

0WB *vs.* 20WB in 90L, 120R and 120L), whereas the 20WB diet reduced carcass yield of 120R lambs (52 *vs.* 56 %, $P \leq 0.01$). The simultaneous feed and energy restriction for 120R lambs fed 20WB diet resulted in the lowest performance. The fat deposition, as perirenal and pelvic fat and adipose tissue of hing leg, increased from 90L to 120R, and to 120L lambs, regardless of diet. The LD traits were affected by the production system, since 90L lambs showed higher water losses, and lower tenderness and red colour than older lambs. At triangle tests, the panellists perceived significantly the differences due to diet for 90L and 120R meat, and the effect of feeding level. Thus, increasing the slaughter age of dairy breed lambs from 90 to 120 d of age lead to the production of heavier carcasses with improvements in meat quality in terms of tenderness and reduced water losses, especially due to a higher but moderate fat content, also when lambs were exposed to a 75% restricted feeding.

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Variation of casein and fatty acids milk contents in Italian Browns Swiss cows

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The interest in functional foods has considerably enlarged and the development of products with particular features for the food market has been encouraged.

The aim of this study was to evaluate the variations of protein, casein, saturated (SFA), unsaturated (UFA), monounsaturated (MUFA) and polyunsaturated (PUFA) fatty acids contents in the milk of two groups of Italian Brown Swiss cows, either conventionally reared in indoor period of housing or consuming pasture during summer. Milk components were obtained from samples collected during the national routine (conventionally reared) and 'extraordinary' (mountain pasture period) milk recording scheme in 2008 and 2013 in herds located near Sondrio. Milk samples were processed with the MilkoScan™ FT6000 (Foss Electric, Hillerød, Denmark) for the identification of milk casein, SFA, UFA, MUFA and PUFA composition. The groups were analyzed separately per year and the environmental factors (pasture/indoor, parity, data of sampling, days in milk, days from col-

lection to analysis) affecting milk protein, casein, and fatty acids contents were included in the GLM and MIXED procedures of SAS 9.3. A total of 778 milk samples were available, including 234 records from indoor and 544 observations from pasture feeding. Pasture intake affected the content of casein (%) and the proportion of fat in milk (g/100g) through its direct effect on energy and protein intake, enhancing milk casein levels (from 2.90 to 3) and reducing the concentration of milk SFA in milk from grazing cows (from 2.32 to 1.88). This study has confirmed in a field study conducted in different locations and time, that in a low input grazing system the total production exhibits a higher true casein content and a minor amount of SFA in milk: pasture intake affects the proportions of fat and casein fractions in milk through their direct effect on energy intake. Additionally, as milk was transformed in cheese, the cheese yield was calculated as 'kg of cheese per 100 kg of milk' resulting to be 10.4 from cows reared indoor resulted 10.4, while this value increased to 12 from milk of pasture based diet cows. The farmers and breeders producing Bitto, "Similar Bitto", and "Latteria" cheeses may disclose to consumer the better nutritional properties of pasture milk (i.e. less SFA) respect to indoor milk to raise awareness of the quality of marketed productions. Acknowledgments: This study was funded by Regione Lombardia projects n705 (BruCa) n. 1328 (LattOmega).

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Food waste valorization: mango peels enhance *in vitro* rumen microbial fermentation

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Mango (*Mangifera indica* L., Anacardiaceae) by-products derived from fruit processing still contain bioactive phytochemicals that could be recovered to develop new functional feed additives or ingredient in ruminant nutrition. This research evaluated the effects of mango peels on rumen microbial fermentation (microbial growth, pH, NH₃-N and volatile fatty acid concentration) by an *in vitro* rumen batch incubator system. Mango peels were tested as raw material and their water, ethanol and heptane extracts and fermented products, at three different concentrations. The *in vitro* batch culture incubation system was carried out with rumen fluid withdrawn from three rumen-fistulated non-lactating dairy cows. The rumen fluid was added in anaerobic condition to a mineral salt buffer, mixed in a bottle warmed at 39°C and standardized at pH 6.8±0.1. One hundred millilitres of solution were placed in glass bottles supplied with a substrate for microbial growth (0.8 g/100 mL alfalfa hay and 0.2 g/100 mL corn meal). The bottles were purged with anaerobic grade N₂/CO₂