

Lipids from Micro Algae for Food Applications

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Algae are exponentially growing aquatic micro organisms that perform photosynthesis very efficiently. They can realize a much higher production per square meter than traditional agriculture plants and they are poor in structural polysaccharides and richer in proteins and lipids. Micro algae have a characteristic lipid composition, with fatty acids often differing from those in higher animal and vegetable organisms.

'Unusual' fatty acids that are potentially healthy to use as food ingredients (e.g. medium chain (C6-C12), very long chain (C20-C36), branched, hydroxyl, odd chain, ω -3 polyunsaturated and conjugated fatty acids) but currently having restricted availability, will be searched for in different micro algae. Therefore first the analytical procedure to extract the lipids from micro algae and determine their fatty acid composition was optimized. Different pretreatment procedures and solvent mixtures were tested, to extract the lipids. Care was taken not to change the algae lipid composition during extraction.