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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)

Enzymatic activity was measured on RJ samples collected from 2017 to 2021 and refrigerated from production to analysis. In 2020 and 2021 an aliquot of samples was also frozen.

Refrigeration determined a higher GOX activity in RJ after two months of storage that it significantly decrease after one year. Higher carboxypeptidase-like A activity was also recorded in refrigerated RJ at two-months compared to other investigated time points. Freezing did not determined variation in both GOX and carboxypeptidase-like A activity in RJ stored for two months rather than 1 year. Conversely, a higher GOX and carboxypeptidase A-like activity was recorded in frozen RJ after 1 year compared to refrigerated one. No variation in the activity of the other proteases investigated were recorded in both refrigerated and frozen RJ.

Therefore, GOX and carboxypeptidase A-like activity resulted suitable RJ freshness markers within one year at refrigeration condition and freezing may be a valid alternative storage method to ensure a higher preservation of their activity.

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O116

Plasma proteome, a non-invasive biofluid to monitor lamb meat quality

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Monitoring meat quality characteristics with accurate and non-invasive tools to detect, before slaughter, animals with desired quality characteristics, is a prerequisite of meat industry. Plasma, as a readily available biofluid, represents a potential biological source of information about the animal's physiological and pathological condition, as well as its underlying biological mechanisms.

In this regard, a proteomics approach on plasma and muscle proteomes were applied to assess the effect of two different dietary treatments on in vita biological processes and meat quality. Twenty-two Valle del Belice male lambs were randomly assigned to two dietary treatment groups. Control group (C) received a maize-barley without any supplement, whereas the hazelnut group (H), received a hazelnut skin by-product as a maize partial replacer in the concentrate diet. The results revealed that

hazelnut skin by-product dietary supplementation impacted meat quality characteristics, with meat from lamb of the H group displaying greater values of lightness, redness, yellowness, and chroma color parameters together with greater myofibril fragmentation index. Proteomic and bioinformatics approaches applied to plasma proteome revealed twenty protein spots (18 unique gene names) belonging to 'enzyme regulator activity' including serpins, 'identical protein binding', 'antioxidant activity', 'steroid binding' and 'cholesterol transfer activity' as differentially expressed due to hazelnut skin by-product supplementation. Twenty-three proteins from the muscle proteome of known roles in post-mortem processes, likely 'muscle contraction, structure, and associated proteins', 'energy metabolism', 'heat shock proteins', 'oxidative stress' and 'immunity, binding & transport proteins' could act as potential predictors of lamb meat quality. To clear up the complex relationships between plasma and muscle proteomes of the two dietary groups, comparative bioinformatics revealed APOA1, PHB, ACTG1, and ALB as common proteins, hence suggesting sophisticated biological crosstalk and potential use as candidate biomarkers to monitor lamb meat quality production. Our findings underline the important role of plasma as a challenging biofluid protein source to predict in a non-invasive manner the lamb meat quality.

O552

Effect of ripening time on chemical-nutritional quality of the traditional Pecorino Bagnolese cheese

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Pecorino Bagnolese is a typical ripened cheese of Irpinia area in Campania Region (Italy) made with at least 70% of Bagnolese ewe's milk. It is included in the 22th revision of the national list of Traditional Agrifood. The traditional cheesemaking, as such as the feeding system (pasture in the cheese production area) make cheese strongly linked to the territory. To increase the diffusion of traditional products and preserve the sheep breed, strategic and operational activities aimed at improving the value creation of the product are necessary. To improve the competitiveness of Pecorino Bagnolese cheese, the aim of study was to deepen the knowledge of the production process and to create an added value to the dairy product, assessing the effect of ripening on its chemical-nutritional properties. Cheesemaking were performed in a small cheese plant, located in Bagnoli Irpino. Filtered raw ewe's milk was gently heated at 36–38 °C in a copper vat;