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Studies of biogenic amines in Mexican green sausage "Chorizo verde"

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Green sausage "Chorizo verde" is a popular semi-fermented meat product in Mexico, made with pork meat and different fresh green vegetables; among them chili is the most typical spicy in Mexico. The conservation of this product is usually at room temperature; however in this storage conditions should be taking into account the microbial growth and the production of biogenic amines (BA) which could be potentially implicate in toxicological process. The BA is formed by the decarboxylation of specific free amino acid for decarboxylase enzymes mainly from microbiological origin. The aim of this study was to determine the levels of BA and microbial growth in green sausage at two storage temperatures (4 and 20ºC).Histamine, putrescine, agmatine, spermidine and spermine were the BA initially identified in the raw material of sausages. The final products present levels of lactic acid bacteria (LAB) higher than 8 log cfu/g and < 3 log cfu/g of Enterobacteriaceae after ripening process (48 h, 20°C, 50% RH). The products presented a significant increase in the levels of tyramine, and lower increase in histamine and putrescine. Levels associated with microorganism mainly LAB, because the levels of Enterobacteriaceae presented a decrease. After 4 days of conservation levels tyramine were higher in lots stored at 20°C, these levels also increase at the 10 days of storage. However, the samples keep at 4ºC the levels of BA keep almost constant until the end of storage. Therefore it is important to storage this products under refrigeration to ensure their quality and safety.

Biography

Diana Ramirez Munoz studied Biology at the Universidad Juarez del Estado de Durango. She finished her master's degree in Biochemical Engineering with specialization in Food at the Universidad Autónoma de Coahuila, Mexico. Currently she is completing her master's research project at the Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN-CSIC) in the field of Food Technology.

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