzing Tunisian consumer perception towards attributes of meat quality**
Dhraief MZ, Khaldi R
Rural Economic Laboratory, INRAT, Tunis, Tunisia
- P106 Consumers' concerns on food safety in France: is it possible to establish a dialogue between citizens and supply chains stakeholders?**
Sans P 1,3, Verbeke W 2, de Fontguyon G 3, Alessandrin A 4
1 INP-Ecole Nationale Vétérinaire de Toulouse, Toulouse, France; 2 Ghent University, Ghent, Belgium; 3 INRA-UR1303, Ivry-sur-Seine, France; 4 Agrosémiologue, Ancenis, France
- P107 Why do consumers dislike food additives and what scientists can do? - A study in a Japanese university**
Miwa M
Tokyo University of Agriculture, Tokyo, Japan
- P108 The effect of Korean traditional sauces on physicochemical, texture and sensory properties of dry-cured beef ham**
Pilnam Seong PN, Jeong D, Kang G, Cho S, Park B, Kim J, Jeong S, Kim H, Kim D
National Institute of Animal Science, Animal Products Research and Development Division, Suwon, South Korea
- P109 Evaluation of dynamic sensory perception of flavour in Iberian pâtés using time-intensity method**
Lorido L, Fuentes V, Ventanas J, Ventanas S
University of Extremadura, department of Animal production and food science, Cáceres, Spain
- P111 Sensory characteristics and chemical composition of Slovenian blood sausage Krvavica**
Gašperlin L, Skvarča M, Polak T, Lušnic M, Žlender B
University of Ljubljana, Biotechnical faculty, Food Science and Technology, Ljubljana, Slovenia
- P112 Brazilian citizen an consumer attitudes an preferences regarding broiler breast PSE meat**
Droval AA, Prudencio SH, Benassi VT, Rossa A, Paiao FG, Shimokomaki M
University State Londrina, Departamento de Ciência e Tecnologia de Alimentos, Londrina, Brazil
- P113 Validation of a photographic tool for assessing consumer perception and acceptability of doneness of beef**
Chan SH 1, Moss BW 1,2, Farmer LJ 2, Cuskelly GJ 1
1 School of Biological Sciences, Queens University Belfast, Belfast, Antrim, North Ireland, UK; 2 Agri-Food and Biosciences institute, Belfast, Antrim, North Ireland, UK

- P114 Sensory characteristics of beef in France and United Kingdom at two cooking temperatures**
Micol D 1, Chriki S 1, Jurie C 1, Meteau K 2, Juin H 2, Nute GR 3, Richardson RI 3, Hocquette JF 1
1 INRA-UR1213, Herbivores, Theix, Saint Genès Champanelle, France; 2 INRA-UE1206, EASM, Le Magneraud, Saint Pierre d'Amilly, France; 3 Division of Farm Animal Science, University of Bristol, Langford, UK
- P115 'In vitro' meat - A preliminary examination of Irish consumer acceptance**
Dillon EJ 1, Greehy G 2, Henchion M 1, McCarthy M 2, McCarthy S 1, Williams G 3
1 Teagasc Food Research Centre, Ashtown, Dublin 15, Ireland; 2 Department of Food Business and Development, University College Cork, Ireland; 3 School of Biological Sciences, Dublin Institute of Technology, Dublin, Ireland
- P116 The role of beef brands for consumers across the Pyrenees**
Resano H 1, Sanjuán AI 1, Sans P 2, Panella-Riera N 3, Campo MM 4, Khliji S 3, Oliver MA 3, Sañudo C 4, Santolaria P 5
1 Centre of Agro-food Research and Technology of Aragon, Department of Agro-food Economics and Natural Resources, Zaragoza, Spain; 2 National School of Veterinary, Toulouse, France; 3 IRTA, Product Quality Department, Monells, Spain; 4 Faculty of Veterinary, Department of Animal Production, Zaragoza, Spain; 5 Superior Politechnic School, Department of Animal Production, Huesca, Spain
- P117 Consumers preference for tough chicken meat in Southwestern Nigeria; a review**
Alabi OM 1, Aderemi FA 1, Ladokun AO 2, Adewumi AA 3
1 Bowen University, Iwo, Nigeria, Department of Animal Science and Fisheries Management; 2 University of Agriculture, Abeokuta, Nigeria; 3 Osun-State University, Ejigbo Campus, College of Agric, Nigeria
- P118 Farm animal welfare: citizen attitudes versus consumer behaviour**
Vanhonacker F, Verbeke W
Ghent University, Department of Agricultural Economics, Gent, Belgium
- P120 Evaluation of meat taste using taste sensor and sensory evaluation**
Kuwabara M, Kadowaki M, Fujimura S
Graduate School of Science & Technology, Niigata University, Niigata, Japan

Poster session 6: Nutrition and Health Issues

- P121 Influence of supplementation organic or mineral Selenium on content Selenium in fresh, cooked, roasted and grilled loin (muscle Longissimus dorsi) and ham**
Janiszewski P 1, Borzuta K 1, Borys A 1, Grześkowiak E 1, Strzelecki J 1, Lisiak D 1, Magda F 1, Lisiak B 1, Powatowski K 1, Batorska M 2
1 Institute of Agricultural and Food Biotechnology, Department of Meat and Fat Research, Warszawa, Poland; 2 Department of Pigs Breeding, Faculty of Animal Sciences, Warsaw Agricultural University, Warszawa, Poland
- P123 Antioxidative and antihypertensive peptides in Iberian dry cured ham**
Timon ML, Andres AI, Galea EJ, Parra V, Petrón MJ
Laboratory of Food Technology, Agricultural Engineering School, University of Extremadura, Spain
- P124 Isolation and purification of angiotensin converting enzyme inhibitory peptidic fractions from freshwater fish muscle protein thermolysin hydrolysate**
Ghassem M, Babji AS, Said M, Zainon MA
University Kebangsaan Malaysia, School of Chemical Sciences and Food Technology, Selangor, Malaysia

- P125 Angiotensin converting enzyme inhibitory peptides derived from sarcoplasmic enzymatic hydrolysate of freshwater fish haruan**
Ghassem M, Babji AS, Said M
University Kebangsaan Malaysia, School of Chemical Sciences and Food Technology, Selangor, Malaysia
- P126 Analysis and substantiation of cooked sausage formulations for pregnant and nursing women nutrition**
Aslanova M, Ustinova A, Govor I
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Technology of products for children, preventive-curative and specialized products, Moscow, Russia
- P127 Study on the problem of iodine enrichment of food**
Chernuha I, Vostrikova N, Yushina Y
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Standardization and certification, Moscow, Russia
- P128 Relative importance and profile of processed meat intake in relation to colon cancer death rates in Europe**
Demeyer D, De Smet S
Ghent University, Department of Animal Production, Ghent, Belgium
- P129 The comparison of meat product´s composition “with” and “without” nutritional/health claim available in the Czech Republic market**
Steinhauserová P 1, Řehůřková I 2, Ruprich J 1,2
1 University of Veterinary and Pharmaceutical Sciences Brno, Faculty of Veterinary Hygiene and Ecology, Department of Milk hygiene and Technology, Brno, Czech Republic; 2 National Institute of Public Health, Brno, Czech Republic
- P130 Nutritive value of emu, *Dromaius novaehollandiae* [Le Souef 1907] managed under tropical conditions**
Adewumi AA 1, Fakolade PO 2, Alabi OM 3
1 Osun State University, Ejigbo Campus, Wildlife and Environmental Resources Management, Nigeria; 2 Osun State University, Ejigbo Campus, Animal Science and Fisheries Management, Nigeria; 3 Bowen University, Animal Science and Fisheries Management, Nigeria
- P131 Marketing opportunities for functional meat within the European regulatory framework - Case study: enrichment of meat with Sel-Plex®**
Kennedy J, Warren H, Nollet L, Thornton J, Thordal Christensen K
Alltech, Paris, France
- P132 Effect of vegetable oil substituted Wiener consumption on blood lipoproteins levels of rats**
Kaynakci E 1, Kiliç B 2
1 Akdeniz University, Serik Higher School of Vocational Education, Antalya, Turkey; 2 Suleyman Demirel University, Faculty of Engineering and Architecture, Department of Food Engineering, Isparta, Turkey
- P133 Determination and evaluation of bioactive peptides obtained from camel eat treated with Ficin**
Khatib N, Kadivar M
Isfahan University of Technology, Department of Food Science, Isfahan, Iran
- P134 Quality grade and degree of doneness effects on nutrient content of beef top loin steaks**
Smith AM, Harris KB, Haneklaus AN, Savell JW
Texas A&M University, Meat Science Section, Department of Animal Science, College Station, Texas, USA

- P135 Obtaining information for beef chuck cuts for a national nutrient database in the United States**
 West SE 1, Harris KB 1, Haneklaus AN 1, Savell JW 1, Thompson LD 2, Brooks JC 2, Pool JK 2, Luna AM 2, Engle TE 3, Schutz JS 3, Belk KE 4, Douglass LW 4
 1 Texas A&M University, Meat Science Section, Department of Animal Science, College Station, Texas, USA; 2 Texas Tech University, Department of Animal and Food Sciences, Lubbock, Texas, USA; 3 Colorado State University, Department of Animal Sciences, Fort Collins, Colorado, USA; 4 Consulting Statistician, Longmont, Colorado, USA
- P136 Nutrient analysis of the beef alternative merchandising cuts**
 Desimone TL, Woerner DR, Engle TE, Kendall PA, Belk KE
 Colorado State University, Animal Sciences, Fort Collins, USA
- P137 Isonation and identification of angiotensin I-converting enzyme inhibitory peptide from thermolysin proteolysate of Hanwoo *M. longissimus***
 Seol K-H 1, Kim H-J 2, Kwon D-Y 2, Jo C 3, Ham J-S 1, Kim HW 1, Jang A 1, Oh M-H 1, Kim D-H 1, Lee M 4
 1 National Institute of Animal Science, Rural Development Administration, Suwon, Republic of Korea; 2 Korea Food Research Institute; Sungnam, Suwon, Republic of Korea; 3 Department of Animal Science and Biotechnology, Chungnam National University, Daejeon, Republic of Korea; 4 Department of Agricultural Biotechnology & Research Institute for Agriculture and Life Sciences, Seoul National University, Seoul, Republic of Korea
- P138 Isolation and identification of peptide with cancer cell anti-proliferation activity from thermolysin proteolysed Hanwoo *M. longissimus***
 Seol K-H 1, Kim H-J 2, Hwang J-T 2, Jo C 3, Ham J-S 1, Kim HW 1, Jang A 1, Oh M-H 1, Kim D-H 1, Lee M 4
 1 National Institute of Animal Science, Rural Development Administration, Suwon, Republic of Korea; 2 Korea Food Research Institute; Sungnam, Suwon, Republic of Korea; 3 Department of Animal Science and Biotechnology, Chungnam National University, Daejeon, Republic of Korea; 4 Department of Agricultural Biotechnology & Research Institute for Agriculture and Life Sciences, Seoul National University, Seoul, Republic of Korea
- P139 Consumer acceptability and preference of cooked ham formulated with soluble fiber**
 Abreu LW 1, Lemos ALCS 1, Silveira ETF 1, Frias BF 2, de Felício PE 3
 1 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil; 2 Corn Products Brasil, São Paulo, Brazil; 3 Department of Food Technology, State University of Campinas, Campinas, SP, Brazil
- P140 Incidence of various process parameters on *in vitro* protein digestibility of beef meat**
 Hassoun A, Santé-Lhoutellier V, Lebert A, Kondjoyan A, Daudin JD
 UR370 Qualité des Produits Animaux, INRA, Saint-Genès-Champagnelle, France
- P141 Consequences of fat trimming in meat cuts on the nutrient supplies for human. Objective information to guide consumer attitudes**
 Gandemer G 1,3, Bauchard D 2, Duchène C 3
 1 INRA, Centre de Lille, Estrées Mons, Péronne, France; 2 INRA, Herbivore Research Unit, St Genes champagnelle, France; 3 Centre d'Information des Viande, Tour Mattei, Paris, France

Poster session 7: Fish and Seafood

P142 Iodine content of raw and processed seafood

Erkan N

Istanbul University, Faculty of Fisheries, Department of Seafood Processing and Quality Control, Istanbul, Turkey

P143 Mercury levels in muscle tissue of bluefish, anchovy and sardine

Özden Ö

Istanbul University, Department of Seafood Processing and Quality Control, Istanbul, Turkey

P144 Investigation of chemical, microbiological and sensory properties of ready to eat fish döner kebab manufactured with bluefin tuna

Simsek A, Kilic B

Suleyman Demirel University, Faculty of Engineering and Architecture, Department of Food Engineering, Isparta, Turkey

P145 2-Peptide bacteriocins of *Lactobacillus plantarum* NF3 isolated from Nham-pla (traditional Thai indigenous fermented minced fish)

Swetwiwathana A 1, Siripoke S 2, Zendo T 3, Nakayama J 3, Sonomoto K 3

1 Faculty of Agro-Industry, King Mongkut's Institute of Technology Ladkrabang (KMITL) Bangkok, Thailand; 2 Department of Biology, Faculty of Science, Srinakarinwirot University, Bangkok, Thailand; 3 Laboratory of Microbial Technology, Department of Bioscience and Biotechnology, Faculty of Agricultural Graduate School, Kyushu University, Higashi-ku, Fukuoka, Japan

P146 Fatty acid profile and cholesterol content in marketable rainbow trout (*Oncorhynchus mykiss*) reared in two aquaculture systems

Vranic D 1, Trbovic D 1, Djinic-Stojanovic J 1, Baltic ZM 2, Markovic R 2, Petronijevic R 1, Spiric A 1

1 Institute of Meat Hygiene and Technology, Belgrade, Serbia; 2 Faculty of Veterinary Medicine, Belgrade, Serbia

P147 Occurrence of trace elements and organochlorine compounds in farmed rainbow trout (*Oncorhynchus mykiss*)

Djinovic-Stojanovic J, Vranic D, Trbovic D, Jankovic S, Petrovic Z, Matekalo-Sverak V, Spiric A

Institute of Meat Hygiene and Technology, Belgrade, Serbia

P148 Efficacy of powdered neem (*Azadirachta indica*) leaves as antifungal agent on smoked-dried fillets of African catfish (*Chrysichthys nigrodigitatus*)

Ipinmoroti MO 1, Bell JA 2

1 Osun State University, Department of Animal Science and Fisheries, Osogbo, Nigeria; 2 Olabisi Onabanjo University, Department of Renewable Resources, Ago Iwoye, Nigeria

P149 Effects of modified atmosphere packaging on the shelf life of gutted rainbow trout (*Oncorhynchus mykiss*) stored at 3 °C

Shekarforoush SS, Abbasvali M, Azizi-shirazi A

School of Veterinary Medicine, Shiraz university, Food Hygiene and Public health, Shiraz, Iran

Tuesday 9 August 2011

Poster session 8: Animal Nutrition effects on Meat Quality

- P150 Meat quality of vitamin E enriched beef**
 Nassu RT 1,2, Dugan MER 1, Juárez M 1, Basarab JA 3, Baron VS 1, Aalhus JL 1
 1 Agriculture and Agri-Food Canada, Lacombe Research Centre, C & E Trail, Lacombe, AB, Canada; 2 Embrapa Pecuaria Sudeste, Rodovia Washington Luiz, Sao Carlos, Brazil; 3 Alberta Agriculture and Rural Development, Lacombe Research Centre, Lacombe, AB, Canada
- P151 Effects of fattening methods on the nutrient profile of buffalo in Taiwan**
 Wan TC 1, Lin CY 1, Kuo HY 1, Sakata R 2
 1 Hualien Animal Propagation Station, COA-LRI, Hualien, Taiwan; 2 School of Veterinary Medicine, Azabu University, Sagamihara, Japan
- P152 Effects of phytoterapic diet supplementation on carcass traits and meat quality of Blonde d'Aquitaine steers**
 Tassone S, Fortina R, Cornale P, Battaglini LM, Barbera S
 University of Turin, Dipartimento di Scienze Zootecniche, Grugliasco, Italy
- P153 Effect of feeding management and slaughter weight on carcass and meat quality of finishing bulls**
 Fiems LO, De Boever JL, De Campeneere S, De Brabander DL
 ILVO Animal Sciences Unit, Melle, Belgium
- P154 Meat quality, sensory properties and oxidative stability of pork after dietary supplementation of sage, lemon balm and oregano extract**
 Bahelka I 1, Nuernberg G 2, Kuechenmeister U 2, Nuernberg K 2
 1 Animal Production Research Centre, Luzianky, Slovakia; 2 Research Institute for the Biology of Farm Animals, Dummerstorf, Germany
- P155 Finisher pig diet and sex affect the sensory acceptability of Australian pork for the Japanese market**
 D'Souza DN 1, Dunshea FR 2, Mullan BP 3
 1 Pork Limited, Deakin West, Australia; 2 The University of Melbourne, School of Land and Environment, Parkville, Victoria, Australia; 3 Department of Agriculture and Food, Bentley Delivery Centre, Australia
- P156 Effect of fattening regime on behavior, production and meat quality in lambs**
 Aguayo L 1, Fuchs K 1, Miranda-de la Lama G 1, Lemos D 1, Olleta JL 1, Villarroel M 2, María GA 1
 1 Department of Animal & Food Science, University of Zaragoza, Spain; 2 Department of Animal Science, ETSIA, Polytechnic University of Madrid, Spain
- P157 Dietary rosemary extract extends the shelf life of cooked lamb under retail display conditions**
 Bañón S, Méndez L, Almela E
 University of Murcia, Department of Food Science and Technology and Nutrition, Murcia, Spain
- P158 Meat quality from the cattle raised with organic and conventional diet**
 Imanari M 1, Yonai M 1, Muramoto T 2, Higuchi M 3, Shiba N 1, Watanabe A 1
 1 Grazing and Meat Production Research Team, Tohoku National Agricultural Research Center, Morioka, Japan; 2 Iwate University, department of Animal Science, Morioka, Japan; 3 Functional Food Research Team, National Institute of Livestock and Grassland Science, Nasushiobara, Japan

- P159 Effect of illite addition on growth performance, carcass characteristics and meat quality traits of barrows**
Choi JS, Jung DS, Park SH, Kim KS, Choi YI
Department of Animal Science, Chungbuk National University, Cheongju, South Korea
- P160 The effect of high supplement levels of Vitamin D3 on instrumental colour and drip loss of beta agonist treated beef**
Strydom PE 1, Frylinck L 1, Hope-Jones M 2
1 Animal Production Institute, Agricultural Research Council of South Africa, Pretoria, South Africa; 2 Department of Animal & Wildlife Sciences, University of Pretoria, Pretoria, South Africa
- P161 Changes in husbandry practices: from browsing based production systems towards intensive systems. Consequences on the nutritional quality of goat kid meat lipid fraction**
Quaresma MAG, Rodrigues I, Trigo Alves SP, Bessa RJB
Faculdade de Medicina Veterinária, CIISA, Avenida da Universidade Técnica, Lisbon, Portugal
- P162 Increased beef oxidation from feeding wet distillers grains with solubles is not caused by the solubles fraction**
Varnold KA, Calkins CR, Haack AL, Hergenreder JE, Pokharel S, Senaratne LS, Pesta AC, Erickson GE
University of Nebraska-Lincoln, Animal Science, Lincoln, United States
- P163 A comparison of wheat versus corn-based dried distillers' grains plus solubles and their combination on the quality of raw and cooked beef semimembranosus roasts**
Stoll LC 1, McKinnon JJ 2, Shand PJ 1
1 Department of Food and Bioproduct Sciences, University of Saskatchewan, Canada; 2 Department of Animal and Poultry Science, University of Saskatchewan, Canada
- P164 Effect of breed and dietary protein and lysine levels on pork quality traits**
Madeira MS, Costa P, Alfaia CM, Lopes PA, Bessa RJB, Lemos JPC, Prates JAM
CIISA, Faculdade de Medicina Veterinária, Lisbon, Portugal
- P165 Influence of crude glycerin inclusion in the diet, genetic group and postmortem aging time on color of three bovine muscles**
Oliveira IM 1, Paulino PVR 1, Monnerat JPIS 1, Serão NVL 2, Couto VRM 1, Duarte MS 1, Mezzomo R 1, Silva LHP 1, Moura LS 1, Teixeira CRV 1
1 Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Brazil; 2 University of Illinois, Department of Animal Sciences, Urbana-Champaign, USA
- P166 Carcass and meat characteristics of crossbred lambs fed different starch sources**
Vidal MP 1, Aferri G 2, Silva SL 1, Felício PE 3, Guizzo MM 3, Corte RRPS 1, Pereira ASC 1
1 Universidade de São Paulo, Brazil; 2 Agência Paulista de Tecnologia dos Agronegócios, Brazil; 3 Universidade Estadual de Campinas, Brazil
- P167 Quality of n-3 enriched Manchego lamb meat through refrigerated storage under modified atmospheres. Effect of supplementing antioxidants**
Cañeque V 1, Muño I 1, Perez C 2, Díaz MT 1, Lauzurica S 3, López O 1, Rivas-Cañedo A 1, De la Fuente J 3
1 INIA, department of Food Technology, Madrid, Spain; 2 Complutense University, Faculty of Veterinary Science, department of Animal Production, Madrid, Spain; 3 Complutense University, Faculty of Veterinary Science, department of Biology, Madrid, Spain
- P168 Feed and breed influence on meat quality and shelf life of beef**
Morales A, García-Valverde R, Gómez-Laguna J, Fernández L, Hernández M
Centro de Investigación y Calidad Agroalimentaria del Valle de los Pedroches, CICAP, Pozoblanco, Córdoba, Spain
- P169 Effect of dietary antioxidant on meat quality under heat stress condition**
Hashizawa Y, Kadowaki M, Fujimura S
Graduate School of Science and Technology, Niigata University, Niigata, Japan

- P170 The use of restricted grain supplementation to promote simultaneously beef production and healthy meat under grazing conditions**
Montossi F, Luzardo S, Cuadros R, Brito G, San Julián R, Silveira C, del Campo M
National Institute of Agricultural Research, INIA Tacuarembó, Tacuarembó, Uruguay
- P171 Could supplement type affect lamb performance, carcass and meat quality traits under grazing conditions?**
Montossi F, Silveira C, Luzardo S, Brito G, De Barbieri I, San Julián R
National Institute of Agricultural Research, INIA Tacuarembó, Tacuarembó, Uruguay
- P172 Effect of grazing in the latter fattening period on the nutrient content and gene expression in steer muscle**
Shibata M 1, Matsumoto K 1, Hikino Y 1, Muroya S 2, Oe M 2, Nakajima I 2, Ojima K 2, Chikuni K 2
1 National Agricultural Research Center for Western Region, Shimane, Japan; 2 National Institute of Livestock and Grassland Science, Tsukuba, Ibaraki, Japan
- P173 Different levels of protein in the first winter may affect the meat quality of Uruguayan steers finished on pastures or grain?**
Brito G 1, San Julián R 1, del Campo M 1, Lagomarsino X 1, La Manna A 2, Tieri M 2, Banchero G 2, Montossi F 1
1 INIA Tacuarembó, National Meat and Wool Program, Tacuarembó, Uruguay; 2 INIA La Estanzuela, National Meat and Wool Program, Colonia, Uruguay

Poster session 9: Oxidative Stability of Meat and Meat Products

Part 1: Oxidation Phenomena

- P174 Effect of maillard reaction products on lipid oxidative profile of irradiated meat products**
Jayathilakan K, Khudisia S, Radhakrishna K, Bawa AS
Defense Food Research Laboratory, Defense Research & Development Organization, Mysore, Karnataka, India
- P175 Changes in quality characteristics of ready-to-eat Ginseng chicken porridge during storage at 25'**
Jang DH, Lee KT
Gangneung-Wonju National University, Department of Food Processing and Distribution, Gangneung, Republic of Korea
- P176 Antioxidant status and lipid peroxidation in the muscle of German Simmental and German Holstein bulls fed n-3 and n-6 PUFA-based diets**
Dannenberger D 1, Nuernberg K 1, Mahecha L 2, Nuernberg G 1
1 Leibniz Institute for Farm Animal Biology Dummerstorf, Dummerstorf, Germany; 2 Grupo Grica, Facultad de Ciencias Agrarias, Universidad de Antioquia, Medellin, Colombia
- P177 Study by RP-HPLC of low molecular weight peptides (3<kDa) in Iberian chorizo, their antioxidative power and effect in oxidative stability of the products**
Timón ML, Broncano JM, Galea EJ, Andrés AI, Petró M
Laboratory of Food Technology, Agricultural Engineering School, University of Extremadura, Spain
- P178 Conversion of Met-myoglobin directly to Oksy-myoglobin by mitochondria from pork muscle (*M. masseter*) and liver**
Slinde E 1,2, Phung V 2, Egelanddal B 2
1 Institute of Marine Research, Nordnes, Bergen, Norway; 2 Department of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences, Ås, Norway

- P179 Study on the influence of low temperature treatment of meat raw material on the volatile components composition by multisensor analysis and chromatomassspectrometry**
Semenova A, Kuznetsova T, Bogdanova A, Ivankin A
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Standardization and certification, Moscow, Russia
- P180 Formation of thiol-quinone adducts in myofibrillar proteins - An antioxidative mechanism?**
Jongberg S 1, Lund MN 1, Waterhouse AL 2, Skibsted LH 1
1 Department of Food Science, University of Copenhagen, Frederiksberg, Denmark; 2 Department of Viticulture and Enology, University of California, Davis, California, USA
- P181 Effect of hot boning on colour stability and antioxidant enzyme activities in beef inner and outer biceps femoris**
Pastsart U, De Boever M, Lescouhier S, Claeys E, De Smet S
Ghent University, Department of Animal Production, Melle, Belgium
- P182 Composition and antioxidative properties of mechanically deboned chicken meat hydrolysates**
Li M-J, Liu D-C, Tan F-J
National Chung Hsing University, Department of Animal Science, Taichung, Taiwan
- P183 Oxidative stability of organic pig meat**
Karwowska M, Dolatowski ZJ
University of Life Sciences in Lublin, Department of Meat Technology and Food Quality, Lublin, Poland
- P184 Effect of pulsed magnetic field on microbiological quality and lipid oxidation of minced beef meat during refrigerated storage**
Lins PG 1, Jalbut TM 1, De Mello TBH 1, Silva AA 1, Costa EJX 2, De Melo MP 2
1 University of Sao Paulo, Faculty of Zootechnology and Food Engineering, Department of Food Engineering, Pirassununga, Brazil; 2 University of Sao Paulo, Faculty of Zootechny and Food Engineering, Department of Basic Science, Pirassununga, Brazil
- P185 Retail colour (oxidation) of meat is affected by antioxidant status and heme iron but not polyunsaturated fatty acids of muscle in lambs**
Ponnampalam EN 1,2, Butler KL 2, McDonagh MB 1,2, Jacobs JL 2, Dunshea FR 3, Hopkins DL 1,4
1 CRC for Sheep Industry Innovation, Homestead Building, UNE, Armidale NSW, Australia; 2 AgriFood Production Systems, Department of Primary Industries, Australia; 3 Melbourne School of Land and Environment, The University of Melbourne, Parkville, Australia; 4 NSW Department of Primary Industries, Centre for Red Meat and Sheep Development, Cowra, NSW, Australia
- P186 Oxidative status, vitamin B12 and sensory characteristic changes of pre-sliced map packaged dry-cured Parma ham**
Saccani G 1, Toscani T 2, Virgili R 1
1 SSICA-Experimental Station for the Food Preservation Industry, Parma, Italy; 2CPP, Consorzio del prosciutto di Parma, Parma, Italy
- P187 Antioxidant enzymes activity in meat of poultry fed selenium supplemented diet**
Descalzo AM 1,2, Gallinger CI 3, Rossetti L 1, Sancho AM 1,2, Iglesias B 4, Azcona JO 4
1 Instituto Tecnología de Alimentos, CIA-INTA, Castelar, Argentina; 2 Universidad de Morón, Argentina; 3 EEA-Concepción del Uruguay, INTA, Argentina; 4 EEA-Pergamino, INTA, Argentina
- P188 Role of catechin against collagen oxidation: a NMR approach**
Lucarini M, D'Evoli L, Sciuba F, Delfini M, Lombardi Boccia G
INRAN, Food Chemistry, Rome, Italy

Part 2: Antioxidants

- P189 The combination effect of modified atmosphere packaging and the addition of rosemary and organic acids on the storage quality of pre-cooked Hamburg steak refrigerated storage**
 Muhlisin 1, Kang SM 2, Choi WH 1, Lee KT 3, Cheong SH 4, Lee SK 1
 1 Department of Animal Products and Food Science, Kangwon National University, South Korea; 2 National Institute of Animal Science, Rural Development Administration, South Korea; 3 Department of Food Processing and Distribution, Gangneung-Wonju National University, South Korea; 4 Geo Food Tech Institute, South Korea
- P190 Avocado phenolics inhibit the oxidation of cholesterol in porcine patties**
 Rodríguez-Carpena J-G 1, Morcuende D 2, Petron MJ 3, Estévez M 2
 1 Faculty of Veterinary, Autonomous University of Nayarit, Mexico; 2 Food Technology, Faculty of Veterinary, University of Extremadura, Spain; 3 Laboratory of Food Technology, Agricultural Engineering School, University of Extremadura, Spain
- P191 Use of a commercial protease to increase oxidative stability of Iberian chorizo**
 Petrón MJ, Broncano JM, Martín L, Parra V, Timon ML
 Laboratory of Food Technology, Agricultural Engineering School, University of Extremadura, Spain
- P192 Stabilization of the colour of modified atmosphere packaged chilled vial by natural antioxidant dihydroquercetin**
 Staykov AS 1, Dragoev SG 2, Vassilev KP 3, Balev DK 2
 1 Bulgarian Agency of Food Safety, District Office of Food Safety, Pazardjik, Bulgaria; 2 University of Food Technologies, Technological Faculty, Department of Meat and Fish Technology, Plovdiv, Bulgaria; 3 University of Food Technologies, Technological Faculty, Department of Food Preservation and Refrigeration, Plovdiv, Bulgaria
- P193 Evaluation of nitrite, colour and rancidity in porcine cooked sausages prepared with rose-hips' extracts**
 Armenteros M 1, Ventanas S 1, Viguera J 2, Morcuende D 1, Estévez M 1
 1 Universidad de Extremadura, Facultad de Veterinaria s/n, Cáceres, Spain; 2 Imasde Agroalimentaria, Pozuelo de Alarcón, Madrid, Spain
- P194 Effects of *Rhus verniciflua* Stokes extract, gallic acid, and fisetin on the lipid, protein, and myoglobin oxidation in Hanwoo (Korean cattle) beef model system**
 Kang SM 1, Cho S 1, Kim DH 1, Lee SK 2
 1 National Institute of Animal Science, Rural Development Administration, Suwon, Korea; 2 Department of Animal Products and Food Science, Kangwon National University, Chuncheon, Korea
- P195 Effect of addition of *Rhus verniciflua* Stokes extract and Gallic acid on the quality characteristics of Han woo (Korean cattle) beef patties stored in high oxygen-modified atmosphere package**
 Kang SM 1, Muhlisin 2, Choi WH 2, Cho SH 1, Kim DH 1, Lee SK 2
 1 National Institute of Animal Science, Rural Development Administration, Suwon, Korea; 2 Department of Animal Products and Food Science, Kangwon National University, Chuncheon, Korea
- P196 Evaluation of grape seed extract as antioxidant in hamburgers**
 González RM, Temperán S, Lorenzo JM, Montes R, Bermúdez R, Franco D
 Meat Technology Centre of Galicia, Physicochemical Department, Ourense, Spain
- P197 Effect of grape seed extract on colour, sensory properties and oxidative stability of beef**
 Gómez I, Insausti K, Marín R, Mendizábal JA, García S, Sarriés MV, Zudaire G, Beriain MJ
 Escuela Técnica Superior de Ingenieros Agrónomos, Universidad Pública de Navarra (UPNA), Campus de Arrosadía, Pamplona, Spain

- P198 Effects of goldenrod (*Solidago virgaurea*) leaf and stem extracts on oxidative stability in cooked ground pork during chilled storage**
Choe JH 1, Choi YS 2, Kim HY 2, Han DJ 1, Kim HW 1, Kim YJ 1, Park JH, Chung HK 3, Kim CJ 1
1 Konkuk University, Department of Food Science and Biotechnology of Animal Resources, Seoul, Republic of Korea; 2 Konkuk University, Research Institute for Meat Science and Culture, Seoul, Republic of Korea; 3 Hoseo University, Department of Food Science and Nutrition, College of Natural Science, Chungnam, Republic of Korea
- P199 Tomato powder in regular-fat pork sausages suppressed lipid oxidation during refrigerated storage**
Kim HS, Chin KB
Chonnam National University, department of Animal Science and Functional Foods Research Center, Gwangju, South Korea
- P200 Enhancing quality of pork patties with procyanidin powder during refrigerated storage**
Jang A, Ham J-S, Seol K-H, Oh M-H, Han K-S, Kim H-W, Jeong S-G, Lee J-M, Kim D-H, Park J-C
National Institute of Animal Science, Animal Products Research and Development Division, Suwon, South Korea
- P201 Antioxidant properties of onion and onion peel extracts in cooked pork patties during storage period**
Jung EY 1, Kim GD 1, Lim HJ 3, Joo ST 1,2, Yang HS 1,2, Kong IK 1,2
1 Division of Applied Life Science, Graduate School, 2 Department of Animal Science, Institute of Agriculture and Life Science, 3 Division of Animal Science, Gyeongsang National University, Jinju, South Korea
- P202 Effects of dried wheat sprout flour on lipid oxidation and some quality characteristics of beef patties**
Ozturk I, Yetim H, Sagdic O
Erciyes University, Food Engineering, Kayseri, Turkey
- P203 The development of functional pork breakfast sausages containing flavonoid rich extracts: sensory and technological impact**
Hayes J, Allen P
Teagasc Food Research Centre, Department of Food Chemistry and Technology, Ashtown, Dublin, Ireland
- P204 Refrigerated broiler breast meat lipid oxidation inhibition by purified corn germ phytic acid**
Filgueiras CT, Casagrande R, Baracat M, Paccola PPA, Soares AL, Shimokomaki M, Ida EI
Londrina State University, Departamento de Ciência e Tecnologia de Alimentos, Londrina, Brazil
- P205 Pâté with added fresh date palm by-products: a preliminary study**
Martín-Sánchez AM 1, Ciro G 1, Sayas-Barberá E 1, Vilella-Esplá J 2, Ben-Abda J 3, Pérez-Álvarez JA 1
1 Industrialización de Productos de Origen Animal (IPOA) Departamento de Tecnología Agroalimentaria, Escuela Politécnica Superior de Orihuela, Universidad Miguel Hernández, Orihuela, Spain; 2 Centro de investigación sobre la Palmera Datilera, Estación Phoenix, Elche, Spain; 3 Institution de Recherche et d'Enseignement Supérieur Agricole, Tunisia
- P206 Color parameters evolution during cooking in a date palm concentrate pâté**
Martín-Sánchez AM 1, Ciro G 1, Fortuna I 1, Vilella-Esplá J 2, Ben-Abda J 3, Pérez-Álvarez JA 1
1 Industrialización de Productos de Origen Animal (IPOA), Departamento de Tecnología Agroalimentaria, Escuela Politécnica Superior de Orihuela, Universidad Miguel Hernández, Orihuela, Spain; 2 Centro de investigación sobre la Palmera Datilera, Estación Phoenix, Elche, Spain; 3 Institution de Recherche et d'Enseignement Supérieur Agricole, Tunisia

- P207 Antioxidant effect of tunic onion powder in cooked pork sausages**
Shimada K 1, Jayawardana Barana C 2, Uchino K 1, Han K-H 1, Fukushima M 1, Sekikawa M 1
1 Obihiro University of Agriculture and Veterinary Medicine, Department of Food Science, Obihiro, Japan; 2 University of Peradeniya, Department of Animal Science, Peradeniya, Sri-Lanka
- P208 The effects of antioxidants from mango on shelf life of pork sausages**
Mason SL, Le HM, Bickerstaffe R
Lincoln University, Department of Wine, Food and Molecular sciences, Llincoln, New Zealand

Poster session 10: Microbiological Safety

Part 1: Carcasses

- P209 Comparison of acidified sodium chlorite, chlorine dioxide, peroxyacetic acid and tri-sodium phosphate chemical washes for decontamination of poultry carcasses**
Purnell G 1, James C 1, James SJ 1, Corry JEL 2
1 Food Refrigeration and Process Engineering Research Centre (FRPERC), The Grimsby Institute, Grimsby, UK; 2 Department of Clinical Veterinary Science (DCVS), University of Bristol, Langford, UK
- P210 Effect of time before rinsing on the effectiveness of acidified sodium chlorite and peroxyacetic acid chemical washes for decontamination of poultry carcasses**
Purnell G 1, James C 1, James SJ 1, Corry JEL 2
1 Food Refrigeration and Process Engineering Research Centre (FRPERC), The Grimsby Institute, Grimsby, UK; 2 Department of Clinical Veterinary Science (DCVS), University of Bristol, Langford, UK
- P211 Comparison of physical systems (atmospheric steam, and different types of water sprays) for decontamination of poultry carcasses**
Purnell G 1, James C 1, James SJ 1, Corry JEL 2
1 Food Refrigeration and Process Engineering Research Centre (FRPERC), The Grimsby Institute, Grimsby, UK; 2 Department of Clinical Veterinary Science (DCVS), University of Bristol, Langford, UK
- P215 Microbial contamination of water in industrial poultry abattoirs in Mazandaran province, Iran**
Radmehr B 1, Naghizade E 1, Golpayegani M 2, Kohdar V 1
1 Department of Food Hygiene and Quality Control, School of Veterinary Medicine, Islamic Azad University-Karaj Branch, Iran; 2 Central office veterinary medicine, Mazandaran province, Iran
- P216 The effects of a three strain mixture of bacteriophage on *E. coli* O157:H7 inoculated hide squares over a 10 hour period**
Mies PD 1, Belan Davis MJ 2
1 Elanco Food Solutions, Overland Park, Kansas, USA; 2 Elanco, Greenfield, Indiana, USA
- P217 Comparison of the *Campylobacter* contamination on different sites of broiler carcasses**
Baré J 1, Depraetere O 1, Uyttendaele M 2, Habib I 2,3, Houf K 1, De Zutter L 1
1 Department of Veterinary Public Health and Food Safety, Faculty of Veterinary Sciences, Ghent University, Belgium; 2 Department of Food Safety and Food Quality, Faculty of Bioscience Engineering, Ghent University, Belgium; 3 Division of Food Hygiene and Control, the High Institute of Public Health, Alexandria University, Egypt
- P218 Efficacy of washing and/or trimming beef subprimals as a decontamination method for *Escherichia coli* O157:H7**
Lemmons JL, Harris KB, Haneklaus AN, Hardin MD, Lucia LM, Savell JW
Texas A&M University, Meat Science Section, Department of Animal Science, College Station, Texas, USA

Part 2: Fresh Meat

- P219 Changes in bacterial communities of tray-packaged pork during chilled storage analyzed by terminal restriction fragment length polymorphism**
Jiang Y 1,2, Gao F 1, Xu X 1, Ye K 1, Zhou G 1
1 Key Laboratory of Meat Processing and Quality Control, Ministry of Education, Nanjing Agricultural University, Nanjing, China; 2 Ginling College, Nanjing Normal University, Nanjing, PR China
- P220 Shelf-life extension of fresh pork loin treated by E-beam**
García Márquez I, Cabeza MC, Ordóñez JA, Manzano S, Velasco R, Hoz L, Cambero MI
Universidad Complutense, Facultad de Veterinaria, departamento de Nutrición, Bromatología y Tecnología de los Alimentos, Madrid, Spain
- P221 Influence of temperature on conservability of chilled vacuum packed beef from different origins**
Imazaki PH, Maréchal A, Nezer C, Daube G, Clinquart A
University of Liège, Faculty of Veterinary Medicine, Department of Food Science, Liège, Belgium
- P222 Inactivation of *Campylobacter* by ozone treatment of chicken breast fillets at different concentrations**
Frag K
Royal Agricultural College, School of Agriculture, Cirencester, UK
- P223 Shelf-life evaluation of pork meat stored under different packaging atmospheres**
Bozec A 1, Ellouze M 2, Le Roux A 1, Zuliani V 2
1 IFIP, Le Rheu, France; 2 IFIP, Maisons-Alfort, France
- P224 Inquiry to evaluate meat safety in different production systems of four European countries**
Klauke T 1, Howers W 2, Cinar MU 1, Brinkmann D 1, Petersen B 1
1 University of Bonn, Institute of animal science, Bonn, Germany; 2 GIQS e.V.
- P225 Challenges with the application of hop bitter B-acids as natural preservatives in meat and poultry**
Sander C 1, Vincken J-P 2, van Drunen T 1, Bijlhout E 1, Edelman M 1, Visser D 1, Gruppen H 2
1 Purac, Innovation Centre Food, Gorinchem, the Netherlands; 2 Wageningen University, Laboratory of Food Chemistry, Wageningen, the Netherlands
- P226 Efficiency of a commercial liquid spice extract mix for the decontamination of *Listeria monocytogenes* and *Escherichia coli* O157:H7 from meat surface**
Tornuk F, Gokmen S, Bugdayci K, Yetim H
Erciyes University, Food Engineering, Kayseri, Turkey
- P227 Combined application of modified atmosphere packaging and protective culture in fresh chicken legs against *Campylobacter jejuni***
Melero B, Vinuesa R, Osés SM, Diez AM, Gómez-Rojo EM, Wilches-Pérez D, Jaime I, Rovira J
University of Burgos, Department of Biotechnology and Food Science, Burgos, Spain
- P228 Microbial dynamics in suckling lamb “Lechazo de Castilla y León” packaged under different modified atmospheres by DGGE**
Osés SM, Gómez-Rojo EM, Wilches-Perez D, Melero B, Diez AM, Jaime I, Rovira J
Burgos University, Department of Biotechnology and Food Science, Burgos, Spain
- P229 Food safety in ready to eat products of suckling lamb “Lechazo de Castilla y León”**
Diez AM, Osés SM, Melero B, Gómez E, Wilches D, Jaime I, Rovira J
Universidad de Burgos, Biología y Ciencia de los Alimentos, Burgos, Spain
- P230 The antimicrobial and antioxidant effect of avishan-e shirazi (*Zataria multiflora*) essential oil, Nisin and their combination against *Salmonella typhimurium* in minced sheep during refrigerated storage**
Hosseini SE 1, Hosseini Z 1, Bayat M 2
1 Islamic Azad University, Science and Research Branch, Department of Food Science and Technology, Tehran, Iran; 2 Islamic Azad University, Science and Research Branch, Department of Medical and Veterinary Mycology, Tehran, Iran

Part 3: Meat Products

- P231 Comparing the effect of different dry-cured ham drying processes on *Salmonella* fate**
Stollewerk K, Jofré A, Comaposada J, Ferrini G, Arnau J, Garriga M
IRTA, Finca Camps i Armet, Monells, Spain
- P232 Development of shelf stable chicken sausages using hurdle technology**
Rindhe SA 1, Suryawanshi SU 1, Karle SD 2
1 Department of Livestock Products Technology, College of Veterinary & Animal Sciences, Parbhani (M.S), India; 2 Department of Meat Hygiene, Asmara Agricultural University, South Africa
- P233 Effect of rosemary essential oil on the quality of pork burgers**
Nieto G 1,2, Patarara L 2, Ros G 1
1 Department of Food Technology and Science and Human Nutrition, Veterinary Faculty, University of Murcia, Murcia, Spain; 2 Universidad de Trás-os-Montes y Alto Douro, Centre of Studies in Animal and Veterinary Science (CECAV), Vila Real, Portugal
- P234 The antimicrobial effect of essentials oils against *Salmonella* spp. in pork burgers during refrigerated storage**
Nieto G 1,2, Patarara L 2, Ros G 1
1 Department of Food Technology and Science and Human Nutrition, Veterinary Faculty, University of Murcia, Murcia, Spain; 2 Universidad de Trás-os-Montes y Alto Douro, Centre of Studies in Animal and Veterinary Science (CECAV), Vila Real, Portugal
- P235 Screening and selection of lactic acid bacteria with high antimicrobial activity for fermented sausage production in Vietnam**
Phan TT 1, Le TBT 2
1 Hanoi University of Science and Technology, School of Biotechnology and Food Technology, Department of Food Technology, Hanoi, Vietnam; 2 Green Foods Viet Nam Joint Stock Company, Ha Noi, Vietnam
- P237 Nano-Ag and lactate Na complex as food product protection**
Ivankin A 1, Yushina Y 1, Gorbunova 1, Evdokimov Y 2
V.M. Gorbunov All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Scientific-methodical work and control-analytical investigations, Moscow, Russia; 2 Moscow Forest State University, Mitishi, Russia
- P238 Assessment of microbiological safety of 'Ready to Eat' meat and chicken products prepared in national, local restaurants and street vendors in Assiut city- Egypt**
El-Khateib T
Assiut University, Food Hygiene and Safety Center, Department of Food Hygiene, Faculty of Veterinary Medicine, Assiut, Egypt
- P239 Effect of high hydrostatic pressure on inactivation of pathogens inoculated onto beef loin packaged with vegetable oils**
Kang M 1, Jung S 1, Jung Y 1, Ham JS 2, Kim YJ 3, Jo C 1
1 Chungnam National University, Department of Animal Science and Biotechnology, Daejeon, Korea; 2 National Institute of Animal Science, Quality Control and Utilization Division, Suwon, Korea; 3 Korea Food Research Institute, Food Safety Research Division, Seongnam, Korea
- P240 Inactivation of *Listeria monocytogenes* inoculated onto sliced chicken breast and ham by a pen-type atmospheric pressure plasma with different input gas composition**
Lee HJ 1, Kang M 1, Jung Y 1, Nam K 2, Ham JS 3, Jo C 1
1 Chungnam National University, Department of Animal Science and Biotechnology, Daejeon, Korea; 2 Sunchon National University, Department of Animal Science and Technology, Sunchon, Korea; 3 National Institute of Animal Science, division of Quality Control and Utilization, Suwon, Korea
- P241 Shelf-life of E-beam treated hamburgers added with tomato powder as source of lycopene**
Gámez MC, Garcia ML, Soto AM, Galán I, Selgas MD, Calvo MM
Complutense de Madrid, Nutricion, Bromatologia y Tecnologia de Los Alimentos, Madrid, Spain

- P242 Inhibitory effect of provian (a co-spray dried mixture of sodium lactate and sodium acetate) on the growth of *Listeria Monocytogenes* in frankfurters stored at 4, 7, or 10° C**
Kang I, Zhang L, Xu Y, Ryser E, Jeong JY, Harte JB
Michigan State University, Animal Science - Food Science & Human Nutrition, East Lansing, United States
- P243 Microbiological changes in “Morcilla” preserved in vacuum and modified atmosphere packaging**
García-Fontán MC, García G, Bermúdez R, Garrido-Bailón E, Franco D, Lorenzo JM
Meat Technology Centre of Galicia, San Cibrao das Viñas, Ourense, Spain
- P244 Survival of *Salmonella* in dried chicken meat residues on the surface of packaging materials**
Di Ciccio PA 1,2, Geornaras I 1, Nunnelly MC 1, Zanardi E 2, Ianieri A 2, Sofos JN 1
1 Center for Meat Safety & Quality, Department of Animal Sciences, Colorado State University, Fort Collins, Colorado, USA; 2 University of Parma, Dept. of Animal Production, Veterinary Biotechnologies, Food Quality and Safety, Parma, Italy
- P245 Effect of glutathione on bacteriocins of lactic acid bacteria isolated from traditional Thai fermented meat**
Tilokavichai J, Jindaprasert A, Pilasombut K, Sethakul J, Swetwivathana A
King Mongkut's Institute of Technology Ladkrabang (KMUTL), Agro-Industry, Bangkok, Thailand
- P246 Microbial characteristics and lipid oxidation of thawed pork loin wrapped with gelatin based film with natural food antimicrobial compounds**
Jang A, Kim D-W, Ham J-S, Seol K-H, Oh M-H, Jeong S-G, Han K-S, Lee J-M, Kim D-H
National Institute of Animal Science, Animal Products Research and Development Division, Suwon, South Korea
- P247 Behaviour of non-stressed and stressed *Listeria monocytogenes* and *Campylobacter jejuni* cells on fresh poultry hamburgers**
Melero B 1, Osés SM 1, Díez AM 1, Gómez-Rojo EM 1, Wilches-Pérez D 1, Jaime I 1, Rajkovic A 2, Rovira J 1
1 University of Burgos, Department of Biotechnology and Food Science, Burgos, Spain; 2 Ghent University, Department of Food Safety and Food Quality, Ghent, Belgium
- P248 *Escherichia coli* O157:H7 and *Salmonella* Typhimurium penetration during vacuum tumbling and survivability during storage in marinated beef**
Muras TM, Harris KB, Mehall LN, Haneklaus AN, Hardin MD, Lucia LM, Savell JW
Texas A&M University, Meat Science Section, Department of Animal Science, College Station, Texas, USA
- P249 Changes in microbial population numbers during the cooking process of doner kebabs**
Bostan K, Yilmaz F, Muratoglu K, Aydin A
Istanbul University, Department of Food Hygiene and Technology, Istanbul, Turkey

Part 4: Methodology

- P250 Evaluation of ISO 10272:2006 standard versus alternative enrichment and plating combinations for enumeration and detection of *Campylobacter* in chicken meat**
Habib I 1,3, Uyttendaele M 1, De Zutter L 2
1 Laboratory of Food Microbiology and Food Preservation, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium; 2 Department of Veterinary Public Health and Food Safety, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium; 3 Food Hygiene and Control Division, High Institute of Public Health (HIPH), Alexandria University, Alexandria, Egypt

- P251 Food safety regulations in the meat sector of Buryatia (Russian Federation)**
Khachatryan N 1, Rudloff M 2, Malakshinova I 3, Khachatryan A 1
1 Eastern Europe Centre, University of Hohenheim, Stuttgart, Germany; 2 Mahle Industry, Stuttgart, Germany; 3 Ministry of Agriculture and Food of Republic of Buryatia, Russian Federation
- P252 About the redox potential of meat cans**
Lisitsyn A, Krylova V, Gustova T
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademi, Moscow, Russia
- P253 Development of the reference model for the technological process management and decision-making support in refrigerated semi-product production**
Lysitsyn A, Maslova N
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Standardization and certification, Moscow, Russia
- P254 Rapid and sensitive real-time PCR quantitative detection of *Listeria monocytogenes* without enrichments in artificially contaminated chilled pork**
Ye KP 1, Jiang Y 2, Xu XL 1, Zhou GH 1
1 Nanjing Agricultural University, Key Lab of Meat Processing and Quality Control, Ministry of Education, College of Food Science and Technology, Nanjing, PR China; 2 Nanjing Normal University, Ginling College, Nanjing, PR China
- P255 Different methods to identify yeast population associated with dry cured “lacón”, a traditional meat product from North-west of Spain**
Garrido-Bailón E, Fernández B, García G, Bermúdez R, Lorenzo, JM, García-Fontán MC
Meat Technology Centre of Galicia, San Cibrao das Viñas, Ourense, Spain
- P256 Physiological state of bacteria growing in meat during cold storage: a molecular approach**
Guernec A, Robichaud-Rincon P, Saucier L
University Lavaln, Animal Sciences, Quebec, Canada
- P257 The use of predictive models for *Listeria monocytogenes* in the meat industry to support compliance with EU regulation 2073/2005 for ready-to-eat products**
Vermeulen A 1, Cappuyns A 2, Beckers J 1, De Loy-Hendrickx A 1, Paelinck H 3, Uyttendaele M 1, Van Impe J 2, Devlieghere F 1
1 Ghent University, Food Safety and Food Quality, Ghent, Belgium; 2 KULeuven, Chemical and Biochemical Process Technology and Control, Leuven, Belgium; 3 Katholieke Hogeschool Sint-Lieven, Technology and Quality of Meat Products, Gent, Belgium
- P258 Antimicrobial activity of chosen phenolic compounds against *Escherichia coli* O157:H7**
Jakubczak A 1, Stachelska MA 1, Świsłocka R 1,2, Kalinowska M 1,2, Lewandowski W 1,2
State College of Computer Science and Business Administration, Food Technology and Nutrition Institute, Łomza, Poland; 2 Białystok Technical University, Department of Chemistry, Białystok, Poland

Poster session 11: Boar Taint: Entire Males or Immunocastration

- P259 Sensory evaluation of boar taint - training and attributes**
Claudi-Magnussen C, Bejerholm C, Meinert L, Tørngren MA
DMRI Danish Technological Institute, DMRI, Roskilde, Denmark
- P260 Identification of boar taint in a triangle tests**
Riehn K 1, Jäger J 2, Sattler T 2, Kleinhans S 3, Schmoll F 2, Lückner E 1
1 Institute of Food Hygiene, Faculty of Veterinary Medicine, University of Leipzig, Germany; 2 Large Animal Clinic for Internal Medicine, Faculty of Veterinary Medicine, University of Leipzig, Germany; 3 District office Weimarer Land, veterinary inspection office, Nohra, Germany

- P261 Ractopamine hydrochloride and immunocastration effects on pork carcass traits and lean meat yields**
Martins A 1, Formighieri R 1, Magenis GB 3, Silveira ETF 2, de Felício PE 1
1 Department of Food Technology, University of Campinas, Campinas, SP, Brazil ; 2 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil; 3 OUROFINO Agronegócios, Cravinhos, SP, Brazil
- P262 Ractopamine hydrochloride and immunocastration effects on fresh pork properties**
Formighieri R 1, Martins A 1, Silveira ETF 2, Magenis GB 3, de Felício PE 1
1 Department of Food Technology, University of Campinas, Campinas, SP, Brazil; 2 Meat Technology Centre, Institute of Food technology, Av. Brasil, Campinas, SP, Brazil; 3 OUROFINO Agronegócios, Cravinhos, SP, Brazil
- P263 Validation of “Human nose” method for boar taint detection**
Meinert L, Bejerholm C, Støier S
Danish Meat Research Institute (DMRI), Danish Technological Institute, Roskilde, Denmark
- P264 The incidence of sexual odour of male and cryptorchid pigs in the practice of Kapuvári Hús Rt.**
Keresztény P 1, Roszkos R 2, Szabó I 2
1 Kapuvar Meat Share Holding Company, Kapuvar, Hungary; 2 Pfizer Kft., Budapest, Hungary
- P265 Usability of meat from immunologically castrated male pigs for packaging under a modified atmosphere**
Gallas L, Borilova G, Svobodova I, Steinhauserova I, Steinhauser L
University of Veterinary and Pharmaceutical Sciences Brno, Czech Republic
- P266 Boar taint reduction in smoked, cooked ham**
Tørngren MA 1, Claudi-Magnussen C 2, Støier S 1, Kristensen L 1
1 Danish Meat Research Institute (DMRI), Center of Meat Quality, Roskilde, Denmark; 2 Danish Meat Research Institute (DMRI), Center of Measuring systems & IT, Roskilde, Denmark
- P267 Usability of meat from immunologically castrated male pigs for the production of dry fermented sausages**
Gallas L, Borilova G, Svobodova I, Jezek F, Steinhauserova I, Steinhauser L
University of Veterinary and Pharmaceutical Sciences Brno, Czech Republic
- P268 Impact of replacing physical castration with vaccination against GnRF (Improvac®) on carcass grading following the SEUROP system**
Allison JRD 1, Suarez P 1, Crane JP 2, Hennessy DP 3
1 Pfizer Animal Health, Madison, NJ, USA; 2 Pfizer Animal Health, Kalamazoo, MI, USA; 3 Consultant, Warrandyte, Victoria, Australia
- P269 Chicory in beer feed: effect on boar taint and meat quality**
Aluwé M, Millet S, Langendries KCM, Bekaert KM, Tuytens FAM, De Brabander DL
ILVO, Animal Sciences, Melle, Belgium
- P270 Incidence of boar taint in entire male pigs in Europe, assessed by chemical assay of androstenone and skatole**
Allison JRD 1, Suarez P 1, Crane JP 2, Hennessy DP 3
1 Pfizer Animal Health, Madison, NJ, USA; 2 Pfizer Animal Health, Kalamazoo, MI, USA; 3 Consultant, Warrandyte, Victoria, Australia
- P271 Carcass and meat quality in surgical castrated boars, boars vaccinated with Improvac® and entire boars**
Sattler T 1, Jäger J 1, Schmoll F 2, 3
1 Large Animal Clinic for Internal Medicine, University of Leipzig, Germany; 2 Institute for Veterinary Public Health, University of Veterinary Medicine Vienna, Austria; 3 Institute for Veterinary Disease Control, AGES, Mödling, Austria

- P272 Vaccination or surgical castration to prevent boar taint? - Results of a representative consumer study in Germany**
Schmoll F 1,2,3, Jäger J 1, Sattler T 1
1 Large Animal Clinic for Internal Medicine, University of Leipzig, Germany; 2 Institute for Veterinary Public Health, University of Veterinary Medicine Vienna, Austria; 3 Institute for Veterinary Disease Control, AGES, Mödling, Austria
- P273 Effect of Improvac™ on carcass and body composition of entire male pigs fed different nutrition programs**
Ferguson N 1, McDermid D 2, Vanvloten P 2, McMillan E 1
Nutreco Canada Agresearch, Guelph, ON, Canada; 2 Pfizer Animal Health, Kirkland, PQ, Canada
- P274 Backfat odour assessment from immunocastrated pigs**
Cipolli KMVAB 1, Guadagnini RA 2, Orlando E 3, Felício PE 4, Silveira ETF 3
1 Centre of Food Science and Quality, Institute of Food Technology, Campinas, SP, Brazil; 2 IQ-University of Campinas, and CNPq - Institute of Food technology, Campinas, SP, Brazil; 3 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil; 4 Department of Food Engineer, University of Campinas, Campinas, SP, Brazil
- P275 Immunocastration and ractopamine hydrochloride effects on Italian salami quality**
Cervo GD 1, Silva LCC 1, Cipolli KMVAB 2, Silveira NFA 2, Bromberg R 3, Silveira ETF 3
1 Department of Food Technology and Engineering, State University of São Paulo, São José do Rio Preto, SP, Brazil; 2 Centre of Food Science and Quality, Institute of Food technology, Campinas, SP, Brazil; 3 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil
- P276 Ractopamine hydrochloride and immunocastration effects on Italian Coppa acceptability**
Lucas DS 1, Cipolli KMVAB 2, Pflanzner SB 3, Silveira ETF 4, Silva TJP 1
1 Department of Food Technology, Federal Fluminense University, Niterói, Rio de Janeiro, Brazil; 2 Sensory, Physics and Statistic Analysis Reference Laboratory Unit, Food Science and Quality Centre, Institute of Food Technology, Campinas, Brazil; 3 Department of Food Technology, State University of Campinas, Campinas, Brazil; 4 Meat Technology Centre, Institute of Food Technology, Caminas, Brazil
- P277 Ractopamine hydrochloride and immunocastration effects on sensory characteristics of enhanced pork chops loin**
Iocca AFS 1, Silveira ETF 2, Romanelli PF 1
1 Department of Food Technology and Engineering, State University of São Paulo, São José do Rio Preto, SP, Brazil; 2 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil
- P278 Ractopamine hydrochloride and immunocastration effects on the fatty acid composition on belly quality**
Silva LCC 1, Cervo GD 1, Silveira ETF 2
1 Department of Food Technology and Engineering, São José do Rio Preto, SP, Brazil; 2 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil
- P279 Ractopamine hydrochloride and immunocastration effects on the bacon cooking loss**
Silva LCC 1, Cervo GD 1, Silveira ETF 2
1 Department of Food Technology and Engineering, São José do Rio Preto, SP, Brazil; 2 Meat Technology Centre, Institute of Food Technology, Campinas, SP, Brazil
- P280 New culinary uses for pork testicles from immunologically castrated male pigs**
Pucciarelli DL 1, Deutsch JM 2, Schroeder AL 3
1 Department of Family and Consumer Sciences, Ball State University, Muncie, Indiana USA; 2 Department of Tourism and Hospitality, Kingsborough Community College, CUNY, Brooklyn, New York USA; 3 Pfizer Animal Health, Madison, New Jersey USA

Poster session 12: Methods in Meat Science

- P281 Online total fat prediction in green hams and loins**
Fulladosa E 1, Serra X 1, Muñoz I 1, Gou P 1, Olmos A 2, Arnau J 1
1 IRTA, Finca Camps i Armet, Monells, Girona, Spain; 2 Jamones Segovia S.A., Carbonero el Mayor, Segovia, Spain
- P282 A polymerase chain reaction assay for sex determination of cattle meat by amplification of the DEAD box protein (DDX3X/DDX3Y) gene**
Kumar RR, Gokulakrishnan P, Sharma BD, Sharma D
Division of Livestock Products Technology, Indian Veterinary Research Institute, Izzatnagar, India
- P283 A duplex polymerase chain reaction assay for sex determination of cattle meat by simultaneous amplification of the AMELX, AMELY and SRY genes**
Gokulakrishnan P, Kumar RR, Sharma BD, Sharma D
Division of Livestock Products Technology, Indian Veterinary Research Institute, Izzatnagar, India
- P284 A new technique for non-destructive measurement of marbling in beef meat using visible and near-infrared imaging**
Ziadi A 1, Maldague X 1, Saucier L 2
1 Department of Electrical and Computing Engineering, Université Laval Québec, Canada; 2 Department of Animal Science, Université Laval Québec Canada
- P285 NIRS analysis of different meat sample preparations from veal calves and panel test prediction**
Brugiapaglia A 1, Destefanis G 1, Lussiana C 1, Giomo A, Masoero G 2
1 Università di Torino, Dipartimento di Scienze Zootecniche, Grugliasco, Torino, Italy; 2 CRA-PCM, Torino, Italy
- P286 Use of Raman spectroscopy for the evaluation of structural changes in raw and heated meat batters prepared with different fats**
Shao J-H, Zhou G-H, Xu X-L
Key Lab of Meat Processing and Quality Control, College of Food Science and Technology, Nanjing Agricultural University, Nanjing, PR China
- P287 Surface-enhanced laser desorption/ionisation time-of-flight mass spectrometry: a fast method to assess pork quality**
Marcos B 1, Gou P 1, Guardia MD 1, Colleo M 1, Hortós M 1, Mach N 2, te Pas MFW 2, Keuning E 2, Kruijt L 2, Hoving-Bolink AH 2, Gispert M 1, Arnau J 1
1 IRTA, Finca Camps i Armet, Monells, Spain; 2 Animal Breeding and Genomics Center, Wageningen UR Livestock Research, Lelystad, the Netherlands
- P288 The development of the system for quantitative assessment of soybean content in meat products by real time PCR**
Minaev M, Fomina T
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Production hygiene and microbiology, Moscow, Russia
- P289 Monitoring of meat raw material with increased heavy metal content according to traceability principles**
Vostrikova N, Chernuha I
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Production hygiene and microbiology, Moscow, Russia
- P290 Detection of myoglobin in somatic muscle tissue and analysis of its content in meat and meat products**
Hvilya S, Burlakova S, Pchelkina V
V.M. Gorbato All-Russian Meat Research Institute of Rosselkhozacademia, Laboratory of Production hygiene and microbiology, Moscow, Russia

- P291 Nuclear magnetic resonance spectroscopy as a tool to predict adipose and muscular tissue content of fresh hams for cured ham processing**
Galve A, Burgos C, López-Buesa P
Universidad de Zaragoza, Producción Animal y Ciencia de los Alimentos, Zaragoza, Spain
- P292 NIR spectroscopy of muscle ethanol prepared specimens to differentiate rearing mode and genetic type of Italian heavy pigs**
Masero G, Barbera S
Dipartimento di Scienze Zootecniche, Università degli studi di Torino, Italy
- P294 Use of near infrared spectroscopy for the prediction of intramuscular fat and fatty acid content in rabbit meat**
Zomeño C, Juste V, Hernández P
Institute for Animal Science and Technology, Universidad Politécnica de Valencia, Valencia, Spain
- P295 Vitamin B12 in muscle foods. Comparison of a microbiological assay and a fully automated chemiluminescence system for the determination of vitamin B12 in fresh and processed meat**
Saccani G
SSICA - Experimental Station for the Food Processing Industry, Parma, Italy
- P296 Field trial of novel temperature monitoring and information management systems in a German poultry supply chain**
Raab V 1, Bogason S 2, Haarer D 3, Hafliðason T 2, Hammer I 4, Mielenz M 5, Popov V 6, Reichstein W 3, Reynisson E 7, Zanella L 8, JKreyenschmidt J 1
1 University of Bonn, Institute of Animal Science, Preventive Health Management Group, Bonn, Germany; 2 University of Iceland, Reykjavik, Iceland; 3 Freshpoint Holding SA, La Chaux de Fonds, Switzerland; 4 Afcon Software and Electronics Ltd., Tel Aviv, Israel; 5 University of Bonn, Institute of Animal Science, Department of Anatomy and Physiology, Bonn, Germany; 6 Wessex Institute of Technology, Southampton, UK; 7 MATÍS, Reykjavik, Iceland; 8 ActValue Consulting&Solutions, Milan, Italy
- P297 Detection of seagull meat in meat mixtures using real-time PCR assay**
Kesmen Z 1, Celebi Y 2, Yetim H 1
1 Erciyes University, Department of Food Engineering, Kayseri, Turkey; 2 Korku Ata University, Department of Food Engineering, Osmaniye, Turkey
- P298 Separation characteristics of beef lipid methylation products using a new ionic column (SLB-IL111)**
Aldai N 1, Kramer JKG 2, Dugan MER 3, Mantecón AR 1
1 Instituto de Ganadería de Montaña, CSIC-ULE, Finca Marzanas, León, Spain; 2 Guelph Food Research Centre, AAFC, Guelph, Ontario, Canada; 3 Lacombe Research Centre, AAFC, Lacombe, Alberta, Canada
- P299 Practical interpretations of changes in lamb meat colour during simulated retail display**
Jacob RH, Thomson KL
Department of Agriculture and Food WA, South Perth, Australia
- P300 Prediction of the fatty acid composition of meat products using mid infrared attenuated total reflectance spectroscopy**
Neyrinck E 1, De Smet S 2, Raes K 1
1 University College West-Flanders, Department of Industrial Engineering and Technology, Research Group EnBiChem, Kortrijk, Belgium; 2 Ghent University, Faculty of Bioscience Engineering, Laboratory for Animal Nutrition and Animal Product Quality, Ghent, Belgium
- P301 Authentication of meat from sheep (*Ovis aries*) and goat (*Capra hircus*) by species specific polymerase chain reaction**
Girish PS, Sen AR, Vaithiyanathan S, Rajitha R, Ramakrishna C
National Research Centre on Meat, Indian Council of Agricultural Research, Hyderabad, India
- P302 Multiplex polymerase chain reaction for differentiation of cattle and buffalo meat**
Karabasanavar NS, Singh SP
Maharashtra Animal & Fishery Sciences University, Bombay Veterinary College, Mumbai, India

Thursday 11 August 2011

Poster session 13: Animal Production Effects on Meat quality

- P303 Effects of dexamethasone on meat quality of Friesian steers**
Barbera S
Dipartimento di Scienze Zootecniche, Dipartimento Produzioni Animali - Epidemiologia ed Ecologia and Dipartimento di Patologia Animale, Università degli studi di Torino, Torino, Italy
- P304 Change of general element, mineral, nucleic acid and meat color of chicken according to breeding days**
Chae HS, Na JC, Bang HT, Yu DJ, Kim MJ, Kim DU, Choi HC, Suh OS, Kang HK, Jang AR, Jo SH
Rural development administration National institute of animal science, Poultry science division poultry feed and nutrition, South Korea
- P305 Change of fatty acid, amino acid and free amino acid of chicken according to breeding**
Chae HS, Na JC, Bang HT, Yu DJ, Kim MJ, Kim DU, Choi HC, Suh OS, Kang HK, Jang AR, Jo SH
Rural Development Administration National Institute of Animal Science, Poultry Science, Division Poultry Feed and Nutrition, South Korea
- P306 Effect of environment, feed, management, load, transport, unloading and slaughter on meat quality of veal calves**
Torchio M, Botta M, Biolatti B, Barbera S
Università degli studi di Torino Facoltà di Agraria, Dipartimento di Scienze Zootecniche, Tigliole, Italy
- P307 Broiler carcass and meat quality as affected by egg yolk/albumen ratio determined by means of computer tomography**
Cullere M 1, Dalle Zotte A 1, Contiero B 1, Sütő Z 2, Donkó T 2, Milisits G 2
1 Department of Animal Science, Padova University, Legnaro, Italy; 2 Faculty of Animal Science, Kaposvár University, Kaposvár, Hungary
- P308 Influence of pre-harvest withdrawal period at zilpaterol hydrochloride supplementation on carcass traits, fall pH and water holding capacity of feedlot heifers**
Torreterera ON, Carrasco JR, Arrizón GA, Álvarez AE, Plascencia JA, Figueroa F
Universidad Autonoma de Baja California, Instituto de Ciencias Agricolas, Mexicali, Mexico
- P309 Effects of castration and high pressure reaction on fatty acid compositions and volatile compounds in Korean native goat meat**
Kang GH 1, Kim SW 1, Choi SH 1, Kim YJ 2, Cho SH 1, Seong PN 1, Park BY 1, Jeong SG 1, Kang SM 1, Kim HS 1, Kim DH 1
1 National Institute of Animal Science, Rural Development Administration, Suwon, Korea; 2 Department of Food and Biotechnology, Korea University, Chungnam, South Korea
- P310 Bopriva®: a bovine anti-gonadotropin releasing factor vaccine that improves meat and carcass quality in feedlot heifers**
Jackson JA 1, Charman N 2, Hodge A 3, Davis K 2, Howard R 4, Amatayakul-Chantler S 5
1 Pfizer Animal Health, VMRD Global Clinical Development, Zaventem, Belgium; 2 Pfizer Animal Health, VMRD Clinical Development, Parkville, Australia; 3 Pfizer Animal Health, VMRD Biometrics, Parkville, Australia; 4 Pfizer Animal Health, VMRD Bios Development, Parkville, Australia; 5 Pfizer Animal Health, VMRD Biological Science Group, Parkville, Australia
- P311 Effect of the use of straw on animal welfare and meat quality during fattening in light lambs**
Teixeira DL, Miranda-de la Lama GC, Olleta JL, Sañudo C, Villarroel M, María GA
University of Zaragoza, Department of Animal Production, Zaragoza, Spain

- P312 Production and characterization of 6-month-old calves, 8-month-old calves and older animals produced in France**
 Legrand I 1, Martineau C 2, Lefebvre T 2, Bertrand G 2, Evrat-Georgel C 3, Normand J 4
 1 Institut de l'Elevage, Maison Régionale d'Agriculture du Limousin, Limoges, France; 2 Institut de l'Elevage, Le Rheu Cedex, France; 3 Institut de l'Elevage, Paris, France; 4 Institut de l'Elevage, Agrapole, Lyon, France
- P313 Bopriva®: a bovine anti-gonadotropin releasting factor vaccine that improves meat and carcass quality in feedlot male cattle**
 Jackson JA 1, Stegner J 2, Salud Rubio M 3, Zambrano Gaytan R 4, Nava Gaspar R 4, King V 5, Howard R 6, Amatayakul-Chantler S 7
 1 Pfizer Animal Health, VMRD Global Clinical Development, Zaventem Belgium; 2 Pfizer Animal Health, VMRD Global Development, Kalamazoo, Michigan USA; 3 Universidad Nacional Autonoma de Mexico, Mexico City, Mexico; 4 Rancho El 17 SA de CV., Hermosillo, Sonora, Mexico; 5 Pfizer Animal Health, VMRD Biometrics, Kalamazoo, Michigan USA; 6 Pfizer Animal Health, VMRD Bios Development, Parkville, Australia; 7 Pfizer Animal Health, VMRD Biological Science Group, Parkville, Australia
- P314 Bopriva®: it's effect on meat and carcass quality in male cattle on pasture**
 de Roça RO 1, Jackson JA 2, Hoe F 3, Stegner J 4, de Carvalho FSR 5, da Silva CR 5, Lopez E 6, King V 7, Amatayakul-Chantler S 8
 1 F.C.A. UNESP - Campus de Botucatu, Botucatu, Sao Paulo, Brazil; 2 Pfizer Animal Health, VMRD Global Clinical Development, Zaventem, Belgium; 3 Pfizer Saude Animal, Sao Paulo, Brazil; 4 Pfizer Animal Health, VMRD Global Development, Kalamazoo, Michigan USA; 5 GAIA Pesq e Desenvolv Saude Animal, Uberlandia, Minas Gerais, Brazil; 6 Pfizer Animal Health, VMRD Bios Development, Parkville, Australia; 7 Pfizer Animal Health, VMRD Biometrics, Kalamazoo, Michigan USA; 8 Pfizer Animal Health, VMRD Biological Science Group, Parkville, Australia
- P315 The contribution of conventional and organic production systems to the nutritional quality of Turkey breast meat**
 Quaresma MAG, Jerónimo E, Bessa RJB, Lemos JPC
 Faculdade de Medicina Veterinária, CIISA, Avenida da Universidade Técnica, Lisbon, Portugal
- P316 Commercial pre slaughter blue light ambience for controlling stress and broiler chicken PSE meat**
 Barbosa CF, Soares AL, Rossa A, Shimokomaki M, Ida EI
 University State Londrina, Londrina, Brazil
- P317 Factors underlying tenderness of beef from Nellore cattle classified by dental maturity**
 Duarte MS 1, Serão NVL 2, Paulino PVR 1
 1 Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Brazil; 2 University of Illinois, Department of Animal Science, Urbana-Champaign, USA
- P318 Influence of production system on the physico-chemical and sensory quality of beef from the Northeast of Argentina**
 Cossu ME 1, Picallo AB 1, Rebak G 2, Grigera Naón JJ 1, Rozen FMB 3, Lamanna ML 1, Schor A 1, Colombatto D 1,4, von Bernard H 1, Ynsaurralde Rivolta E 5
 1 Department of Animal Production, Faculty of Agronomy, Buenos Aires University, Bs. As., Argentina; 2 Department of Food Technology, Faculty of Veterinary, Northeast University, Sargento Cabral Corrientes, Argentina; 3 Department of Animal Production, Faculty of Veterinary, Buenos Aires University, Bs. As., Argentina; 4 CONICET, Argentina; 5 Science and Technology, Northeast University, Sargento Cabral, Corrientes, Argentina
- P319 Meat characteristics of African antelope (*Antilope cervicapra*) found in Ago-Iwoye area of Ogun state, Nigeria**
 Apata ES 1, Eniolorunda OO 1, Okubanjo AO 2, Omojola AB 3, Adeyemi KO 4
 1 Meat Science Laboratory, Department of Animal Production; 2 Department of Agricultural and Industrial Technology Babcock University, Ilishan, Remo, Ogun State, Nigeria; 3 Meat Science Laboratory, Department of Animal Science University of Ibadan, Nigeria; 4 National Productivity Centre, Sokoto, Nigeria

- P320 A technical and economical analysis of the constraints facing the quality enhancement of the red meat sector in Tunisia**
 Brahmi A, Khaldi R
 1 ESA Kef, Department of Animal Production, Le Kef, Tunisia; 2 INRAT Tunis, Department of Rural Economy, Tunis, Tunisia

Poster session 14: Processing and Technology

Part 1: Cooling and Freezing

- P321 Optimising chilling time of cooked pork ham using finite element modelling tools**
 Dublanchet J 1, Picgirard L 2, Parafita E 2, Daudin JD 1, Mirade PS 1
 1 UR370 Qualité des Produits Animaux, INRA, Saint-Genès-Champagnelle, France; 2 ADIV, ZAC des Gravanches, Clermont-Ferrand cedex 2, France
- P322 Effect of freezing method on physicochemical properties of beef meat**
 González RM, Temperán S, Lorenzo JM, García-Fontán MC, García L, González I, Franco D
 Meat Technology Centre of Galicia, San Cibrao das Viñas, Ourense, Spain
- P323 Elucidation of the ice crystal formation along the freezing gradient generated under five different rates of freezing in ostrich *M. femorotibialis medius***
 Leygonie C 1, Hoffman LC 2
 1 University of Stellenbosch, Department of Food Science, Stellenbosch, South Africa; 2 University of Stellenbosch, Department of Animal Sciences, Stellenbosch, South Africa
- P324 Effect of prolonged freezer storage on physico-chemical and sensory quality of *Serratus ventralis* muscle ('presa') from Iberian pig**
 Martín MJ, Sanabria C, Gutierrez JI, Andrés AI
 Ciencia y Tecnología de los Alimentos, Escuela de Ingenierías Agrarias, Universidad de Extremadura, Ctra. Cáceres, Badajoz, Spain
- P325 Discrimination of fresh vs. frozen-then-thawed pig meat by percent reflectance values using SIMCA (Soft Independent Modelling of Class Analogy)**
 Martín MJ, Sanabria C, Gutierrez JI, Andrés AI
 Ciencia y Tecnología de los Alimentos, Escuela de Ingenierías Agrarias, Universidad de Extremadura, Ctra. Cáceres, Badajoz, Spain
- P326 Pre-freezing affects texture of cooked hams: potential influence of protein oxidation**
 Armenteros M 1, Ventanas S 1, Morcuende D 1, Solano F 2, Estévez M 1
 1 Universidad de Extremadura, Facultad de Veterinaria, Cáceres, Spain; 2 I+D+i 'Consorcio de Jabugo S.A, Sevilla, Spain

Part 2: Packaging

- P327 The use of carbon monoxide as a pre-packaging treatment in beef**
 O'Connor DI 1, 2, and Allen P 1
 1 Teagasc Food Research Centre Ashtown, Dublin, Ireland; 2 Dept of Food Science and Environmental Health, Dublin Institute of Technology, Dublin, Ireland
- P328 Effect of packaging on the colour of beef with different α -tocopherol tissue levels**
 Nassu RN 1,2, Uttaro B 1, Aalhus JL 1, Zawadski S 1, Juárez M 1, Dugan MER 1
 1 Lacombe Research Centre, 6000 C & E Trail, Lacombe, Canada; 2 Embrapa Pecuaria Sudeste, Rod. Washington Luiz, Sao Carlos, Brazil

- P329 Effect of modified atmosphere packaging systems on lamb meat appearance during refrigerated storage**
Fernandes RPP 1, Freire MTA 1, Balieiro JCC 2, Rosa AF 2, Catunda FAP 1, Trindade MA 1
1 University of São Paulo, College of Animal Science and Food Engineering, Department of Food Science, Pirassununga, Brazil; 2 University of São Paulo, College of Animal Science and Food Engineering, Department of Basic Sciences, Pirassununga, Brazil
- P330 Microbiological and physicochemical characteristics of fresh meat and meat ball as affected by edible soy protein isolated films and coatings containing lactic acid-induced egg white powder**
Chen SL 1, Weng YM 2, Huang JJ 2, Lin KJ 3
1 Program of Agriculture Science; 2 Department of Food Science ; 3 Department of Animal Science, National Chiayi University, Chiayi, Taiwan, R.O.C.
- P331 The influence of post-mortem ageing time and packaging conditions on the quality of fresh beef**
Owczarek-Fendor A 1, De Meulenaer B 1, De Smet S 2, Van Bree I 1, Vermeulen A 1, Eriksson M 1, Lescouhier S 2, Vandersteene M 1, Devlieghere F 1
1 Ghent University, Department of Food Safety and Food Quality, Ghent, Belgium; 2 Ghent University, Department of Animal Production, Ghent, Belgium
- P332 Early alteration of beef colour packaged in a modified atmosphere: investigation of indicators implicated in the phenomenon appearance**
Parafita-Thomas E, Picgirard L
ADIV, Process Engineering, Technology and Products Quality department, Clermont-Ferrand, France
- P333 Combined effects of Nisin and modified atmosphere packaging on chemical, microbial and sensory properties of emulsion-type sausages**
Khajehali E, Shekarforoush SS, Nazer AHK, Hoseinzadeh S
Department of Food Hygiene and Public health, School of Veterinary Medicine, Shiraz university, Shiraz, Iran
- P334 Effect of argon on the quality loss of fresh poultry**
List U 1, Rossaint S 1, Kreyenschmidt J 2
1 University of Bonn, Institute of Animal Science, Preventive Health Management, Bonn, Germany; 2 University of Applied Science Münster, IKFM, Münster, Germany
- P335 Comparative effects of packaging and ageing on shelf life of chicken and rabbit hamburgers**
Cossu ME, Picallo AB, Lamanna ML, Lazzari G, Cumini ML, Vello V, Raffaelli F
Dto. Prod. Animal, Facultad de Agronomía, University de Buenos Aires, Ciudad de Buenos Aires, Argentina

Part 3: Processing

- P336 Preliminary Studies on the traditional processing of 'Kundi', an intermediate moisture meat**
Fakolade PO
Osun State University, College of Agriculture, Ejigbo Campus, Department of Animal Science and Fisheries, Osun State, Nigeria
- P337 Evaluation of storage condition and phosphate addition on the physicochemical properties and textural characteristics of model sausages manufactured with lamb**
Chin KB 1, Kim YB 2, Rosenvold K 2
1 Chonnam National University, Department of Animal Science, Gwangju, South Korea; 2 AgResearch Limited, Agri-Food & Health Section, New Zealand

- P338 Droplets/particles distribution characterization of lean and back fat batters under controlled shear conditions**
Zhang YW, Gao FF, Peng ZQ, Wang ZG, Zhu Y
Nanjing Agricultural University, National Center of Meat Quality and Safety Control, Nanjing, China
- P339 Modelling of mincing processes by determination of meat cutting properties through the analysis of Warner Bratzler curve**
Schnaeckel W, Krickmeier J, Oktaviani, Pongjjanyanukul W, Schnaeckel D
Anhalt University of Applied Sciences, Faculty of Agriculture, Nutrition and Landscape Architecture, Department Food Technology, Bernburg, Germany
- P340 Rubber to glass transitions in model fermented salami as impacted by degree of drying**
Herrmann K, Tommasi K, Gibis M, Weiss J
University Hohenheim, Department of Food Physics and Meat Sciences, Institute of Food Science and Biotechnology, Stuttgart, Germany
- P341 Pearson's correlations between moisture content, drip loss, expressible fluid and salt-induced water gain of broiler pectoralis major muscle**
Zhuang H, Savage Em
ARS-USDA, Quality and Safety Assessment Research Unit, Athens, GA, United States
- P342 Influence of fat temperature on the energy consumption and product quality of fermented coarse meat emulsions manufactured in a continuous high shear Grinder-filler system**
Irmscher SB, Herrmann K, Weiss J
University of Hohenheim, Food Physics and Meat Sciences, Stuttgart, Germany
- P343 Stabilizing co-extruded collagen casings with antimicrobial microemulsions**
Mader K, Herrmann K, Gibis M, Weiss J
University of Hohenheim, Institute of Food Science and Biotechnology, Department of Food Physics and Meat Science, Stuttgart, Germany
- P344 Influence of drying method of microcrystalline cellulose (MCC) on fat reduction in emulsified meat systems**
Schuh V, Hivincev A, Herrmann K, Gibis M, Weiss J
University of Hohenheim, Institute of Food Science and Biotechnology, Department of Food Physics and Meat Sciences, Stuttgart, Germany
- P345 Tensile test and texture profile analysis for monitoring textural properties of commercial cooked ham**
Herrero AM 1, Ordóñez JA 2, Romero de Avila MD 2, de la Hoz L 2, Cabeza MC 2, Cambero MI 2
1 Consejo Superior de Investigaciones Científicas. Instituto de Ciencia y Tecnología de Alimentos y Nutrición, Madrid, Spain; 2 Universidad Complutense, Facultad de Veterinaria, Departamento de Nutrición, Bromatología y Tecnología de los Alimentos, Madrid, Spain
- P346 Optimization of sample preparation condition for meat laver production using response surface methodology**
Kim GD 1, Jeong JY 2, Jung EY 1, Yang HS 1, Hur SJ 3, Joo ST 1
1 Division of Applied Life Science (BK21 Program), Graduate School of Gyeongsang National University, Jinju, Republic of Korea; 2 Swine Scientific and Technology Center, Gyeongnam National University of Science and Technology, Jinju, Republic of Korea; 3 College of Biomedical and Health Science, Department of Applied Biochemistry, Konkuk University, Chungju, Republic of Korea
- P347 Quality of semi-dried chicken jerky incorporated with skin**
Han DJ 1, Choi YS 1,2, Kim HY 1,2, Choe JH 1, Kim HW 1, Hwang KE 1, Lee ES 3, Kim CJ 1
1 Konkuk University, Department of Food Science and Biotechnology of Animal Resources, Seoul, Korea; 2 Konkuk University, Research Institute for Meat Science and Culture, Seoul, Korea; 3 Genesis BBQ, Icheon, Korea

- P348 Influence of the addition of chemical modified glyceraldehyde 3-phosphate dehydrogenase on the gelling properties of porcine myofibril**
Miyaguchi Y 1, Sakamoto T 1, Sasaki S 1, Nakade K 2, Ichinoseki S 2, Tanabe M 2, Numata M 2, Higashikuni N 2, Kosai K 2
1 College of Agriculture, Ibaraki University, Ibaraki, Japan; 2 Central Research Institute, Itoham Foods Inc., Ibaraki, Japan
- P349 Modification of muscle structure in poultry meat caused by different meat recovery systems**
Branscheid W, Bauer A, Troeger K
Max Rubner Institut, Department of Safety and Quality of Meat, Kulmbach, Germany
- P350 Utilization of beer and brewer's grains to tenderize a sausage casing**
Sakata R 1, Oshida T 1, Nishiumi T 2, Yoon H 3, Waga M 1
1 School of Veterinary Medicine, Azabu University, Sagamihara, Japan; 2 Faculty of Agriculture, Niigata University, Niigata, Japan; 3 New-Asia Trading, Osaka, Japan
- P351 Quality of traits of cooked press hams manufactured with different muscles on pig**
Seong P, Jeong D, Kang G, Cho S, Park B, Kim J, Jeong S, Kim H, Kim D
National Institute of Animal Science, Animal Products Research and Development Division, Suwon, South Korea
- P352 The effect of salt and liver/fat ratio on the rheological properties of liver paste and its intermediates**
Steen L 1,2, Goemaere O 1, Paelinck H 1, Foubert I 2
1 Research Group for Technology and Quality of Animal Products, Catholic University College Ghent, Belgium; 2 Foods & Lipids, K.U.Leuven, KULAK, Kortrijk, Belgium
- P353 Comparison between natural and collagen synthetic casings in "Morcilla de Burgos" blood sausage**
Gómez-Rojo EM, González J, Wilches-Perez D, Melero B, Osés SM, Diez AM, Jaime I, Rovira J
Burgos University, Department of Biotechnology and Food Science, Burgos, Spain
- P354 Relationship between the collagen composition and instrumental and sensory texture of Italian cooked meat products prepared with high collagen raw meat**
Barbieri G, Barbagallo G, Franceschini M, Pizza A, Rivaldi P
Experimenta Station of Food Preserving Industry-SSICA, Meat Products, Parma, Italy
- P355 A pragmatic approach to avoid destructured zones in cooked ham**
Scheeder M 1,2, Hugenschmidt G 1
1 Swiss college of Agriculture (SHL), Department of Animal Science, Zollikofen, Switzerland; 2 SUISAG, Allmend, Sempach, Switzerland
- P356 Effect of the drying method on textural, colour and sensory attributes of *Petrovská klobása* (traditional dry-fermented sausage)**
Tomović V 1, Jakanović M 1, Savatić S 1, Petrović Lj 1, Džinić N 1, Tasić T 2, Ikonić P 2
1 Faculty of Technology, University of Novi Sad, Novi Sad, Serbia; 2 Institute for Food Technology, University of Novi Sad, Novi Sad, Serbia
- P357 Improving characteristics of beef nuggets by using different types of flour as coating materials**
Serdaroğlu M, Yıldız-Turp G, Uzun P, Kara A
Ege University, Food Engineering, İzmir, Turkey
- P358 Broiler chicken charqui meat-like processing by applying hurdle technology**
Coró FAG 1, Pedrão MR 1,2, Yamaguchi MM 1, Alfaro AR 3, Shimokomaki M 1,2
1 Federal Technological University, Londrina, Paraná, Brazil; 2 Food Science and Technology, Londrina State University, Londrina, Paraná, Brazil; 3 Federal Technological University, Francisco Beltrão, Paraná, Brazil
- P359 Texture sensory and instrumental analysis: do they correlate?**
Monteiro ACG, Fontes MA, Costa P, Lemos JP
CIISA, FMV, Technical University of Lisbon, Lisbon, Portugal

- P360 The effect of brine concentration on diffusion and water distribution in pork muscles: a low-field nuclear magnetic resonance study**
McDonnell C 1,2, Allen P 1, Duggan E 2, Cronin DA 2, Lyng JG 2
1 Teagasc Food Research Centre, Ashtown, Dublin, Ireland; 2 University College Dublin, Belfield, Dublin, Ireland
- P361 Meat. Structural aspect of cooking**
Brumfeld V
The Weizmann Institute of Science, Chemical Research Support, Rehovot, Israel
- P362 Effect of L-cystein and method of cooking on rheological properties of sausage**
Hosseini SE, Abbasi M, Mizani M, Khodabandeh M, Abbasi M
Islamic Azad University, Science and Research Branch, Department of Food Science and Technology, Tehran, Iran
- P363 Monitoring the effects of salt and temperature on myofibrillar proteins in beef**
McArdle R, Kerry JP, Hamill RM
Teagasc Food Research Centre, Food Chemistry & Technology Department, Dublin, Ireland
- P364 Effects of adding microbial transglutaminase on hydration and textural properties of mechanically deboned chicken meat sausage**
Ch'ng SE, Wolyna P, Murshidi A, Aminah A, Babji AS
National University of Malaysia, School of Chemical science and Food Technology, Ukm Bangi, Malaysia

Part 4: Technology

- P365 Effects of marinated whole or slices of muscles concerning beef palatability**
Patissier E, Picgirard L, Parafita-Thomas E
ADIV, Process Engineering, Technology and Products Quality Department, Clermont-Ferrand, France
- P366 Impact of waiting time between injection and cooking with or without vacuum packaging on technological properties of heifers semimembranosus roasts**
Patissier E, Picgirard L, Parafita-Thomas E
ADIV, Process Engineering, Technology and Products Quality Department, Clermont-Ferrand, France
- P367 Effect of high-pressure treatment on microbial and sensory quality of sliced dry-cured Iberian ham**
Sánchez M, Viguera J, Espárrago Q, Martín MJ, Sanabria C
Ciencia y Tecnología de los Alimentos, Escuela de Ingenierías Agrarias, Universidad de Extremadura, Ctra. Cáceres, Badajoz, Spain
- P368 High pressure processing of beef patties: effect on myofibrillar proteins and textural properties**
Szerman N 1,2, Speroni F 2,3, Vaudagna S 1,2,4,5
1 Instituto Tecnología de Alimentos, CIA, INTA, Argentina; 2 Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina; 3 Centro de Investigación y Desarrollo en Criotecnología de Alimentos (CIDCA), CONICET-UNLP, Argentina; 4 Facultad de Ingeniería y Ciencias Exactas, Universidad Argentina de la Empresa, Argentina; 5 Facultad de Agronomía y Ciencias Agroalimentarias, Universidad de Morón, Argentina
- P369 Monitoring the effects of high pressure processing, salt levels and refrigerated storage on sensory and technological properties of pork sausages**
Hayes J, Allen P
Teagasc Food Research Centre, Ashtown, Dublin, Ireland

- P370 Hygienic improvement of a traditional fermented and dry meat product by the application of high pressure technology**
Mendonça J 1, Alfai AJI 2, Ribeiro MHL 2, Barreto AS 1, Fraqueza MJ 1
1 Faculty of Veterinary Medicine, UT Lisbon, Centro de Investigação Interdisciplinar em Sanidade Animal (CIISA), Lisbon, Portugal; 2 Faculty of Pharmacy, University of Lisbon, Institute for Medicines and Pharmaceutical Sciences (iMed), Lisbon, Portugal
- P371 Effect of ultrasound-assisted curing on some quality characteristics of Semi-tendinosus beef meat**
Asadi G 1, Sedighi M 1, Abbasi S 2, Behmadi H 3
1 Islamic Azad University, Science and Research Branch, Department of Food Science and Technology, Tehran, Iran; 2 Tarbiat Modares University, Department of Food Science and Technology, Tehran, Iran; 3 Agricultural Engineering Research Institute, Karaj, Iran

Poster session 15: Enhanced Meat Products

Part 1: Fat, Salt and Nitrate Reduction

- P372 Effect of fat and sodium reduction on instrumental and sensory characteristics of liver paste**
Van Leuven I 1, Goemare O 2, Steen L 2, Dirinck P 1, Paelinck H 2
1 Catholic University College Ghent, K.U.Leuven Association, Laboratory for Flavour Research, Gent, Belgium; 2 Catholic University College Ghent, K.U.Leuven Association, Laboratory for Food Chemistry and Meat Technology, Ghent, Belgium
- P373 Reducing sodium levels in frankfurters by using naturally brewed soy sauce**
McGough MM 1, Sato T 3, Rankin SA 2, Borchert LL 1, Sindelar JJ 1
1 Department of Animal Sciences; 2 Department of Food Science, University of Wisconsin - Madison, Madison, WI, USA; 3 Kikkoman R&D USA Laboratory, Inc., Madison, WI, USA
- P374 Researches concerning the influence of decreasing of sodium level in chicken breast emulsion**
Mihociu ET 1, Belc N 1, Zachia M 1, Iorga E 1, Ionescu V 1, Stefan G 2
1 R&D National Institute for Food Bioresources - IBA Bucharest, Department Inter-disciplinary Research Dept., Bucharest, Romania; 2 ANGST SA, Buftea, Romania
- P375 A new processing method to reduce sodium in sausages without potassium chloride and phosphates**
Aota K 1, Ichinoseki S 1, Numata M 1, Kosai K 1, Miyaguchi Y 2, Hayashi T 3, Haga S 3
1 Central Research Institute, Itoham Foods Inc., Ibaraki, Japan; 2 College of Agriculture, Ibaraki University, Ibaraki, Japan; 3 Faculty of Agriculture, Meijo University, Nagoya, Japan
- P376 Effect of konjac gel as fat replacer in the characteristic of dry fermented sausages**
Ruiz-Capillas C, Triki M, Herrero AM, Rodríguez L, Jiménez-Colmenero F
ICTAN-CSIC, Department of Products, Madrid, Spain
- P377 Effect of the type of fat on the sensory attributes and instrumental texture parameters of reduced-fat non-acid fermented sausages**
Mora-Gallego H 1, Serra X 1, Guàrdia MD 1, Miklos R 2, Lametsch R 2, Arnau J 1
1 IRTA, Food Technology, Monells, Spain; 2 Department of Food Science, Faculty of Life Sciences, University of Copenhagen, Copenhagen, Denmark
- P378 Effect of replacing of animal fats with black cumin seed oil on the quality characteristics of weiner style sausages**
Kaynakci E 1, Kiliç B 2
1 Akdeniz University, Serik Higher School of Vocational Education, Antalya, Turkey; 2 Süleyman Demirel University, Faculty of Engineering and Architecture, Department of Food Engineering, Isparta, Turkey

- P379 Effect of replacing tallow with rice bran and olive oils on the quality properties restructured beef patties**
Seo HW 1, Kim GD 1, Jung EY 1, Park JY 2, Eo SS 2, Joo ST 1, Yang HS 1
1 Division of Applied Life Science (BK21), Graduate School of Gyeongsang National University, Jinju, South Korea; 2 Division of Animal Science, Graduate School of Gyeongsang National University, Jinju, South Korea
- P380 Kinetics of sodium nitrite degradation, nitrate and nitric oxide-haem pigment development during mortadella Bologna type sausage cooking**
Bergamaschi M, Barbieri Ge, Franceschini M, Barbieri G
Experimental Station for the Food Preservation Industry SSICA, Meat Products, Parma, Italy
- P381 The effects of salt concentration and the addition of phosphate on the quality characteristics of ohmic heated ground pork patties**
Song M-S, Choi J-H, Kang K-M, Park J-S, Kwon S-H, Kim J-M, Kim C-J, Ku S-M, Seo W-D, Han J-W, Sagong H-G
CJ CheilJedang, Foods Research Center, Seoul, South Korea
- P382 Salt and sodium content in dry fermented sausages and dried meat in Serbia**
Lilic S, Saicic S, Vranic D, Trbovic D, Borovic B, Velebit B, Lakicevic B
Institute of Meat Hygiene and Technology, Belgrade, Serbia
- P383 Estimation of NaCl apparent diffusivity of beef connective tissue sheets**
Mirade PS, Portangen S, Daudin JD
UR370 Qualité des Produits Animaux, INRA, Saint-Genès-Champanelle, France
- P384 Color changes in frankfurters manufactured with or without sodium nitrite and sodium ascorbate**
Viguera J 1, Solano F 2, Armenteros M 3, Morcuende D 3, Estévez M 3
1 Imasde Agroalimentaria, S.L., Spain; 2 Consorcio de Jabugo, S.A., Spain; 3 Food Technology Department, Faculty of Veterinary, University of Extremadura, Spain
- P385 Evaluation of technological and sensory properties of dry-fermented sausages with no added sodium chloride and enriched with probiotics, phytosterols, flavonoids and fructo-**
Ferrini G, Guàrdia MD, Sárrag C, Rubio R, Díaz I, Comaposada J, Arnau J
IRTA, Food Technology, Finca Camps i Armet, Monells, Girona, Spain
- P386 Salt (NaCl) diffusion and distribution in rat skeletal muscle**
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