

It should also be noted that, working remotely and without any contact with the material, this technique presents no risk of microbiological dissemination from the silages.

## 0089

### Factors affecting the fatty acid profile of permanent grasslands

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Permanent grasslands are traditionally used as forage for ruminants in many European countries. The fatty acid profile of permanent grasslands can influence the nutritional quality of milk and meat products from ruminants. This study used available data ( $n = 144$ ) collected in the years 2003–2016 by three research institutions from Italy, France and Switzerland to explore factors able to affect the fatty acid profile of semi-natural and biodiversified pastures used as grazing areas by commercial dairy herds. The dataset was built up to match a large altitude range (15–2500 m a.s.l.) and botanical diversity. The dataset included 14 variables comprising: herbage fatty acid profile [C16:0 (%), C18:0 (%), C18:1c9 (%), C18:2n6 (%), and C18:3n3 (%)], herbage proximate composition [dry matter (DM, g/kg), crude protein (CP, g/100 g DM), neutral detergent fibre (NDF, g/100 g DM), and acid detergent fibre (ADF, g/100 g DM)], herbage botanical composition [grasses (*Poaceae*, %), legumes (*Fabaceae*, %), and forbs (%)], herbage phenology (BBCH scale), and site altitude (m a.s.l.). Data were analysed by Principal Component (PC) Analysis using IBM SPSS Statistics v. 25 for Windows. The Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's test of sphericity were used to verify the adequacy of data analysis. The sum of the first three linear components accounted for 70.7% of the total explained variance. Considering factor loadings  $>0.6$  (or  $<-0.6$ ), the herbage C16:0, C18:0, C18:1c9 and C18:2n6 contents, the DM, NDF and ADF contents, and herbage phenological stage were positively related, whereas herbage C18:3n3 and CP contents were negatively related to the 1st PC (45.6% of explained variance). Legumes were positively related to the 2nd PC (13.1% of explained variance) and grasses and forbs were positively and negatively related to the 3rd PC (12.1% of explained variance), respectively. In conclusion, regardless the altitude, the variation in the fatty acid composition of semi-natural grasslands in

on-farm conditions appeared to be much more related to herbage phenology (and consequently to the proximate composition and nutritive value), rather than to the botanical composition. The latter played anyway a role, even if less relevant than the herbage phenological stage.

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## ANIMAL PRODUCTS—MEAT QUALITY: GASTRONOMIC TRADITION AND INNOVATION

## 0090

### Quality and safety of meat from wild boar hunted in Molise region

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In recent decades, there has been a consistent increase in the population of wild boar in Italy and also in the Molise region, with a greater availability and consumption of their meat. The aim of the study was to evaluate pH, colour, total lipid, fatty acids composition and heavy metals content of wild boar meat of different estimated live weight (~50, 70 and 100 kg;  $n = 25, 24$  and  $18$ , respectively), sex and hunting area (A1: Bagnoli del Trigno-Poggio Sannita (IS); A2: Roccavivara-Civita Campomarano (CB)). The study was carried out on wild boars hunted between November 1st 2017 and January 31st 2018. At slaughter, *Longissimus dorsi* muscle was removed from carcasses for the analyses. Meat quality data were analysed by GLM, live weight and sex were the main factors; heavy metals data were analysed considering also the hunting area factor. pH and colour were not affected by live weight and sex; however, meat from heavier boars (100 kg) was slightly darker than that of lighter ones (50 kg). Total lipid, total saturated fatty acids (SFA) and monounsaturated fatty acids (MUFA) were not affected by weight. Differently, lighter boars showed a higher content of total polyunsaturated fatty acid (PUFA,  $p < .05$ ), n-6 ( $p < .05$ ) and n-3 (70 kg:  $p < .01$ ; 100 kg:  $p < .05$ ) PUFA, and PUFA/SFA ratio ( $p < .01$ ) compared to heavier classes. Lighter boars had a better atherogenic index compared to boars from intermediate weight class (70 kg). Compared to females, males had a higher ( $p < .05$ ) n-3 PUFA content and a lower ( $p < .05$ ) n-6/n-3 ratio. Weight, sex and hunting