



## ASPA 25th Congress Book of Abstract

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To cite this article: Pasquale De Palo (2023) ASPA 25th Congress Book of Abstract, Italian Journal of Animal Science, 22:sup1, 1-320, DOI: [10.1080/1828051X.2023.2210877](https://doi.org/10.1080/1828051X.2023.2210877)

To link to this article: <https://doi.org/10.1080/1828051X.2023.2210877>



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Published online: 12 Jun 2023.



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**ASPA 25<sup>th</sup> Congress**  
**Monopoli (BARI - ITALY), June 13-16, 2023**

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**ASPA 25<sup>th</sup> Congress Book of Abstract**

**The 25th congress of the Animal Science and Production Association**

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recorded in the OMWW supplemented hens tended ( $p = 0.07$ ) to be higher compared to control. Protein and lipid contents of yolk and albumen and their pH values did not differ between groups. The yolk colour score was unaffected by dietary treatment. Low concentrations of major phenolic compounds hydroxytyrosol and tyrosol were detected in OMWW yolks by LC-HRMS (range: 0.9–1.09  $\mu\text{g}/\text{kg}$ ), while they were not detected in the albumen. The concentration of several hydroxytyrosol and tyrosol sulphate metabolites was increased ( $p < 0.05$ ) in yolk by dietary treatment with OMWW. Except for hydroxytyrosol-4-sulphate, all other sulphate metabolites observed in the albumen matrix were close to the detection limit. It can be concluded that the dietary supplementation with OMWW extracts may have beneficial effects on egg production, egg weight, and feed conversion ratio. The presence and role of phenolic compounds and their sulphate derivatives in yolk needs to be further investigated.

## O454

### Technological and sensorial meat quality of broiler chickens: effect of genotype and heat stress

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New challenging environmental and geopolitical scenarios ask for sustainable productions based on animals resilient to climate changes and alternative feeds where slow-growing genotypes can fit on the possible diverse scenarios. The present study aimed to evaluate the effect on meat quality and sensorial properties of different poultry genotypes reared under alternative environmental conditions. A total of 240 broiler chickens were reared in a  $3 \times 2 \times 2$  factorial arrangement with three genotypes (Ross 308, Bionda Piemontese, and Robusta Maculata chickens), two environmental temperatures (normal and high), and two sexes. Chickens were reared in pens until slaughtering (42 and 99 days of age for Ross 308 and local breeds, respectively). Right and left breast fillets were dissected from 72 carcasses (6 per experimental group) and submitted to rheological and sensorial analyses. At the *Pectoralis major* muscle, Ross chickens showed the highest pH, lightness, yellowness and cooking losses ( $p < 0.001$ ), while Bionda Piemontese showed the highest redness ( $p < 0.001$ ). Meat from Ross chickens had higher water and lower crude protein contents, while higher ether extract content compared to the

other chickens ( $p < 0.001$ ). At the sensory analysis, Ross breasts had a higher juiciness compared to Bionda Piemontese while intermediate values for Robusta Maculata ( $p < 0.05$ ). As for the flavour, meat of Ross chickens received a lower score for 'brothy' ( $p < 0.05$ ) and 'chickeny/meaty' ( $p < 0.001$ ), and a higher score for 'wet feathers' ( $p < 0.001$ ) compared to that of local breeds. The environmental temperature did not affect meat quality traits and flavour attributes, whereas only the 'toothpick' texture increased ( $p < 0.05$ ) when chickens were reared under high temperature. Males' breasts presented higher pH ( $p < 0.001$ ) than females which corresponded to lower lightness ( $p < 0.01$ ) and yellowness ( $p < 0.001$ ). Moreover, in males, breasts had higher water and lower crude protein content ( $p < 0.05$ ), and scored higher hardness ( $p < 0.001$ ), juiciness ( $p < 0.001$ ) and chewiness ( $p < 0.01$ ), and a higher salty flavour ( $p < 0.01$ ) than females.

In conclusion, while meat traits in slow growing local chickens, such as Bionda Piemontese and Robusta Maculata, were different from those of fast-growing genotypes, sensorial quality was comparable from nutritional and sensorial point of view for the consumers. The effect of environmental temperature was negligible.

#### Acknowledgements

The research was funded by MIUR (PRIN2017 2017S229WC\_002).

## O379

### Inbreeding and genetic diversity in Italian horse heritage

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Horse local breeds traditionally used in agriculture have lost their original breeding goals and are currently being challenged to meet current market demand; otherwise, extinction is a solid possibility. Unfortunately, what emerged from the latest FAO report is that 12% of the horse populations worldwide is extinct and over 28% of the remaining ones are either at risk or endangered. The Italian equine gene pool is rich in numbers and diversified in more than 20 local breeds. Although none of them are yet extinct, over 90% are in a critical or endangered status. Therefore, the aim of this study was to calculate inbreeding based on genotype data of 1308 horses from 22 breeds genotyped with