

The fatty acid profile of Halloumi cheese produced from ewe's milk fed with ensiled olive cake

Tzamaloukas, O. *, Papademas, P., Orford, M., Miltiadou D., Papachristoforou, C.

*presenter

The present study examined the effect on fat composition of Halloumi cheese made from ewe milk produced with a modified feeding regime (ensiled olive cake). Halloumi cheese was produced in a pilot plant in 4 batches; 2 batches served as a control (milk from ewes with a regular feeding regime, RF milk) and 2 batches served as the treatment (inclusion of 1000 g /day/ewe of olive cake silage). Care was taken to follow exactly the same cheese manufacturing procedure in order to alleviate any differences of treatment attributed to technological parameters. Cheese samples were collected as follows: (a) fresh (day 1), (b) kept in whey brine 12% NaCl (w/v) (semi-mature 15 days) and (c) mature (40 days). Samples from the 4 batches were analyzed for fatty acid content by applying a modified GC-MS method. Poly-unsaturated FA, was significantly increased in Halloumi cheese samples from OC milk (4.75 g/100g fat) compared to 3.92 g/100g of fat in control batches. Likewise, conjugated linoleic acid (18:2 9-cis , 11-trans) and vaccenic acid (18:1 trans-11) were present at higher concentrations in OC cheese batches compared to control cheese showing a two-fold increase. Moreover, maturation did not affect the concentration of fatty acids in Halloumi cheese. Overall, the inclusion of OC silage in ewe diets significantly increased beneficial for human health unsaturated FAs in ovine milk cheese, while keeping the main organoleptic characteristics of the cheese unaltered.