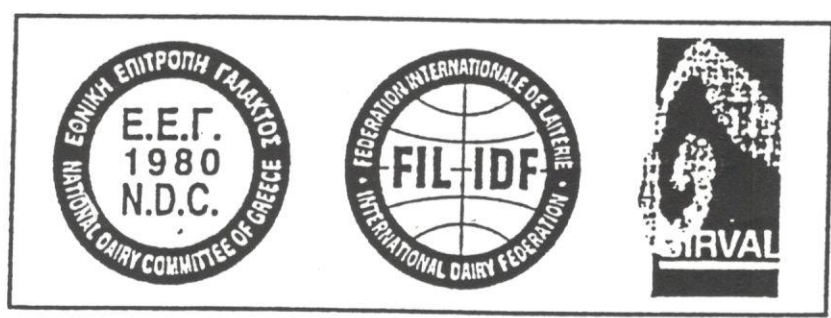


# PRODUCTION AND UTILIZATION OF EWE AND GOAT MILK



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## Lipolysis in typical ewe and goat cheeses from Southern Italy

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Cheese obtained from ewe milk and from mixtures of ewe and goat milk is generally found on the Italian market after a variable maturation time. Since cheese maturation is a complex process consisting of casein breakdown, lipolysis and other enzyme-catalysed reactions, the intensity and specificity of lipolysis during the maturation of ewe and goat milk cheeses was evaluated. Canestrato cheese was produced using ewe or goat milk with industrial rennet, and Fiore Sardo cheese with ewe milk and paste rennet. Fat from samples at different stages of maturation (0–3 months) was analysed by high resolution gas chromatography using a new direct method. Free fatty acids (FFA) were extracted from two samples of cheese, and the release of FFA was found to be more intense in the outer part of the cheese than in the centre. Caprine cheese showed a higher level of short-chain fatty acids than the corresponding ovine cheese samples obtained using the same technology. The increase of caprinic acid was the highest among the volatile FFA after 3 months of maturation. A more intense release of free fatty acids was found in Fiore Sardo than in Canestrato cheese. This finding was related to the paste rennet used in the production of Fiore Sardo cheese as it contained a potent lipolytic activity, probably a pre-gastric esterase, which afforded an intense release of short-chain fatty acids esterified at the *sn*-3 triacylglycerol position. This release of short- and medium-chain fatty acids was related to the characteristic piquant flavour of this hard cheese.