



УНИВЕРЗИТЕТ У НОВОМ САДУ
UNIVERSITY OF NOVI SAD

TOP ACHIEVEMENTS 2021

FACULTY OF TECHNOLOGY

Paper in a journal - M21a: The possible application of edible pumpkin oil cake film as pouches for flaxseed oil protection

(<https://doi.org/10.1016/j.foodchem.2021.131197>)

Journal Food Chemistry

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Lipid oxidation in fatty food products presents serious challenge, significantly limiting their shelf-life. One of the possible approaches to deal with it is use of high-barrier or active packaging. Oxidation affects the formation of potentially toxic aldehydes through the degradation of polyunsaturated fatty acids, reducing the nutritive value of food, and leads to significant changes in sensory properties. For fatty food products packing, biopolymer packaging materials may provide good alternative to plastic, due to competitive barrier properties to gases, their natural origin and biodegradability. In this paper, composite pumpkin oil cake (PuOC) and duplex pumpkin oil cake/maize zein films (PuOC/MZ) were prepared. Potential protective effects PuOC-based pouches were tested for packing fatty food products, and flaxseed oil was used as a model food system. Results showed that PuOC-based films ensure good oxidative stability and less satisfactory sensory quality of oil, without significance changes in oil composition.

