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**Use of chitosan-based edible coating for extending shelf life of vacuum-packaged beef**

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Traditional packaging for meat provides short shelf life and undesirable modifications in its physicochemical characteristics and microbiological quality. The use of edible coatings is an alternative for extending the shelf life of meat. In this experiment we studied the effect of use of a chitosan-based edible coating in the physicochemical characteristics and microbiological quality of vacuum packaged beef. Nine different formulations of chitosan coating were tested, varying concentration of glycerol (0.50;1.00;1.5 %), tween 80 (0.00; 0.10; 0.20 %) and chitosan (1.00;1.50; 2.00 %) and the most suitable formulation was chosen according to its spreadability. Steaks of 2.5 cm from *longissimus* muscle obtained commercially were then coated with the best formulation, a 1% chitosan and 0.5 % m/V glicerol solution with 1% (V/V) lactic acid. The samples were vacuum packaged and stored at 0±1°C and analyzed every 7 days during 3 weeks by the following analyses: pH, color, lipid oxidation (TBARS) and microbiological analyses (*Enterobacteriaceae*, lactic acid bacteria and psicrotrophic bacteria). For pH, values were stable (5.42) during the 3 weeks. Hue and chroma values showed a more stable colour for vacuum packaged and chitosan coated beef. TBARS values did not differ significantly for the treatments and time. Regarding to microbiological quality, chitosan coated beef showed a good stability, where growing of *Enterobacteriaceae* was delayed and lactic acid bacteria showed the same behavior. Psicrotrophic bacteria were inhibited in the first week in the chitosan coated beef treatments. The developed chitosan based edible coating was suitable for extending shelf life of vacuum packaged beef.

Keywords: chitosan, beef, vacuum packaging, edible coating