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Use of Fish Gelatin Based-Films as Edible Pouch to Extend the Shelf-Life of Dried Chicken Powder and Chicken Oil

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Abstract : Edible pouches made from fish gelatin film incorporated without and with palm oil (PO), basil essential oil (BEO) or oil mixture (M) were prepared and used to store chicken powder and chicken skin oil in comparison with nylon/low-density polyethylene (Nylon/LDPE) pouch during storage of 15 days. The moisture content of chicken powder packaged in pouches from fish gelatin films incorporated without and with various oils increased during 15 days of storage ($p > 0.05$). However, there was a non-significant change in moisture content of sample packaged in Nylon/LDPE pouch ($p > 0.05$). Samples packaged in pouches from fish gelatin films incorporated with oils had lower moisture content than those stored in pouch from gelatin film without oil added throughout the storage ($p < 0.05$). This coincided with the higher increases in darkness and yellowness for the latter. All samples packaged in pouches made from all films had the slight increase in PV, whereas a drastic increase in TBARS was observed for all samples during 15 days of storage. During 15 days of storage, chicken skin oil packaged in Nylon/LDPE pouch had higher TBARS and p-anisidine value than those stored in pouches made from fish gelatin, regardless of oil incorporated ($p< 0.05$). Therefore, pouches from gelatin film incorporated with oils could lower water migration and lipid oxidation in fat containing foods and oils.

Keywords : edible pouch, fish gelatin, quality changes, storage stability
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