

Antioxidant effect of an innovative active plastic film containing olive leaves extract on fresh pork meat and its evaluation by Raman spectroscopy

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Description

An antioxidant food packaging material was developed and applied to fresh minced pork meat. The material consists of a multilayer polyethylene film in which 4 different concentrations (2%, 5%, 10%, and 15%) of olive leaves (OL) extract were immobilized in an adhesive formula used to build the multilayer. The antioxidants were not in direct contact with the meat. The packaged meat was kept at 4 °C during 16 days and finally analyzed by two methods: Raman spectroscopy and thiobarbituric acid reactive substances (TBARS). Raman demonstrated a higher sensitivity for antioxidant evaluation than TBARS. Color of fresh meat packaged with the active film was also measured to evaluate the shelf life of packaged meat. The results showed that active film containing natural antioxidants efficiently enhanced the stability of fresh meat against oxidation processes, thus being a promising way to extend the shelf life of ...