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and Production
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**Italian Journal of
Animal Science**

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2019

italian journal of animal science

ASPA 23rd CONGRESS

Sorrento, June 11-14, 2019

Book of Abstracts

**Guest Editors: Fulvia Bovera (Coordinator),
Marzia Albenzio, Mariangela Caroprese, Rosaria Marino,
Gianluca Neglia, Giovanni Piccolo, Angela Salzano.**



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Italian Journal of Animal Science

The *Italian Journal of Animal Science* is an international peer-reviewed open access journal publishing original scientific papers, reviews and short communications.

The journal serves as essential reading for animal scientists, technicians and all those who research animal production.

The journal encourages submissions of international relevance on the following subjects:

- Animal derived food quality and safety
- Animal genetics and breeding
- Aquaculture, poultry, companion and wild game animals
- Livestock systems, management and environment
- Non-ruminant or ruminant nutrition and feeding
- Production physiology and functional biology of farmed, companions and wild game animals.
- Animal behavior
- Animal welfare
- In vitro studies that have an application to farmed livestock

Manuscripts must address topics based on research at molecular, cellular, organ, whole animal and production system levels. Manuscripts discussing milk or meat analysis and compositions must show a direct link to either livestock production system, product quality, animal feeding/nutrition, animal genetics or breeding. Manuscripts describing laboratory animal models will be considered where the study highlights a potential benefit to farmed livestock.

Submissions discussing epidemiology, parasitology, infective diseases, food-borne diseases do not fit with the aims and scope of the journal.

Meeting reviews, book reviews and conference supplements are also published, as well as news and guidelines from the Animal Science and Production Association (ASPA). We welcome submissions from ASPA members and non-members alike.

Article publishing charge

The standard article publishing charge (APC) for this journal is US\$900 / €795 / £690. Depending on your location, these charges may be subject to local taxes.

For members of the Animal Science and Production Association, the publication fee is US\$450 / €400 / £345. Depending on your location, these charges may be subject to local taxes. There are no submission charges for this journal.

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ASPA 23rd Congress

Sorrento, June 11-14, 2019

Guest Editors

**Fulvia Bovera (Coordinator), Marzia Albenzio, Mariangela Caroprese,
Rosaria Marino, Gianluca Neglia, Giovanni Piccolo,
Angela Salzano**

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23rd

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23° Congresso dell'Associazione per la Scienza e le Produzioni
Animali

Sorrento (Italy)
June 11 – 14, 2019

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Hilton Sorrento Palace
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Via S. Antonio 13, Sorrento

ASPA 23rd Congress

Sorrento, June 11-14, 2019

LEGEND

ES: Environmental Sustainability

LS: Livestock System

APHW: Animal Physiology, Health and Welfare

AP: Animal Products

ABG: Animal breeding and Genomics

Tuesday 11th June 2019

	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
10.00 - 13.00		IJAS editorial board meeting		
11.00 - 15.00	ARRIVAL - REGISTRATION			
		INVITED LECTURE	INVITED LECTURE	INVITED LECTURE
15.00- 15.30		<i>"Using metabolomics approaches in transition cow biology for basic and applied science"</i> Helga Sauerwein	<i>"Leveraging on High- throughput Phenotyping Technologies to Optimize Livestock Genetic Improvement and Husbandry"</i> Guilherme Rosa	<i>"Efficient aquafeed production and management in a circular future"</i> Alessio Bonaldo
15.30- 16.45		APHW "Animal Physiology" (5)	ABG "Genetics of welfare, genetics of resilience" (5)	LS "Aquaculture" (5)
16.45- 17.15	Coffee Break			
17.15- 18.45		LS "GHG emissions in livestock" (5)	APHW "Tannins in animal nutrition" (6)	ABG "Poultry genetics" (5)
20.30	CENA RUSTICA			

ASPA 23rd Congress

Sorrento, June 11-14, 2019

Wednesday 12th June 2019

	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
9.00-10.30	APHW "Microbiome" (6)	ABG "Genetic diversity" (6)	LS "New emerging technologies in animal science I" (6)	ES "Environmental impact of livestock I" (6)
10.30-11.30	Coffee Break/Poster Session			
11.30-13.30	Auditorium Ulisse			
	PLENARY SESSION - Round table "Functional food and human health"			
	11.30-12.00	MAIN LECTURE	<i>"From healthy foods to functional foods"</i> Rosalba Giacco	
	12.00-12.30	MAIN LECTURE	<i>"Functional metabolites in Mediterranean Buffalo productions: impact of innovative breeding techniques"</i> Maria Luisa Balestrieri	
	12.30-13.00	MAIN LECTURE	<i>"Antioxidants in animal nutrition: benefits and challenges"</i> Antonella Baldi	
13.00-13.30	DISCUSSION			
13.30-15.00	Lunch/Poster Session			
	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
15.00-17.15	APHW "Animal nutrition: efficiency" (9)	ABG "New breeding technologies I" (8)	AP "Dairy small ruminant: functional food and marketing" (9)	LS "New protein sources in aquaculture" (8)
18.00-20.00	TASSO Theater			
	Opening Ceremony			
	Official welcome			
		MAIN LECTURE	<i>"Modern breeding, taste of products of animal origin and future of Italian breeding"</i> Luigi Zicarelli	
	MAIN LECTURE	<i>"The role of the vet in the One Health"</i> Antonio Limone		
20.00	Welcome Cocktail			

ASPA 23rd Congress

Sorrento, June 11-14, 2019

Thursday 13th June 2019

Auditorium Ulisse				
PLENARY SESSION "Beef production and quality"				
8.45-9.30	MAIN LECTURE	Jean François Hocquette	<i>"For a better future of beef production: improved carcass grading, eating quality and livestock systems, but no cultured meat"</i>	
	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
9.30-10.30	AP "Meat quality: gastronomic tradition and innovation" (4)	AP "New frontiers in milk quality" (4)	APHW "Reproduction I" (4)	LS "Aquaculture" (4)
10.30-11.30	Coffee Break/Poster Session			
11.30-13.30	AP "Meat production. Management and marketing perspective" (8)	ABG "Small ruminants genetics" (7)	LS "Joint pig session" (8)	APHW "Animal welfare I" (6)
13.30-15.00	Lunch/Poster Session			
	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
15.00-15.30	INVITED LECTURE	INVITED LECTURE	INVITED LECTURE	INVITED LECTURE
	<i>"Oxylipids and Inflammatory Disorders of Dairy Cows"</i> Lorraine M. Sordillo	<i>"Feed efficiency, microbiome and sustainable animal production"</i> Michael J. D'Occhio	<i>"Emerging topics in livestock breeding and production"</i> Martino Cassandro	<i>"The oxidation of the lipids in meat. The process, the effect on human health and the procedures for a correct quantification"</i> Andrea Serra
15.30-17.00	APHW "Animal health" (5)	ES "Environmental impact of livestock II" (6)	ABG "New breeding technologies II" (6)	AP "Meat quality" (6)
17.00-17.30	Coffee Break			
17.30-18.00	ORAL PRESENTATIONS & POSTER AWARDS			
18.00-20.00	MEETING OF ASPA MEMBERS			
21.00	SOCIAL DINNER			

ASPA 23rd Congress

Sorrento, June 11-14, 2019

Friday 14th June 2019

9.00-9.45	Auditorium Ulisse			
	Plenary Session "Heat stress in cattle"			
	MAIN LECTURE	Geoffrey E. Dahl	<i>"Late gestation heat stress in dairy cows: effects on dam and daughter"</i>	
	Auditorium Ulisse	Auditorium Tritone	Sala Stampa	Sala Ravello
9.45-10.45	APHW "Climate" (4)	MEETING WITH THE REPRESENTATIVE OF THE NATIONAL UNIVERSITARY COUNCIL (CUN) Brunella Restucci	INVITED LECTURE	INVITED LECTURE
			<i>"Nutritional modulation of canine and feline intestinal microbiota"</i>	<i>"Selection and conservation of Apis mellifera at the time of globalization"</i>
			Giacomo Biagi	Giulio Pagnacco
			APHW "Companion animals I" (2)	ABG "Genome editing" (2)
10.45-11.15	Coffee Break			
11.15-12.45	INVITED LECTURE	INVITED LECTURE	LS "Companion animals II" (5)	LS "New emerging technologies in animal science" (4)
	<i>"Endocrine and physiological differences between bovine and buffalo females and their impact on assisted reproductive technologies"</i>	<i>"Animal Welfare Assessment: towards a simplification"</i>		
	Pietro S. Baruselli	Fabio Napolitano		
	APHW "Reproduction II" (4)	APHW "Animal welfare II" (4)		

ASPA 23rd Congress

Sorrento, June 11–14, 2019

Italian Journal of Animal Science 2019; volume 18: supplement 1

Agenda Invited Speakers

June, 11th

Auditorium Tritone, Animal Physiology, Health and Welfare – Animal physiology

Chairs: Mariangela Caroprese, Nicola Lacetera
15.00–15.30 Helga Sauerwein
Using metabolomics approaches in transition cow biology for basic and applied science IS001

Sala Stampa, Animal Breeding and Genomic – Genetics of welfare, genetics of resilience

Chairs: Alessio Cecchinato, Francesca Ciotola
15.00–15.30 Guilherme J. M. Rosa
Leveraging on High-throughput Phenotyping Technologies to Optimize Livestock Genetic Improvement and Husbandry IS002

Sala Ravello, Livestock Systems – Aquaculture

Chairs: Pierpaolo Gatta, Alessandra Roncarati
15.00–15.30 Alessio Bonaldo
Efficient aquafeed production and management in a circular future IS003

June, 12th

Auditorium Ulisse, PLENARY SESSION – Round Table “Functional food and human health”

Chairs: Agostino Sevi, Giuseppe Campanile
11.30–13.00 Rosalba Giacco
From healthy foods to functional foods IS004
Maria Luisa Balestrieri
Functional metabolites in Mediterranean Buffalo productions: impact of innovative breeding techniques IS005
Antonella Baldi
Antioxidants in animal nutrition: benefits and challenges IS006

Tasso Teather – Opening ceremony

Chairs: Bruno Ronchi
18.00–20.00 Luigi Zicarelli
Modern breeding, taste of products of animal origin and future of Italian breeding IS007
Antonio Limone
The role of the vet in the One Health IS008

June, 13th

Auditorium Ulisse, PLENARY SESSION – “Beef production and quality”

Chairs: Gianluca Neglia, Rosaria Marino
8.45–9.30 Jean-François Hocquette
For a better future of beef production: improved carcass grading, eating quality and livestock systems, but no cultured meat IS009

Auditorium Ulisse, Animal Physiology, Health and Welfare – Animal health

Chairs: Antonella Santillo, Giuseppe Pulina
15.00–15.30 Lorraine M. Sordillo
Oxylipids and Inflammatory Disorders of Dairy Cows IS010

Sala Stampa, Animal Breeding and Genomic – New breeding technologies II

Chairs: Emiliano Lasagna, Mauro Penasa
15.00–15.30 Martino Cassandro
Emerging topics in livestock breeding and production IS011

Auditorium Tritone, Environmental Sustainability – Environmental impact of livestock II

Chairs: Matteo Crovetto, Fabio Abeni
15.00–15.30 Michael J. D’Occhio
Feed efficiency, microbiome and sustainable animal production IS012

Sala Ravello, Animal Products – Meat quality

Chairs: Marcello Mele, Girolamo Xiccato
15.00–15.30 Andrea Serra
The oxidation of the lipids in meat. The process, the effect on human health and the procedures for a correct quantification IS013

June, 14th

Auditorium Ulisse, PLENARY SESSION – Animal Physiology, Health and Welfare, “Heat stress in cattle”

Chairs: Pasquale De Palo, Umberto Bernabucci
9.00–9.45 Geoffrey E. Dahl
Late gestation heat stress in dairy cows: effects on dam and daughter IS014

Sala Stampa, Animal Physiology, Health and Welfare – Companion animals I

Chairs: Bruno Stefanon, Biagina Chiofalo
9.45–10.15 Giacomo Biagi
Nutritional modulation of canine and feline intestinal microbiota IS015

Sala Ravello, Animal Breeding and Genomic – Genome editing

Chairs: Bruno Ronchi, Antonino Nizza
9.45–10.15 Giulio Pagnacco
*Selection and conservation of *Apis mellifera* at the time of globalization* IS016

Auditorium Ulisse, Animal Physiology, Health and Welfare – Reproduction II

Chairs: Bianca Gasparrini, Riccardo Negrini
11.15–11.45 Pietro S. Baruselli
Endocrine and physiological differences between bovine and buffalo females and their impact on assisted reproductive technologies IS017

Auditorium Tritone, Animal Physiology, Health and Welfare – Animal welfare II

Chairs: Giuseppe de Rosa, Elisabetta Canali
11.15–11.45 Fabio Napolitano
Animal Welfare Assessment: towards a simplification IS018

ASPA 23rd Congress

Sorrento, June 11–14, 2019

Italian Journal of Animal Science 2019; volume 18: supplement 1

Agenda for oral presentations

Tuesday, June 11th – Auditorium Tritone *Animal physiology, health and welfare – Animal physiology*

- Chairs: Mariangela Caroprese, Nicola Lacetera
- 15.30–15.45 Anna Benedet, Marco Franzoi, Mauro Penasa, Erika Pellattiero, Massimo De Marchi
Determination of blood metabolites in early lactation dairy cows using milk mid-infrared spectra O001
- 15.45–16.00 Erminio Trevisi, Matteo Mezzetti, Fiorenzo Piccioli Cappelli, Annarita Ferrari, Giorgia Lovotti, Andrea Minuti
Effect of the milk yield amount at the end of lactation on inflammation, oxidative stress, and metabolic changes during dry-off stage of dairy cow O002
- 16.00–16.15 Gabriela Avila Morales, Carlotta Catozzi, Valentina Zamarian, Cristina Lecchi, Fabrizio Cecilian, Giulia Sala, Davide Pravettoni, Nicola Lacetera
Effect of heat stress on monocytes and lymphocytes in dairy cattle O003
- 16.15–16.30 Ludovica M.E. Mammi, Damiano Cavallini, Elisa Giaretta, Isa Fusaro, Attilio Mordenti, Andrea Formigoni
Study of inflammatory markers in dairy cows exposed to grain-rich diet O004
- 16.30–16.45 Alberto Stanislao Atzori, Antonello Ledda, Umberto Bernabucci, Loredana Basiricò, Mondina Francesca Lunesu, Antonello Cannas
Starch exposure early in life to enhance metabolic programming of nutrient partitioning in lactating dairy sheep O005

Tuesday, June 11th – Sala Stampa *Animal breeding and genomics – Genetics of welfare, genetics of resilience*

- Chairs: Alessio Cecchinato, Francesca Ciotola
- 15.30–15.45 Maurizio Marusi, Giulio Visentin, Claudio Cipolat-Gotet, Andrea Summer, Andrea Formigoni, Marco Nocetti, Martino Cassandro, Giorgio Burchiellaro, Giorgio Civati
Cheesemaking and Sustainability Index – Parmigiano Reggiano: A New Breeding Index for the Italian Holstein O006
- 15.45–16.00 Alessio Cecchinato, Mehdi Momen, Gota Morota, Guilherme J.M. Rosa, Daniel Gianola, Sara Pegolo
Structural equation models for genome-wide association study (SEM-GWAS) of interrelationships among udder health traits in dairy cattle O007
- 16.00–16.15 Maria Martinez Castellero, Robert Tempelman, Gustavo de los Campos, Ana Ines Vazquez, Hugo Toledo Alvarado, Alessio Cecchinato
Reaction norm analyses to infer genotype by environment interaction for fertility traits in Italian dairy cattle O008
- 16.15–16.30 Tania Bobbo, Ali Zidi, Mauro Penasa, Martino Cassandro
Cut-off values and genetic aspects of differential somatic cell count in dairy cows O009
- 16.30–16.45 Raffaella Finocchiaro, Jan-Thijs van Kaam, Guido Invernizzi, Giorgio Civati, Martino Cassandro, Giovanni Savoini
Setting up genetic evaluation for feed efficiency in Italian Holsteins O010

Tuesday, June 11th – Sala Ravello *Livestock systems – Aquaculture*

- Chairs: Pierpaolo Gatta, Alessandra Roncarati
- 15.30–15.45 Gloriana Cardinaletti, Donatella Volpatti, Chiara Bulfon, Paola Beraldo, Maria Messina, Emilio Tibaldi
Effects of nucleotide supplementation in diets high in soybean meal on growth, gut health and immune status of E. sea bass (D. labrax) O011

15.45–16.00	Roberto Cerri, Gloriana Cardinaletti, Fabrizio Capoccioni, Michela Contò, Giuliana Parisi, Natascia Biondi, Francesca Tulli, Emilio Tibaldi <i>Nutritive value of novel feed protein sources to rainbow trout (O. mykiss) and European sea bass (D. labrax)</i>	0012
16.00–16.15	Genciana Terova, Simona Rimoldi, Elisabetta Gini, Federica Iannini, Marco Saroglia <i>Monoglycerides of short- and medium-chain fatty acids: effects on growth performances and gut microbiota of gilthead sea bream (Sparus aurata)</i>	0013
16.15–16.30	Lorenzo Morsiani, Luca Parma, Nicole Francesca Pelusio, Serena Busti, Matteo Zerlotin, Lorenzo Mariani, Pier Paolo Gatta, Alessio Bonaldo <i>Interaction between dietary composition and seasonal temperature changes in Gilthead sea bream (Sparus aurata, L. 1758): effects on growth, fat deposition, plasma biochemistry, enzymatic activity and gut bacterial community</i>	0014
16.30–16.45	Serena Busti, Luca Parma, Nicole Francesca Pelusio, Maurizio Mazzoni, Oliviero Mordenti, Francesco Dondi, Pierpaolo Gatta, Alessio Bonaldo <i>Effects of different feeding frequencies on growth, feed utilization, plasma biochemistry and digestive conditions of gilthead sea bream (Sparus aurata) fed with different fish meal/fish oil dietary levels</i>	0015

Tuesday, June 11th – Sala stampa
Animal physiology, health and welfare – Tannins in animal nutrition

Chairs:	Giuseppe Luciano, Giovanni Savoini	
17.15–17.30	Federica Mannelli, Matteo Daglio, Susana Alves, Rui Bessa, Sara Minieri, Giuseppe Conte, Stefano Rapaccini, Carlo Viti, Arianna Buccioni <i>Effect of vescalagin and gallic acid from chestnut tannins on microbial community profile: preliminary results</i>	0016
17.30–17.45	Chiara Sarnataro, Mauro Spanghero <i>Effect of chestnut tannins and an extract from Stevia Rebaudiana Bertoni on in vitro rumen fermentation and microbiota</i>	0017
17.45–18.00	Marco Tretola, Paolo Silacci, Nicolas Pradervand, Giuseppe Bee <i>Hydrolysable tannins: inhibition of microbial abundance in the cecum thereby affecting skatole and indole production in entire male pigs</i>	0018
18.00–18.15	Serena Reggi, Valentina Caprarulo, Monika Hejna, Stefania Sotira, Matteo Dell'Anno, Vittorio Dell'Orto, Luciana Rossi <i>In vitro evaluation of tannin-based additives for weaned piglets</i>	0019
18.15–18.30	Marco Zampiga, Luca Laghi, Chenglin Zhu, Adele Meluzzi, Federico Sirri <i>Effects of dietary supplementation of different tannin sources on productive performance and plasma metabolomics profile in broiler chickens</i>	0020
18.30–18.45	Antonio Nataello, Luisa Biondi, Luca Campidonico, Saheed A. Salami, Massimiliano Lanza, Alessandro Priolo, Giuseppe Luciano <i>Intramuscular fatty acids in lambs supplemented with different tannin extracts</i>	0021

Tuesday, June 11th – Sala Ravello
Animal breeding and genomics – Poultry genetics

Chairs:	Cesare Castellini, Martino Cassandro	
17.15–17.30	Maria Giuseppina Strillacci, Erica Gorla, Sergio Ivan Roman-Ponce, Felipe de Jesús Ruiz, Maria Cristina Cozzi, Vicente Eliezer Vega-Murillo, Angel Rios Utrera, Marina Duran-Aguilar, Silvia Cerolini, Alessandro Bagnato <i>Genetic variability among Mexican, Italian, Narragansett and Hybrid turkey populations using SNP and CNV markers</i>	0022
17.30–17.45	Alessandro Bagnato, Erica Gorla, Sergio Ivan Roman-Ponce, Felipe de Jesús Ruiz, Vicente Eliezer Vega-Murillo, Angel Rios Utrera, Silvia Cerolini, Maria Giuseppina Strillacci <i>Analysis of run of homozygosity in turkey populations</i>	0023
17.45–18.00	Simone Ceccobelli, Nkosinathi Nxumalo, Emiliano Lasagna, Nokuthula Winfred Kunene <i>Genetic diversity assessment of Kwa-zulu natal native chickens using SSR markers</i>	0024
18.00–18.15	Dominga Soglia, Stefano Sartore, Sandra Maione, Sihem Dabbou, Paola Sacchi, Roberto Rasero, Cecilia Mugnai, Laura Gasco, Francesco Gai, Achille Schiavone <i>Mating strategy base on of DNA parentage information in Italian chicken breeds</i>	0025
18.15–18.30	Cinzia Marchitelli, Michela Contò, Sebastiana Failla, David Meo Zilio, Monica Guarino Amato <i>Exploring polymorphisms in genes affecting energy metabolism and skeletal muscle in broiler chickens</i>	0026

Tuesday, June 11th – Auditorium Tritone
Livestock systems – GHG emissions in livestock

Chairs: Massimo Trabalza Marinucci, Serena Calabrò

17.15–17.30 Giulia Gentile, Stefano Schiavon, Mauro Spanghero, Franco Tagliapietra
Gas and methane production from two rumen inoculums, used warm, refrigerated, chilled or freeze-dried.....O027

17.30–17.45 Francesca Ghilardelli, Samantha Sigolo, Benedetta Brambilla, Sara Bruschi, Aldo Prandini, Francesco Masoero, Antonio Gallo
Fermentation pattern and volatile organic compounds to cluster poorly and well-preserved silages by a multivariate approach.....O028

17.45–18.00 Afro Quarantelli, Marco Renzi, Marica Simoni, Francesca Martuzzi, Mario Rosato, Ernesto Mario Zambini, Federico Righi
Evaluation of additives capable to improve ruminal fermentations through the use of an automated gas production systemO029

18.00–18.15 Paolo Bani, Alireza Bayat, Olga Gachiuta, Valentina Ficuciello, Giulia Ferronato
Faeces as source of information on dairy cattle GHG emissions.....O030

18.15–18.30 Damiano Cavallini, Ludovica Mammi, Giorgia Canestrari, Attilio Mordenti, Alex Pape, Michael Miller, Rick Grant, Alberto Palmonari
Rumination patterns in dairy cows fed high concentrate rationO031

Wednesday, June 12th – Auditorium Ulisse
Animal physiology, health and welfare – Microbiome

Chairs: Arianna Buccioni, Luciano Pinotti

09.00–09.15 Alberto Palmonari, Silvia Turrone, Elisa Giarretta, Giorgia Canestrari, Andrea Formigoni
Effects of Sugars on in vitro Rumen Microbial Ecosystem.....O032

09.15–09.30 Antonio Gallo, Alberto Stanislao Atzori, Rafael Muñoz-Tamayo
Modelling in vitro dynamics of fermentation and methane production by cow rumen microbiota at different total mixed rations.....O033

09.30–09.45 Marica Simoni, Federico Righi, Andrea Cresceri, Paola Cremonesi, Marco Severgnini, Bianca Castiglioni, Afro Quarantelli
Study of the in vivo periodic fluctuation of microbiome composition and enzymatic activity of rumen fluids used as inocula.....O034

09.45–10.00 Nida Amin, Barbara Cardazzo, Lisa Carraro, Lucia Bailoni
Effect of physiological stages of dairy cows on rumen protozoal community composition revealed by RNA based amplicon sequencingO035

10.00–10.15 Luciano Pinotti, Marco Tretola, Matteo Ottoboni, Alice Luciano, Antonella Baldi
Growth performance and gut microbiota in post-weaning piglets fed diets containing bakery/confectionary former food products as cereal substitute.....O036

10.15–10.30 Marcello Comi, Carlotta Giromini, Raffaella Rebucci, Silvia Giorgi, Vittorio Dell’Orto, Valentino Bontempo
Administration of green tea and pomegranate extract in drinking water on broiler growth performance, total blood antioxidant activity and gut microbiotaO037

Wednesday, June 12th – Auditorium Tritone
Animal breeding and genomics – Genetic diversity

Chairs: Luca Fontanesi, Vincenzo Peretti

09.00–09.15 Sara Pegolo, Simone Savoia, Alberto Brugiapaglia, Liliana Di Stasio, Alfredo Pauciuolo, Andrea Albera
Genome-wide association study and functional analysis of carcass and meat quality traits in double-muscling Piemontese cattle .O038

09.15–09.30 Roberta Ciampolini, Laurence Flori, Katayoun Moazami-Goudarzi, Salvatore Mastrangelo, Progetto BOVITA, Fabio Pilla, Martino Cassandro
Genomic Adaptation of Local Cattle Breeds in the Alpine Massif.....O039

09.30–09.45 Salvatore Mastrangelo, Elena Ciani, Slim Ben Jemaa, Gianluca Sottile, Baldassare Portolano, Fabio Pilla, BOVITA Consortium
The Italian cattle breeds in a worldwide context for a genome-wide diversity study.....O040

09.45–10.00 Cristina Sartori, Francesco Tiezzi, Nadia Guzzo, Roberto Mantovani
Genotype by environment interactions and response to selection for productive traits in a local cattle breed.....O041

10.00–10.15 Maria Chiara Fabbri, Christos Dadousis, Stefano Biffani, Riccardo Negrini, Riccardo Bozzi
Conservation status and rates of inbreeding of Italian autochthonous beef breeds.....O042

10.15–10.30 Elena Ciani, Salvatore Mastrangelo, Kaouadji Zoubeyda, Meghelli Imane, Andrea Criscione, Szilvia Kusza, Taki Karsli, Samir Bachir Souheil Gaouar, Rosaria Lucchini, Fabio Pilla, Bovita Consortium
Twenty shades of grey. Combined analysis of genome-wide SNP data in Steppe cattle and in Mediterranean grey cattle shed new light on the molecular bases of coat colour.....O043

Wednesday, June 12th – Sala Stampa
Livestock systems – New emerging technologies in animal science I

Chairs:	Paolo Bani, Massimo De Marchi	
09.00–09.15	Maddalena Zucali, Stefania Celozzi, Anna Sandrucci, Alberto Tamburini, Francesco Maria Tangorra, Lucio Zanini <i>How to measure milking efficiency in dairy cattle farms?</i>	0044
09.15–09.30	Monica Berlese, Stefano Bovolenta, Mirco Corazzin, Damiano Gianelle, Maurizio Ramanzin, Enrico Sturaro <i>Precision farming approach to assess grazing dairy cows adaptation to mountain pasture</i>	0045
09.30–09.45	Rosanna Marino, Francesca Petrera, Marisanna Speroni, Teresa Rutigliano, Andrea Galli, Fabio Abeni <i>Unravelling the relationship between milk quality and rumination by a PLF technology</i>	0046
09.45–10.00	Maura Sannino, Salvatore Faugno, Francesco Serrapica, Maria Luisa Varricchio, Fernando Grasso, Antonio Di Francia, Felicia Masucci <i>Automatic milking system in Mediterranean buffaloes: experimental results and considerations</i>	0047
10.00–10.15	Francesco Maria Tangorra, Veronica Redaelli, Fabio Luzi, Mauro Zaninelli <i>First evaluation of the infrared thermography as a tool for the detection of mechanical stress on cow udder teat due by milking</i>	0048
10.15–10.30	Marco Acciario, Valeria Giovanetti, Corrado Dimauro, Giampaolo Epifani, Carla Manca, Salvatore Contini, Andrea Cabiddu, Mauro Decandia, Giovanni Molle <i>Milk production of Sarda suckler cows with different calving period</i>	0049

Wednesday, June 12th – Sala Ravello
Environmental Sustainability– Environmental impact of livestock I

Chairs:	Fulvia Bovera, Claudio Cavani	
09.00–09.15	Stefania Colombini, Sara Savoldelli, Daniela Lupi, Gianluca Galassi <i>Growth of <i>Hermetia illucens</i> on different food by-products: conversion efficiency and nutritive value. Part I</i>	0050
09.15–09.30	Luciana Bava, Costanza Jucker, Stefania Celozzi, Maddalena Zucali <i>Growth of <i>Hermetia illucens</i> on different food by-products: environmental sustainability. Part II</i>	0051
09.30–09.45	David Meo Zilio, Monica Guarino Amato <i>Preliminary results of a systematic review on chemical and nutritional characteristics of <i>Musca domestica</i> and <i>Hermetia illucens</i> as feed</i>	0052
09.45–10.00	Marco Meneguz, Antonio Franco, Andrea Dama, Christian Caimi, Vanda Malfatto, Patrizia Falabella, Laura Gasco <i>Impact of different protein levels and substrates fermentation on the development of the first stages of black soldier fly (<i>Hermetia illucens</i>) larvae</i>	0053
10.00–10.15	Marco Cullere, Yazavinder Singh, Giulia Tasoniero, Joris Michiels, Antonella Dalle Zotte <i>Black soldier fly (<i>Hermetia illucens</i>) as dietary source for laying quails: live performance and physical traits of eggs</i>	0054
10.15–10.30	Doriana E.A. Tedesco, Cecilia Conti, Jacopo Bacenetti <i>Environmental sustainability assessment: from fruit and vegetable waste to earthworm as feed sources</i>	0055

Wednesday, June 12th – Sala Stampa
Animal Products – Dairy small ruminant: functional food and marketing

Chairs:	Marzia Albenzio, Antonio Pirisi	
15.00–15.15	Adriana Campione, Bernardo Valenti, Luciano Morbidini, Marcella Avondo, Giuseppe Luciano, Martyna Wilk, Pawel Migdal, Barbara Król, Camilla Pomente, Mariano Pauselli <i>Dietary hazelnut skins: effects on milk quality of dairy ewes</i>	0056
15.15–15.30	Salvatore Claps, Maria Antonietta Di Napoli, Lucia Sepe, Giovanni Annicchiarico <i>Effect of destoned olive cake on the milk fatty acid profile</i>	0057
15.30–15.45	Nadia Musco, Serena Calabrò, Olga Lai, Maria Ferrara, Cristina Roncoroni, Federico Infascelli <i>Influence of breeding system on ewe milk quality</i>	0058
15.45–16.00	Annamaria Perna, Amalia Simonetti, Giulia Grassi, Emilio Gambacorta <i>Efficiency in sheep milk production: comparison between extensive and intensive management systems</i>	0059
16.00–16.15	Francesco Lai, Fabio Correddu, Antonello Ledda, Mondina Francesca Lunesu, Roberto Rubattu, Antonio Mazza, Antonio Fenu, Alberto Stanislao Atzori, Antonello Cannas <i>Effect of forage quality on milk production of Sarda dairy ewes</i>	0060

16.15–16.30	Annalaura Lopez, Mauro Vasconi, Vittorio Maria Moretti, Federica Bellagamba <i>Influence of different livestock production systems in caprine milk and cheese odd and branched chain fatty acids (OBCFA) composition</i>	0061
16.30–16.45	Matteo Daghigho, Francesco Pini, Anna Espinoza-Tofalos, Luciana Giovannetti, Arianna Buccioni, Andrea Franzetti, Carlo Viti <i>Is pink discoloration defect in Pecorino cheese due to Thermus thermophilus presence?</i>	0062
16.45–17.00	Lucia Sepe, Rosanna Salvia, Francesco Paladino, Salvatore Claps, Giovanni Quaranta <i>The answer of the consumers to a cheese with natural vegetable rennet</i>	0063
17.00–17.15	Arzu Gökdağ, Engin Sakarya, Barbara Contiero, Flaviana Gottardo <i>Socio-Economic Analysis and Current Problems of Saanen Goat Farms in Turkey: A case of Çanakkale Province</i>	0064

Wednesday, June 12th – Auditorium Tritone
Animal breeding and genomics – New breeding technologies I

Chairs:	Niccolò Pietro Paolo Macciotta, Gianfranco Cosenza	
15.00–15.15	Martina Zappaterra, Silvia Gioiosa, Giovanni Chillemi, Tiziana Castrignanò, Paolo Zambonelli, Roberta Davoli <i>Comparative analysis of Semimembranosus muscle transcriptome in Italian Large White pigs with high and low intramuscular fat content</i>	0065
15.15–15.30	Alberto Cesarani, Giustino Gaspa, Lorenzo Degano, Daniele Vicario, Niccolò Pietro Paolo Macciotta <i>Runs of homozygosity of Simmental bulls raised in five European countries</i>	0066
15.30–15.45	Enrico Mancin, Bolivar Samuel Sosa-Madrid, Agustin Blasco, Roberto Mantovani, Noelia Ibañez-Escriche <i>Efficiency of imputation for genomic selection in rabbits</i>	0067
15.45–16.00	Elisa Cotozzolo, Simona Mattioli, Alice Cartoni Mancinelli, Michele Schiavitto, Paola Principe, Alessandro Dal Bosco, Cesare Castellini <i>Assessment of a fertility and a maternal behavior index: effect of kindling order in three genetic lines of rabbits does</i>	0068
16.00–16.15	Mario Graziano Usai, Sara Casu, Bachisio Ziccheddu, Tiziana Sechi, Sabrina Miari, Patrizia Carta, Sotero Salaris, Antonello Carta <i>Using identity-by-descent probability to impute whole genome sequence variants in a nucleus flock</i>	0069
16.15–16.30	Sara Casu, Paolo Ajmone Marsan, Mario Barbato, Patrizia Carta, Marcello Del Corvo, Sotero Salaris, Tiziana Sechi, Mario Graziano Usai, Sabrina Miari, Antonello Carta <i>Biodivsel: Functional annotation of target regions based on whole genome resequencing of Sarda sheep</i>	0070
16.30–16.45	Barbara Auzino, Gianfranco Cosenza, Federica Salari, Mina Martini, Roberta Ciampolini <i>Gene structure analysis of donkey oxytocin-neurophysin I (OXT) gene and genetic variability detection</i>	0071
16.45–17.00	Samanta Mecocci, Stefano Capomaccio, Giovanni Chillemi, Andrea Giontella, Raffaele Cherchi, Maurizio Silvestrelli, Alessio Valentini, Katia Cappelli <i>Endurance exercise shifts mature mRNA towards introns: does stress enhance genome plasticity?</i>	0072

Wednesday, June 12th – Sala Ravello
Livestock systems – New protein sources in aquaculture

Chairs:	Laura Gasco, Giovanni Piccolo	
15.00–15.15	Federico Nassivera, Francesca Tulli, Emilio Tibaldi <i>Millennials' attitudes towards insects as feed for sustainable fish</i>	0073
15.15–15.30	Enrico Daniso, Maria Messina, Francesca Tulli <i>Molecular based identification of insect ingredients in animal feed</i>	0074
15.30–15.45	Ilaria Biasato, Elena Colombino, Giulia Chemello, Christian Caimi, Marco Meneguz, Sihem Dabbou, Maria Teresa Capucchio, Achille Schiavone, Francesco Gai, Laura Gasco <i>Dietary Tenebrio molitor larva meal inclusion in rainbow trout diets: preliminary results about animal and gut health implications</i>	0075
15.45–16.00	Christian Caimi, Ilaria Biasato, Giulia Chemello, Achille Schiavone, Marco Meneguz, Sihem Dabbou, Manuela Renna, Francesco Gai, Laura Gasco <i>High protein Tenebrio molitor larvae meal in rainbow trout diets</i>	0076
16.00–16.15	Simona Rimoldi, Laura Gasco, Chiara Ceccotti, Micaela Antonini, Genciana Terova <i>Black soldier fly (Hermetia illucens) larvae meal as a dietary protein source for rainbow trout (Oncorhynchus mykiss): effects on allochthonous and autochthonous gut microbial communities</i>	0077
16.15–16.30	Leonardo Bruni, Giulia Secci, Matteo Zarantonello, Basilio Randazzo, Ike Olivotto, Fabio Mina, Francesca Tulli, Giuliana Parisi <i>Lipid metabolism and fillet quality of rainbow trout fed diets including Hermetia illucens full-fat larvae</i>	0078

16.30–16.45	Giulia Maricchiolo, Biagina Chiofalo, Letteria Caccamo, Giovanni Marco Cusimano, Lucrezia Genovese, Laura Gasco, Francesco Gai <i>Effects of dietary inclusion of defatted black soldier fly (<i>Hermetia illucens</i>) meal on gut health in gilthead seabream (<i>Sparus aurata</i>)</i>	O079
16.45–17.00	Giulia Secci, Leonardo Bruni, Monica Borgogno, Ikram Belghit, Erik-Jan Lock, Giuliana Parisi <i>Fillet qualitative characteristics of Atlantic salmon fed diets including <i>Hermetia illucens</i> larvae</i>	O080

Wednesday, June 12th – Auditorium Ulisse
Animal physiology, health and welfare – Animal nutrition: efficiency

Chairs:	Federico Infascelli, Salvatore Claps	
15.00–15.15	Vera Perricone, Alessandro Agazzi, Annamaria Costa, Aldo Calcante, Giovanni Savoini, Massimo Lazzari, Federica Cheli, Antonio Crotti, Diego De Nisi, Francesco Maria Tangorra <i>Sources of variation in TMR delivered to dairy cows: a field study</i>	O081
15.15–15.30	Fabio Omodei Zorini, Elena Mariani, Thi Xuan Nguyen, Guido Invernizzi <i>Evaluation of Feed efficiency in Italian Holstein Friesian heifers and lactating cows</i>	O082
15.30–15.45	Serena Calabrò, Ivan B. Koura, Raffaella Tudisco, Nadia Musco, Alessandro Vastolo, Monica I. Cutrignelli <i>Characteristics of forages collected in different areas of Benin</i>	O083
15.45–16.00	Gianni Matteo Crovetto, Giulia Gislon, Stefania Colombini, Andrea Rota Graziosi, Maria Chiaravalli, Luca Rapetti <i>Milk production and digestibility in cows fed diets with different forage basis</i>	O084
16.00–16.15	Massimo Todaro, Antonino Di Grigoli, Maria Luisa Scatassa, Cinzia Cardamone, Concetta Maria Messina, Francesca Mazza, Adriana Bonanno <i>Prickly pear pulp in the feeding of livestock ruminants: preliminary investigation</i>	O085
16.15–16.30	Luigi Gallo, Luca Carraro, Sudeb Saha <i>Body weight and measures of purebred Holstein and crossbred cows from Viking Red, Montbéliarde and Holstein sires</i>	O086
16.30–16.45	Sudeb Saha, Stefano Schiavon, Luigi Gallo <i>Production efficiency of purebred Holstein and crossbred cows from Viking Red, Montbéliarde and Holstein sires</i>	O087
16.45–17.00	Nicola Bettiga, Veronica Redaelli, Fabio Luzi, Giovanni Savoini <i>Quality assessment of corn silage by infrared thermography</i>	O088
17.00–17.15	Manuela Renna, Anne Ferlay, Carola Lussiana, Benoît Graulet, Ueli Wyss, Luca Maria Battaglini, Mauro Coppa <i>Factors affecting the fatty acid profile of permanent grasslands</i>	O089

Thursday, June 13th – Auditorium Ulisse
Animal Products – Meat quality: gastronomic tradition and innovation

Chairs:	Gianluca Neglia, Rosaria Marino	
09.30–09.45	Valeria Petrecca, Siria Tavaniello, Rossella Mucci, Daniela Prioriello, Giancarlo Salvatori, Ondřej Bučko, Giuseppe Maiorano <i>Quality and safety of meat from wild boar hunted in Molise region</i>	O090
09.45–10.00	Aristide Maggolino, Rosaria Marino, Alessandra Tateo, Pasquale Centoducati, Jose Manuel Lorenzo, Pasquale De Palo <i>Effect of aging time on the volatile compounds profile of donkey meat</i>	O091
10.00–10.15	Hanane Smili, Samira Becila, Radjeb Ayad, Fatima Zohra Chakou, Marzia Albenzio, Mariangela Caroprese, Antonella Santillo, Agostino Sevi, Baaissa Babelhadj, Abdelkader Adamou, Abdelghani Boudjellal, Rosaria Marino <i>Dromedary meat proprieties: case of algerien sahraoui dromedary</i>	O092
10.15–10.30	Qianlin Ni, Matteo Bergamaschi, Franco Biasioli, Iuliia Khomenko, Giovanni Bittante <i>Effect of cooking method on the volatile organic compound profile of meat of different species identified by PTR-ToF-MS</i>	O093

Thursday, June 13th – Auditorium Tritone
Animal Products – New frontiers in milk quality

Chairs:	Angela Gabriella d'Alessandro, Ada Bragheri	
09.30–09.45	Angela Salzano, Jacopo Troisi, Anna Balestrieri, Giovanni Scala, Francesco Vinale, Giuseppe Campanile <i>Traceability of buffalo milk and mozzarella cheese through metabolomic profile</i>	O094
09.45–10.00	Nunzia D'Onofrio, Alessandra Monaco, Angelo Capasso, Rosario Casale, Gianluca Neglia, Giuseppe Campanile, Maria Luisa Balestrieri <i>Antioxidant and Anti-Inflammatory Activities of Buffalo Milk Bioactive Metabolites</i>	O095

10.00–10.15	Beatrice Tozzi, Domenico Gatta, Marco Mariotti, Lucia Casini, Sara Minieri <i>Study of nutraceutical substances (Rutin) in sheep's milk fed with buckwheat hay</i>	0096
10.15–10.30	Iolanda Altomonte, Elio Novembre, Giovanni Brajon, Fina Belli, Franco Corrias, Rosario Licitra, Federica Salari, Lucrezia Sarti, Mina Martini <i>Use of donkey milk in infant feeding</i>	0097

Thursday, June 13th – Sala Stampa
Animal physiology, health and welfare – Reproduction I

Chairs:	Rossella Di Palo, Nicolaia Iaffaldano	
09.30–09.45	Fabio Mosca, Ahmad Abdel Sayed, Maria Grazia Mangiagalli, Silvia Cerolini, Luisa Zaniboni <i>Quality of chicken semen cryopreserved with different N-methylacetamide concentrations combined with trehalose</i>	0098
09.45–10.00	Marek Bednarczyk, Maria Wiechetek, Ewa Lukaszewicz, Artur Kowalczyk <i>Influence of germ line chimerism on chicken reproductive traits</i>	0099
10.00–10.15	Michele Di Iorio, Giusy Rusco, Angelo Manchisi, Silvia Cerolini, Nicolaia Iaffaldano <i>How can the honey improve the post-thaw quality of turkey spermatozoa?</i>	0100
10.15–10.30	Giusy Rusco, Michele Di Iorio, Stefano Esposito, Pier Paolo Gibertoni, Bruno Testa, Silvia Cerolini, Alessandra Roncarati, Maria Silvia D'Andrea, Nicolaia Iaffaldano <i>Thawing rate effects on the cryosurvival of Mediterranean brown trout spermatozoa</i>	0101

Thursday, June 13th – Sala Ravello
Livestock systems – Aquaculture

Chairs:	Giuliana Parisi, Francesca Tulli	
09.30–09.45	Nicole Francesca Pelusio, Luca Parma, Serena Busti, Stefano Porcelli, Enric Gisbert, Maria Angeles Esteban-Abad, Federica D'Amico, Matteo Soverini, Oliviero Mordenti, Antonio Casalini, Pier Paolo Gatta, Alessio Bonaldo <i>Effects of rearing density on growth, welfare indicators and digestive conditions of Gilthead sea bream (Sparus aurata, L. 1758) fed different fish meal and fish oil dietary levels</i>	0102
09.45–10.00	Francesco Bordignon, Gerolamo Xiccato, Cristina Zomeño, Anton Pascual, Marco Birolo, Emanuele Rossetti, Angela Trocino <i>Pre-fattening of Manila clams in a Po Delta lagoon: effect of stocking density in suspended lanterns</i>	0103
10.00–10.15	Benedetto Sicuro, Beatriz Castelar, Davide Mugetti, Marzia Righetti, Marino Prearo <i>Integrated freshwater aquaculture: potentialities and limitations of freshwater bivalves utilization</i>	0104
10.15–10.30	Matteo Dell'Anno, Stefania Sotira, Monika Hejna, Valentina Caprarulo, Serena Reggi, Luciana Rossi <i>In vitro evaluation of macroalgae (Ascophyllum nodosum and Lithothamnium calcareum) and microalgae (Schizochytrium spp.) for animal nutrition</i>	0105

Thursday, June 13th – Auditorium Ulisse
Animal Products – Meat production. Management and marketing perspective

Chairs:	Giuseppe Maiorano, Pasquale Centoducati	
11.30–11.45	Lorenzo Bussotti, Gabriele Ferrini, Federico Fava, Giulia Berni, Matilde Ciani, Christos Dadousis <i>In vitro cultured meat: an Italian consumer survey</i>	0106
11.45–12.00	Ruggero Menci, Mariano Pauselli, Adriana Campione, Camilla Pomente, Luciano Morbidini <i>Consumer test with salami from "Umbria" medium-heavy pork, fed traditional or experimental diet with hazelnut perisperm</i>	0107
12.00–12.15	Simona Mattioli, Alessandro Dal Bosco, Matics Zsolt, Gerencsér Zsolt, Marco Cullere, Szendrő Zsolt, Cesare Castellini, Antonella Dalle Zotte <i>Effect of dietary liquorice extract on the oxidative status of rabbit burgers</i>	0108
12.15–12.30	Simone Mancini, Roberta Nuvoloni, Francesca Pedonese, Simona Mattioli, Alessandro Dal Bosco, Gisella Paci <i>Effects of garlic powder and salt additions in rabbit meat burgers</i>	0109
12.30–12.45	Marisa Palazzo, Francesco Vizzarri, Angela Gabriella D'Alessandro, Giovanni Martemucci, Raffaella Rossi, Sabrina Ratti, Carlo Corino, Donato Casamassima <i>Dietary effect of dried bay (Laurus nobilis) meal on rabbit meat quality</i>	0110

12.45–13.00	Massimiliano Petracci, Addressa Kühnen Silva, Francesca Soglia, Claudio Cavani <i>Evaluation of Pectoralis minor gaping defect in broiler chickens</i>	O111
13.00–13.15	Giuseppe Maiorano, Siria Tavaniello, Anna Slawinska, Micol Bertocchi, Marco Zampiga, Marisa Palazzo, Ongwech Acaye <i>In ovo delivery of GOS in slow-growing broiler chickens exposed to heat stress: implications for meat quality traits</i>	O112
13.15–13.30	Francesca Soglia, Addressa Kühnen Silva, Luciano Morais Lião, Luca Laghi, Massimiliano Petracci <i>1H-NMR metabolite profiling of broiler breast meat affected by muscular abnormalities</i>	O113

Thursday, June 13th – Auditorium Tritone
Animal breeding and genomics – Small ruminants genetics

Chairs:	Fabio Pilla, Elena Ciani	
11.30–11.45	Licia Colli, Paola Crepaldi, Paolo Ajmone-Marsan, Alessandra Stella, Gwenola Tosser-Klopp, The VarGoats Consortium <i>VarGoats international initiative, a 1000 goat genomes project</i>	O114
11.45–12.00	Maria Teresa Sardina, Salvatore Mastrangelo, Marco Tolone, Anna Maria Sutura, Angelo Moscarelli, Baldassare Portolano, Rosalia Di Gerlando <i>Copy Number Variations in Sicilian goat breeds inferred from GoatSNP50 BeadChip</i>	O115
12.00–12.15	Claudio Cipolat-Gotet, Michele Pazzola, Alessandro Ferragina, Andrea Summer, Maria Luisa Dettori, Giuseppe Massimo Vacca <i>Coagulation ability of goat milk from 4 breeds predicted by Fourier-transform infrared spectroscopy</i>	O116
12.15–12.30	Rosalia Di Gerlando, Maria Teresa Sardina, Anna Maria Sutura, Marco Tolone, Baldassare Portolano, Salvatore Mastrangelo <i>Identification of copy number variations in Sicilian sheep breeds</i>	O117
13.00–13.15	Giuseppe Marsico, Pasqua Rotondi, Maria Antonietta Colonna, Marco Ragni, Prospero Cagnetta, Simona Tarricone <i>Influence of genotype on meat quality in kids</i>	O118

Thursday, June 13th – Sala Ravello
Animal physiology, health and welfare – Animal welfare I

Chairs:	Fabio Napolitano, Silvana Mattiello	
11.30–11.45	Marco Birolo, Angela Trocino, Andrea Zuffellato, Gerolamo Xiccato <i>Time-based feed restriction and group size in growing rabbits: effects on health status and growth performance</i>	O119
11.45–12.00	Marta Brscic, Luisa Magrin, Giulio Cozzi <i>Veal calves' abomasal lesions and rumen mucosa alterations investigated post-mortem: is there any way to differentiate "good" from "bad" farms?</i>	O120
12.00–12.15	Felicetta Carillo, Marisanna Speroni <i>Relationships between farm productivity and housing space allowance. An analysis on a sample of Italian dairy farms</i>	O121
12.15–12.30	Marco Iannaccone, Andrea Ianni, Ramy Elgendy, Fiorentina Palazzo, Mery Giantin, Lisa Grotta, Gianfranco Cosenza, Mauro Dacasto, Giuseppe Martino <i>Transcriptome profiling of ruminants fed with a micronutrient-supplemented diet</i>	O122
12.30–12.45	Vincenzo Lopreiato, Andrea Minuti, Domenico Britti, Fiorenzo Piccioli Cappelli, Juan J. Loor, Erminio Trevisi <i>Post calving gene expression of whole blood leukocytes in Simmental and Holstein cows following pegbovigrastim treatment</i>	O123
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Foreword

The 23rd Congress of the Animal Science and Production Association (ASPA) is hosted in Sorrento, a wonderful location near Naples, where sea and mountain, deep valleys and citrus groves plateaux draw a unique, fantastic landscape. The Congress is organized by the Department of Veterinary Medicine and Animal Production of the University of Naples "Federico II" in cooperation with other Italian scientific Institutions, such as the Universities of Foggia, Bari "Aldo Moro" and Basilicata; the Council for Agricultural Research and Economics – CREA PCM (Rome) and the "Istituto Zooprofilattico Sperimentale del Mezzogiorno" (IZSM).

This edition of the ASPA Congress has received a total of 338 scientific contributions: 178 oral presentations and 160 posters have been selected. The Congress sessions with their relative number of papers are listed as follows: Animal breeding and genomics (90); Animal Physiology, Health and Welfare (101); Animal Products (68); Livestock Systems (55); Environmental Sustainability (24).



The scientific program is enriched by 18 main lectures, covering all the main topics.

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O113**¹H-NMR metabolite profiling of broiler breast meat affected by muscular abnormalities**

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Nuclear Magnetic Resonance (NMR) spectroscopy represents a versatile technique that allows gathering, in a single spectrum, quantitative and qualitative information on the metabolic profile of a tissue. In the present study, ¹H-NMR was applied to quantify free amino acids, histidine compounds and metabolites involved in energy-generating pathways in *Pectoralis major* muscles affected by growth-related abnormalities (White Striping – WS, Wooden Breast – WB and Spaghetti Meat – SM). The study was conducted on a single flock of 48 days old broiler chickens (Ross 308, females, average live weight 2.8 kg) classified into the following groups: Normal (NORM), WS, WB and SM. The increased ($p < .001$) concentration of free amino acids observed in WS, WB and SM likely results from the degenerative processes taking place within these muscles as well as from a concurrent attempt of the tissue to overcome necrosis and repair the damaged fibres. This is corroborated by the significantly higher ($p < .001$) glutamine and glutamate content found in WS, WB and SM previously observed in *mdx* mice and dystrophic muscles and hypothesised to be related to the intense regenerative processes associated to these conditions. In addition, significantly higher ($p < .001$) glycine and branched amino acids (namely valine, leucine, isoleucine and proline) were found in WS, WB and SM thus suggesting an increased collagen synthesis and an intense extracellular matrix remodelling within these muscles. With regard to the histidine compounds, the lower ($p < .001$) levels of anserine and carnosine found in abnormal muscles confirms that oxidative stress can contribute to the aetiology of breast muscle abnormalities in broilers. Besides, WS, WB and SM exhibited significant variations in the metabolites involved in energy-generating pathways (lower lactate, creatine and inosine-5-monophosphate) thus supporting the assumption of metabolism perturbations associated to the development of these conditions. However, since no distinctive metabolites were found, similar causative mechanisms leading to WS, WB and SM can be hypothesised. In conclusion, the adoption of ¹H-NMR spectroscopy allowed to corroborate earlier findings (i.e. oxidative stress and perturbation of energy metabolism) and provide novel insight (i.e. higher content of free branched amino acids) into metabolic pathways

involved in the development of growth-related abnormalities which are nowadays of great importance for the broiler industry.

ANIMAL BREEDING AND GENOMICS – SMALL RUMINANTS GENETICS**O114****VarGoats international initiative, a 1000 goat genomes project**

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Goats were domesticated ~10,000 years ago from their bezoar wild ancestor *Capra aegagrus*. These founder animals spread out from domestication centres in Europe, Asia, and Africa during the next few thousand years, which resulted in many populations becoming locally adapted to diverse environmental constraints such as heat, altitude, disease resistance, etc. After a very long period of soft selection for production traits, the situation changed dramatically with the emergence of the breed concept about 200 years ago. Selection pressure was strongly increased, and gene flow between populations (or newly formed breeds) was seriously reduced, leading to the fragmentation of the initial gene pool. Currently, there are more than 1000 goat breeds worldwide, 18% of which are either threatened or already extinct.

Through the generation of domestic breeds sequence data and their analysis together with existing data of domestic and wild animals, VarGoats collaborative project aims at becoming the first step of a 1000 goat genomes project. VarGoats Consortium is coordinated by the Institut National de la Recherche Agronomique INRA (France), and includes an international team of partners (Laboratoire d'Ecologie Alpine, France; Parco Tecnologico Padano, Italy; Agricultural Research Service, USDA, USA; International Goat Genome consortium; African Goat Improvement Network; Roslin Institute and the Centre for Tropical Livestock Genetics and Health, UK). At present, a dataset containing 829 goat

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