



COATING MATERIALS AS A POTENTIAL PRE-TREATMENTS FOR REDUCING OIL UPTAKE OF FRIED POTATO CHIPS

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Abstract

Different concentrations of carboxymethyl cellulose (CMC), xanthan gum (XG) and soya protein isolate (SPI) were used as coating materials for potato chips before subjected to frying process. The effect of these coating materials on oil uptake%, moisture loss%, sensory attributes of fried potato chips were investigated and results revealed that, they were efficient and their efficiency were increased with the increment in their concentrations and using 1% CMC and 1% XG as coating materials reduced the oil uptake of fried potato chips from 35.88 to 23.25 and 25.00%, respectively compared with the un-coated potato chips and those coated with 5% SPI; 35.88 and 30.92%, respectively and gave a reduction rate of oil uptake 35.20 and 30.32%, respectively. Also coating with 1% CMC improved the sensory attributes of fried potato chips and gave a high overall acceptability compared with the other coating materials and control sample. The best performance of coating pre-treatment materials were selected and applied for frying experiment for 6 hr daily for 4 consecutive days at $180 \pm 5^\circ\text{C}$ and their effect on physical and chemical properties of oils used for frying process were monitored and results revealed that, using 5% SPI, 1% XG and 1% CMC as coating materials had a different effect during frying process; while using 5% SPI had a sever effect on physical and chemical properties of oil used for frying, 1% XG had a moderate effect and 1% CMC had a slight effect.
