

Título: VIABILITY OF *Lactobacillus casei* IN MILK BEVERAGES COMPOSED OF WHEY AND FRUIT NECTAR, ADDED OF DIFFERENT STABILIZERS

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Resumo:

Whey is a by-product of the dairy industry of high nutritional value, which is often discarded as waste for lack of alternatives to their use. The aim of this work was to develop a probiotic milk beverage composed of whey and fruit nectar, added of different stabilizers and evaluate the viability of *Lactobacillus casei* during refrigerated storage. Were produced four drinks: 1) control; 2) added of xanthan gum (0.3% p/v); 3) added of carboxymethyl cellulose (0.3% p/v) and 4) added of xanthan gum (0.15% p/v) and carboxymethyl cellulose (0.15% p/v) in association. All milk beverages contain the *Lactobacillus casei* in its composition (2% v/v). The milk beverages were made with powder whey reconstituted at 7% solids and passion fruit nectar (50:50). After the addition of stabilizers and probiotic microorganism, beverages were bottled under hygienic conditions in high-density plastic bottles and stored at 7°C until analysis. The pH, stability of the beverages and the *L. casei* count were analyzed on the day of manufacture and after 7, 15 and 30 days of refrigerated storage. The results were evaluated by analysis of variance and Tukey's test at 5% significance. The pH of beverage with carboxymethyl cellulose was significantly higher during the whole period of storage, probably due to the presence of ionized carboxylic groups with negative charges in its structure. The count of *L. casei* in inoculum used for production of beverages was 2.4×10^7 cfu/mL. The storage time did not influence the count of *L. casei*, remaining about 10^5 - 10^6 cfu/mL for all samples. Considering the recommended daily portion of 100 mL, *L. casei* count was about 10^7 - 10^8 cfu/mL, and can be classified as a probiotic beverage in accordance with the legislation. As for stability, control and carboxymethyl cellulose added beverages presented phase separation after 7 days of storage. The beverages added of xanthan gum and carboxymethyl cellulose and xanthan gum associated were stable during the 30 days of storage. However, the drink with xanthan gum and carboxymethyl cellulose associated presented better viscosity, more characteristic of beverages. In this way, the probiotic milk beverage composed of whey and passion fruit nectar is a feasible way of reuse of the whey, besides presenting the health benefits by the presence and maintenance of *L. casei* during storage time.

Palavras-chave: carboxymethyl cellulose, probiotic, whey, xanthan gum