



ASPA 25th Congress Book of Abstract

Angela Gabriella D'Alessandro, Pasquale De Palo, Aristide Maggiolino & Marcello Mele

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ASPA 25th Congress

Monopoli (BARI - ITALY), June 13-16, 2023

Guest Editors

**Angela Gabriella D'Alessandro, Pasquale De Palo, Aristide Maggiolino,
and Marcello Mele**

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ASPA 25th Congress
Monopoli (BARI - ITALY), June 13-16, 2023

#ASPA2023

ASPA 25th Congress Book of Abstract

The 25th congress of the Animal Science and Production Association

**“Animal Production Science: Innovations and sustainability for future generation” is
under patronage of Loghi patrocini**

**Monopoli (BARI - ITALY),
June 13-16, 2023**

Venue

Torre Cintola Natural Sea Emotions

Località Capitolo - Monopoli (BARI - ITALY)

12:15	<u>Cattaneo Luca</u> , Piccioli-Cappelli Fiorenzo, Lovotti Giorgia, Lopreiato Vincenzo, Trevisi Erminio, Minuti Andrea <i>Impact of decreased nutrient density at dry-off on inflammatory conditions in dairy cows</i> O452
12:30	<u>Catellani Alessandro</u> , Minuti Andrea, Trevisi Erminio, Gallo Antonio <i>Transition period for Brown Swiss and Holstein dairy cows: feeding behavior and metabolic status</i> ... O521
12:45	<u>Fossaluzza Davide</u> , Marchesini Giorgio <i>Management of dairy heifers: can operant conditioning decrease stress and ease animals' monitoring and manipulation?</i> O523
13:00	<u>Pulido-Rodriguez Lina Fernanda</u> , Secci Giulia, Tignani Maria Vittoria, Medeiros Adja, Faccenda Filippo, Parisi Giuliana <i>Cold shock by immersion in ice salty water is a suitable method to stun Campione del Garda (Salmo carpio) both considering animal welfare and flesh quality during storage</i> O543
13:15	<u>Florit Eleonora</u> , Romanzin Alberto, Spanghero Mauro <i>Could eating time be a useful indicator in dairy farm management?</i> O215
13:30	Lunch

Wednesday, June 14th – Room Apulia

Session 11 – Advances in meat quality

Sponsored by Siciliani

Chairs:	Marino Rosaria – Mele Marcello
11:30	INVITED LECTURE <u>Gagaoua Mohammed</u> <i>Building better knowledge on meat quality determination through integrated data mining and curation of proteomics studies</i>
12:00	<u>Bordini Martina</u> , Soglia Francesca, Zappaterra Martina, Davoli Roberta, Sirri Federico, Meluzzi Adele, Petracci Massimiliano <i>Evaluation of the expression level of genes coding for Collagen type 4 in Pectoralis major muscles belonging to meat-type chickens selected for different growth-rates</i> O345
12:15	<u>Forte Lucrezia</u> , Calzaretti Giovanna, Landi Vincenzo, Aloia Alessandra, De Palo Pasquale, Maggiolino Aristide <i>Dry vs wet aging in the enhancement of culled goat meat quality</i> O586
12:30	<u>Aquilani Chiara</u> , Confessore Andrea, Sirtori Francesco, Pugliese Carolina <i>Effect of immunocastration on quality traits of fresh and dry-cured loin in Italian heavy pigs production</i> O139
12:45	<u>Valenti Bernardo</u> , Roscini Valentina, Bolletta Viviana, Fodaroni Chiara, Mercati Valentino, Morbidini Luciano, Pauselli Mariano <i>Monitoring the meat quality of grass-fed Angus beef during different seasons</i> O265
13:00	<u>Mattioli Simona</u> , Cartoni Mancinelli Alice, Castellini Cesare, Angelucci Elisa, Dal Bosco Alessandro <i>Application of the Healthy Fatty Index to discriminate the meat nutritional quality of different slow-growing chickens</i> O026
13:15	<u>Castro Ndong Ncogo Nchama</u> , Saccà Elena, Brunner Ilario, Sepulcri Angela, Corazzin Mirco, Piasentier Edi <i>Pork characteristics of Mangalitza pigs reared outdoors</i> O538
13:30	<u>Piscopo Nadia</u> , Di Paolo Marika, Casalino Lorian, Matera Roberta, Balestrieri Anna, Marrone Raffaele, Esposito Luigi <i>Physico-chemical and rheological differences of wild boar muscle in post-mortem time in Campania region: Preliminary study</i> O550
13:45	Lunch

anomalies concerning COL4 folding have been demonstrated to be involved in muscular abnormalities having microscopic features similar to those of the growth-related abnormalities affecting *Pectoralis major* (PM) muscles of fast-growing (FG) chickens. Since recent studies hypothesized a potential involvement of COL4 in the cascade of events leading to these defects, the present study aimed at quantifying levels of COL4 chicken genes to test likely associations between their expression and the chickens' susceptibility to manifest these defects. Considering the high prevalence of these defects in FG compared to broilers having a slower growth rate, and that the defect progression is related to birds' age/growth, the present research focused on evaluating the *COL4A1* and *COL4A2* gene expression by looking at multiple steps of PM development in broilers belonging to both FG and medium-growing (MG) genotype farmed and slaughtered under controlled experimental conditions. Thus, PM samples (5/each genotype) have been collected at 28, 35, and 42 days of age (d) and used to perform Quantitative Real-Time PCR of *COL4A1* and *COL4A2* mRNA using *RPL4* and *GAPDH* as normalizing genes. At each sampling time, differences between genotypes in *COL4A1* and *COL4A2* mRNA quantification were assessed by using the non-parametric Mann-Whitney U test. Concerning the *COL4A1* normalized gene level at 28, 35, and 42 d, no significant differences have been detected between the FG and MG. As for *COL4A2*, significant differences ($p < 0.05$) have been found between FG and MG at 28 d. Considering that the first signs of muscular abnormalities in FG are macroscopically detected at 28 d, the potential involvement of *COL4A2* in the initial progression of physiological and biological alterations characterizing modern broilers' breast muscles could be assumed. Also, in view of the higher amount of *COL4A2* mRNA in FG at 28 d, a resulting increase in its protein level could be supposed. This could support the hypothesis already reported in the literature suggesting that an increased intracellular accumulation of COL4 (e.g. at the endoplasmic reticulum level) might have a role in the onset of growth-related abnormalities.

O345

Evaluation of the expression level of genes coding for collagen type 4 in pectoralis major muscles belonging to meat-type chickens selected for different growth-rates

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Collagen type IV (COL4) is one of the essential components of the basement membrane of several tissues, especially vascular endothelium. The two genes coding for the COL4 protein (*COL4A1* and *COL4A2*) are highly conserved across species, thus suggesting their biological importance. In humans,