

Cows of different QpH provided milk with similar coagulation properties (rennet coagulation time, curd firming rate and curd firmness after 30 minutes) and cheese yield. Conversely, curd firmness and cheese yield linearly decreased as SCC content of milk ( $\leq 100$ ; 100 to 400;  $>400 \times 10^3$  cells/ml) increased. In conclusion, QpH altered SCFA content and proportion in rumen fluid and rumen activity, but not milk quality traits, even in cows with rumen pH  $<5.8$ .

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## O112

### Effect of the wooden vats on traditional cheese characteristics

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Wooden vats have been used for centuries to collect and transform milk by farmers and cheesemakers all over the world. Nowadays, the tree species mostly used to this purpose are Douglas fir and chestnut. The use of wooden vats is mandatory for the production of all PDO Sicilian cheeses, such as Ragusano, Pecorino Siciliano, Piacentinu Ennese and Vastedda della valle del Belice. In the last years, the wooden vats have been deeply explored for the microbiological characteristics and they are covered by biofilms mainly represented by lactic acid bacteria (LAB) entrapped in a polysaccharide matrix. These microbial associations do not include pathogenic species. Up to date, there are no studies performed on the effect of wooden vats made with different tree species on the characteristics of the final cheeses. Thus, this aspect represents the main aim of the present study.

Eight wooden vats (20-L volume) were made with eight tree species (Calabrian Chestnut, Sicilian Chestnut, Cedar, Cherry, Ash, Wot, Pine and Poplar) and subjected to 15-d whey treatment for the activation of the LAB biofilms on the internal surfaces. All 8 wooden vats were then used to produce PDO Vastedda della valle del Belice cheese, according to the EU Regulation. Each cheese making (carried out in duplicate at 7-d interval) was obtained from 14 l of raw ewes' milk. The cheeses were packaged under vacuum and, after 14 days of refrigerated storage, analysed for their physical (pH,

$a_w$ , CIELab parameters) and chemical composition (DM, fat, protein, N soluble, ash, salt) according to official methods. Moreover, peroxides, TBARs and polyphenols were also determined. Vastedda cheeses were subject to a sensory evaluation following the ISO indications. Several ANOVA models were employed to statistical analyses.

The results of the characterization of the cheeses revealed that the wooden vats did not influence their chemical composition, while Lightness ( $L^*$ ) and hue angle were significantly modified by the tree species (table 1). In particular, the cheeses produced in vats made with Calabrian and Sicilian chestnut were characterized by a lower yellow intensity than the other tree species. Poplar vat produced Vastedda cheeses with significant lower peroxidase oxidation (1.68 mg/kg) and TBARs (0.0042 mg MDA/100 g of fat), probably due to the effect of natural antioxidant transferred from the wood to the milk. No particular differences among cheeses were appreciated by the panellists.

## O113

### Vitamin D content in donkey milk: preliminary results

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Vitamin D is an essential nutrient that plays a crucial role in the calcium homeostasis and bone metabolism and also acts as an hormone. Humans synthesize most of their vitamin D requirement from sunlight. However, an oral intake of vitamin D may be an important source in winter, when the UV-B-related synthesis is limited and for people who may not be exposed to sunlight. However, only a few foodstuffs, mainly of animal origin, provide a considerable source of vitamin D thus limiting the possibility of fulfilling the requirements of this vitamin. Milk contains above all vitamin D<sub>3</sub> and D<sub>2</sub>. Although there are several studies on the content of vitamin D in bovine milk, there is little information regarding donkey milk. Therefore, the aims of this paper is to carry out a preliminary evaluation of the vitamin D content in donkey milk and to investigate its seasonal modifications. Raw bulk milk samples were collected for 10 months, every 15 days, from a dairy farm that produces donkey milk for human consumption. All the samples were analysed for chemical composition and vitamin D content by HPLC after extraction by the partially modified Silva et al (1992) method. Donkey milk showed a higher vitamin D content (2.31  $\mu\text{g}/100 \text{ ml} \pm 0.83$ ) compared to bovine and human milk. Vitamin D in donkey milk showed