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Antioxidant efficacy of potato peels and sugar beet pulp extracts in vegetable oils protection (2010)
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Abstract

The antioxidant properties of potato peels and sugar beet pulp, in comparison with synthetic antioxidant, were investigated. The bioactive materials were extracted with methanol and examined for their antioxidant activity under accelerated oxidation conditions, using sunflower and soybean oils as oxidation substrates at different concentrations for 72 h at 70 ^{o} C.

Inverse relationships were noted between peroxide values and oxidative stabilities and also between secondary oxidation products, measured by *p*-anisidine value and stabilities at termination of the storage. Absorptivity at 232 nm and 270 nm increased gradually with the increase in time, due to the formation of conjugated dienes and polyenes. The order of oxidative stability was as follow: TBHQ > potato peels > BHT = sugar beet pulp > BHA. The predominant phenolic compounds identified by thin-layer chromatography in potato peels and sugar beet pulp were chlorogenic and gallic acids.

The results of different antioxidant parameters demonstrated that potato peels and sugar beet pulp are potent sources of natural antioxidants that might be explored to prevent oxidation of vegetable oils