

#### عنوان مقاله:

Application of nanofiber cellulose (NFC) as stabilizer in low-fat food products

محل انتشار:

اولین کنفرانس بین المللی صمغ های بومی و کاربرد آن در صنعت غذا (سال: 1393)

تعداد صفحات اصل مقاله: 4

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#### خلاصه مقاله:

Over the past decades, the demands of low/reduced fat products have increased. Thus, to establish these products, it is necessary to apply fat replacers, such as cellulose derivatives to create the quality characteristics lost when fat reduced. For example, microcrystalline cellulose (MCC), produced by acid hydrolysis, is frequently used as viscosity adjuster and mouth feel enhancer. Indeed, MCC with formation of colloidal microparticles and three-dimensional matrix thereby the increasing of elasticity of continuous phase and prevention of creaming used as a stabilizer in low-fat emulsions. Decreasing particle size from micro to nano, increases the specific surface and number of chemical bonds and improve the uniformity. Two common types of nanocellulose morphology are nanocrystal and nanofiber. Nanofiber cellulose (NFC) is manufactured by mechanical shearing. Unlike MCC, NFC is comprised both amorphous and crystalline parts which forms a web-like structure. Because of downsizing cellulose to nanoscale, the surface to volume ratio of NFC increases and the surface hydroxyl groups participate in the formation of hydrogen bonds in the network; hence, more appropriate mechanical properties for NFC is achieved even in lower dosage. So, in comparison to MCC, NFC is theoretically a better thickener and stabilizer for low-fat systems

# کلمات کلیدی:

Nanofiber cellulose, low-fat foods, stabilizer, viscoelasticity

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