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Effect of rapeseed meal extract on storage stability of fried potato snacks

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The aim of the study was to determine the effect of polyphenols extracted from rapeseed meal added to pellets on quality of fried potato snacks during three months of storage. The material used for investigation were potato snacks obtained from pellets with 50 ppm and 100 ppm addition of polyphenol extracts as well as without any supplementation. Snacks were obtained by frying pellets in rapeseed oil heated to 180^{o}C. Ready snacks packed in aluminium foil were stored for three months under standard conditions. In fresh and after each month of storage, the samples were analysed for moisture, fat content, colour and texture (instrumentally) as well as for organoleptic properties. Fat extracts were made subject to the following assays: acid, peroxide and anisidine values and fatty acid composition. Additionally in snacks were monitored polyphenols content and antioxidant activity (by ABTS).

It has been stated that addition of polyphenols extract to pellets influenced properties of fried snacks during storage. Independently on pellets supplementation the moisture content of all snacks increased and texture hardened with longer storage time. The colour of snacks lightened during storage, while the bigger changes were observed in snacks without any supplementation. Hydrolytic changes exhibited the same model for all analysed snacks. Better oxidative stability exhibited potato snacks with polyphenols extract in pellets used for snacks frying. The lowest TOTOX value after three months of storage was detected in the samples with 50 ppm addition of polyphenol extract. Storage deteriorated the organoleptic properties of all snacks; only those obtained with pellets with highest supplementation with polyphenol extract exhibited good quality at the end of the process. The polyphenols content as well as antioxidant activity in snacks with polyphenol extract addition decreased during storage and was correlated with oxidative stability.