



a higher ash content while in BP no differences were found in ash of the two muscles. Yellowness index was higher in the two muscles of BP in comparison to BS and lower in the breast of BS and in the thigh of BP. In general, this study gave an overview on the meat quality of these two local breeds. Further studies, in a controlled condition, are needed to better investigate any possible difference.

P-023

Nutritional quality and aromatic profile of Caciotta cheese in cows fed with *Linum usitatissimum* L.

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The increasing attention for functional foods and sustainable agriculture leads to assess diets that can naturally improve dairy products. Aim of this study was to evaluate the nutritional indexes (Health Promoting Index – HPI, Thrombogenic index – TI), the single fatty acids (α -linolenic acid -ALA, Conjugated linoleic acid - CLA) and the aromatic profile of cheese of dairy cows supplemented with *Linum usitatissimum* L., extensively cultivated in the past for fibre flax production. Ten dairy cows were allotted into two homogeneous groups: Control and *Linseed flour* (L). Animals received the same diet, while in the experimental group 20%DM of concentrate supplementation was replaced with L for 15 days, after two weeks of adaptation. During the experimental period, the milk was collected and cumulatively processed in Caciotta cheese (a soft cheese, 25 days ripened) for three times. The Fatty acids profile of cheese was performed by gas chromatography and HPI was calculated according to Chen *et al.* (2004). Two techniques were performed for the headspace aroma profile analysis: thermal desorption by GC-MS for Volatile Organic Compounds (VOCs) determination and the Electronic Nose for fingerprint characterization. Statistical analysis of FAs (g/100 g FA) and VOCs, allotted in compound classes and expressed in arbitrary unit (a.u. = peak area 10^{-6}), was carried out by ANOVA. Principal Component Analysis (PCA) was used for the evaluation of VOCs and data by Electronic Nose. FAs profile and HPI were affected by the supplementation. The ALA content of cheese from L group showed a significant increase compared to Control group (0.68 *vs.* 0.41; $P \leq 0.001$). The same trend was observed for CLA content (1.60 *vs.* 1.34; $P \leq 0.01$). Significant differences were also observed for the nutritional indexes ($P \leq 0.05$). The highest HPI value was observed in cheese from L group (0.63), while the TI showed an opposite trend, as expected. The lowest n-6/n-3 ratio was detected in cheese from L group

(1.07 *vs.* 2.4; $P \leq 0.01$). No significant differences were found between the two groups using the GC/MS method and Electronic Nose. The two techniques seemed to lead to the same result. The results showed that L supplementation increased the beneficial fatty acids content of Caciotta cheese improving its nutritional and nutraceutical quality, without affecting aromatic profile. Moreover, the reintroduction of the flax in Campania region might represent a valid tool for sustainable agriculture.

P-024

Use of multivariate procedures for classification of Toscano dry-cured ham according to the volatile composition

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The Prosciutto Toscano is a traditional Italian dry-cured ham that obtained the Protected Designation of Origin, (Regulation (EC) No. 1263/96) in 1996. The curing time, in the production of dry cured ham, is becoming increasingly important being consumers currently oriented towards products with a longer maturity. Several studies have demonstrated that a prolonged ripening time has significant effects on the aromatic composition of dry-cured hams. The aim of this study was to develop a method to assign the hams to the proper class of seasoning on the basis of their volatile composition. The volatile compounds of 10 hams were extracted by the HS SPME-GC-MS technique. From each ham, samples of Subcutaneous fat and Semimembranosus muscle were taken at 0, 1, 3, 6, 12, 14, 16 and 18 months of seasoning. Ninety seven volatile compounds were identified and submitted to three different multivariate statistical techniques. The Stepwise Discriminant Analysis (SDA), performed to select the most discriminant compounds, the Canonical Discriminant Analysis (CDA), used to test, on the basis of the selected compounds, the effective discrimination among seasoning classes. Finally, the Discriminant Analysis (DA) was used to assign the samples to the proper seasoning class. The discriminant procedures were firstly applied to the whole data set to assign samples at two different seasoning classes: "fresh" (0, 1, 3 and 6 months) and "mature" (12, 14, 16 and 18 months). The SDA selected 2 and 3 compounds for fat and lean samples, respectively. The CDA, by using the selected variables, significantly separated the two classes, whereas the DA correctly assigned all samples. The discriminant procedures were then performed within "mature" class to assign samples to the own class of seasoning. With only 14 compounds, the CDA significantly discriminated fat samples in the four classes and the DA correctly assigned all samples. For