Conjugated Linoleic Acid in Foods of Animal Origin

Maria Govari
Agricultural University of Athens, Greece

Conjugated linoleic acid (CLA) refers to a generic term denoting a group of isomers of linoleic acid (C18:2, n-6) with a conjugated double bond.It has received much attention in recent years because of its interesting biological benefits. CLA presents important health effects such as thereduction of carcinogenesis, atherosclerosis, inflammation, obesity, diabetes, as well as growth promoting and bone formation-promoting properties.Most of the beneficial health effects have been attributed to the c9,t11 CLA and t10,c12-CLA isomers. Milk and dairy products are the richest natural sources of CLA. In cheeses the most important CLA isomers are c9, t11 (78-84%), t7, c9 and t8, c10 (8-13%). Cheeses made from sheep's milk have a higher CLA content than cheeses made from cow's or goat's milk. High-CLA milk, produced from animals whose diet includes feeds rich in CLA or grazing animals in meadows, yields cheeses with high CLA levels. Hard and semi-hard cheeses usually have a higher CLA content than soft cheeses. The levels of CLA in meat depend on many factors such asanimal species, diet, breeding conditions, time of year, etc. But the most important factor is the diet of the animals.Because grassland is rich in polyunsaturated fatty acids (PUFAs) as well as CLAs, especially in spring and autumn, grazing by ruminants results in increased CLA content in their meat. The ruminants' meat (cattle, sheep, goat) has higher levels of CLA compared to monogastric animals (pigs, rabbits) meat, due to microbial fermentation of fatty acids in the large abdomen of the ruminants. Also,differences in CLA concentration in meat have been observed between different muscles of the same animal, different breeds as well as between animals of the same breed. The concentration of CLA in meat is not affected during refrigerated storage or cooking.

margochem@gmail.com