Viability of *Lactobacillus paracaseii* in fermented probiotic beverage based on Echium Amoenum extract

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Abstract:

Echium Amoenum Fisch. & May. is known as medicinal plant traditionally in Persia since long time ago. The flowers of this plant have been used as demulcent, anti inflammatory, tonic, diaphoretic, analgesic, cough and sore throats remedy and antipneumonia in Iran’s traditional medicine. In this study the suitability of Echium amoenum extract as a raw material for production of probiotic Echium extract by probiotic lactic acid bacteria (*Lactobacillus paracaseii* DSM 20006) was investigated. Echium extract was prepared (6% w/v from petal’s powders), inoculated with *lactobacillus paracaseii* and incubated at 30°c for 24 hours. Changes in pH, acidity and viable cell counts were monitored during the fermentation process. *L.paracaseii* grew well in echium extract and reached to almost 10.1*10^8* CFU/mL at the end of fermentation process. The pH changed from 6.54 for non fermented extract to 3.95 and the titratable acidity reached to 220.77 mg/100 at the end of process. After 2 weeks of cold storage at 4°C the viable cell count of *L.paracaseii* was 1.5*10^7 which is still upper than the defined limit for probiotic non dairy products (1*10^7). Therefore fermented echium extract could serve as a probiotic functional beverage.

Keywords: Echium amoenum, probiotic, lactic fermentation, *Lactobacillus paracaseii*