

TITLE: DIFFERENT PACKAGES FOR MEAT PRODUCTS AND BACTERIAL PROLIFERATION.

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Bovine meat is composed basically of water and proteins, and, due to its chemical characterization, represents a culture medium favorable to the development of microorganisms. In the south of Brazil, bovine meat is valued for consumption, since the barbecue is a typical dish of the region. Different packages are used to preserve quality and protect the meat product. In butchers, polyethylene plastic bags are used to pack the fractionated products, but their high permeability to oxygen does not confer security to store meats. In supermarket shelves, meat products are found in polystyrene trays sealed with polyvinyl chloride (PVC) film, which can store the product under refrigeration in a short period of time because they are permeable and allow gas exchange, and also the vacuum packaging, that creates a barrier of contact of the meat product with the oxygen, extending the useful life of the product. The objective of this study was to evaluate the different types of packages used for meat products and bacterial proliferation. Monthly from June 2017 to August 2018, three meat samples weighing $\pm 300\text{g}$ were acquired in polyethylene plastic bags, polystyrene trays sealed with PVC film and vacuum. Were weighed $25 \pm 0.2\text{ g}$ from the inside of the samples and added in 225 mL of 0.1% saline. They were homogenized for 18h/15°C and dilutions of 10^{-1} to 10^{-5} in peptonated water were performed. Aliquots of each dilution were added to plates containing media culture. The plates were incubated at 35°C/24h. Isolated colonies that presented different morphological characteristics were selected and submitted to the staining technique of Gram for confirmation the bacteriological groups belonging. A total of 252 microorganisms were isolated from 45 packages, the samples in vacuum (n=56), polystyrene tray samples sealed with PVC (n=92) and samples packed in polyethylene bags (n=104). Among the groups of isolated, *Enterobacteriaceae* (78%) were predominant, followed by Gram-positive cocci (13%). Meat in vacuum packages showed a lower proliferation of microorganisms when compared to meats packed in plastic bags and trays sealed with PVC film, suggesting that this packaging is more effective to protect the meat product from the action of undesirable microorganisms, by suffering less manipulation and to prevent contact with the oxygen. It will be necessary to carry out identification tests to verify the presence or absence of pathogenic and / or deteriorating micro-organisms.

Keywords: bovine meat, packages, *Enterobacteriaceae*, microorganisms.

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