DEVELOPMENT OF A STARTER CULTURE FOR PRODUCTION OF KEFIR

R.P. Carneiro*1, T.S. Costa3, S.M. Crispim3, R.M. Cadete3, L.H.E.S. Laboissière2, J.R. Nicoli3 and E.S. Oliveira*1

1Laboratório de Microbiologia Industrial e Biocatálise, Departamento de Alimentos, Faculdade de Farmácia, UFMG, Avenida Antônio Carlos 6627, 31270-901, Belo Horizonte, MG, Brasil.
2Laboratório de Análise Sensorial e Estudos de Consumidor (LASEC), Departamento de Alimentos, UFMG, Brasil
3Departamento de Microbiologia, Instituto de Ciências Biológicas, UFMG, Brasil
*Author for correspondence – rapucar@yahoo.com.br, evelynsolopes@yahoo.com.br

Kefir is a fermented effervescent milk with sweet sour taste and low alcohol content, resulted from the metabolic activity of microorganisms present in kefir grains. The traditional methods of obtaining kefir, results in a production with irregular characteristics. The aim of this study was to isolate and identify microorganisms in kefir grains to be used as a starter culture in the production of kefir in order to obtain a product with standardized characteristics. The lactic acid bacteria (LAB) isolated was identified using the API 50 CHL kit and the results were confirmed with molecular identification by amplified ribosomal DNA and Restriction Analysis (ARDRA) and DNA sequencing. The yeasts were identified by DNA sequencing. After, the starter culture was selected to be applied in the Kefir production. The samples of kefir prepared with grain and with the starter culture were submitted to acceptability. Attributes of aroma, effervescence, acidity, texture and overall impression and also purchase intent were evaluated. The data were analyzed by Analysis of Variance (ANOVA), average tests (Tukey) and Frequency Analysis Distribution. The results revealed that the kefir produced from the starter culture showed significantly higher acceptability (p ≤ 0.05). The kefir prepared from grains received the lowest percentage of positive purchase intent (30%), and also the least acceptable in relation to the effervescency, consistency and overall impression. This results suggest that not only kefir formulation prepared from starter culture was more accepted by consumers, but also shows more positive sensory characteristics than the kefir obtained from grains.