

EFFECT OF DIFFERENT TYPES OF PACKAGING ON THE QUALITY OF MINCED PORK MEAT WITH BIOACTIVE COMPONENTS AND LACTIC ACID

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Abstract. The hurdle technology, which consists of combining different preservative techniques is an alternative way of preventing growth of spoilage microorganisms while keeping a high quality of flavor. The objective of the study was to enhance the quality of fresh minced pork meat with mixture of lactic acid (LA), natural antioxidant dihydroquercetin (DHQ) from Siberian larch (*Larix sibirica Ledeb*) and essential oil (EO) extract of thymol (TH), using combinations of different packaging (vacuum (VP), modified atmosphere (MAP) and aerobic packaging (AP)). In the course of the study the aerobic colony count (ACC), *Escherichia coli*, yeast and mold counts and formation of biogenic amines (BA) during 9 days of storage at +4 °C temperature were observed. VP and MAP effectively inhibited ACC, yeast and mold counts and level of BA in minced pork meat ($P<0.05$) during 9 days of storage at +4 °C temperature. LA and its mixtures with DHQ and TH statistically significantly reduced the ACC, *E. coli* count, total amount of BA and meat pH (in all cases $P<0.05$) in comparison with control samples in VP. In general, results suggest that adding a combination of all three additives resulted in a product with a distinctly longer shelf life in VP. These results could arise as an interesting approach for the improvement of food preservation using more natural procedures, considering the current demand of consumer and sensory quality of foods.

Keywords: pork, modified atmosphere packaging, dihydroquercetin, thymol, lactic acid, microorganisms