

Title Role of biogenic amines as index of freshness in beef meat packed with different biopolymeric materials

Author Fernanda Galgano, Fabio Favati, Malvina Bonadio, Vitina Lorusso and Patrizia Romano

Citation Food Research International, Volume 42, Issue 8, October 2009, Pages 1147-1152

Keywords Biogenic amines; Biopolymers; Cadaverine; Fresh beef meat; Packaging; Shelf-life; Tyramine

Abstract

The main objectives of this work were to evaluate the chemical and microbiological fresh beef meat quality packed in aerobic atmosphere with biopolymers, to investigate the possible role of biogenic amines (BAs) as indicators of spoilage in fresh beef meat stored at 4 °C for 8 days. The results of this research highlighted that for fresh meat packaging it could be possible to replace the PS tray/PVC film system, with an expanded PLA biopolymeric tray heat-sealed with a biopolymeric film, characterized by a negligible environmental impact in comparison with the use of synthetic plastic materials. The storage time differentiated the meat samples on the basis of pH and microbiological characteristics. With regard to BAs, tyramine and cadaverine resulted strongly influenced by the storage time, and to a less extent putrescine and spermidine. Tyramine and cadaverine could be used as spoilage indexes of fresh beef meat chilled and packed in aerobic atmosphere with biopolymers.