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Interactive 360° video

Interactive 360° video to "Survival of microencapsulated *Lactobacillus casei* (prepared by vibration technology) in fruit juice during cold storage"

Araceli Olivares [a,*], Carmen Soto [a], Eduardo Caballero [a], Claudia Altamirano [a,b]

[a] Centro Regional de Estudios en Alimentos Saludables, Av. Universidad 330, Placilla, Sector Curauma, Valparaíso, Chile
[b] Escuela de Ingeniería Bioquímica, Facultad de Ingeniería, Pontificia Universidad Católica de Valparaíso, Av. Brasil 2085, Valparaíso, Chile

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ABSTRACT

Background: Foods including probiotics are considered "functional foods." As an alternative to dairy products, we investigated the behavior of *Lactobacillus casei* when exposed to low-pH fruit juice. Juices of fruits such as pineapple, raspberry, and orange were assessed. Free and microencapsulated forms of *L. casei* were compared, and the viability of the probiotic was evaluated under storage at 4°C for 28 d. Microbiological analyses were carried out to ensure a safe and healthy product for consumers who look for foods with probiotics from sources other than dairy.

Results: Low pH affected *L. casei* survival during storage depending on the type of fruit juice. In the case of pineapple juice, some microcapsules were broken, but microcapsules recovered at the end of the storage period had 100% viability (2.3×10^7 CFU/g spheres). In the case of orange juice, more than 91% viability (5.5×10^6 CFU/g spheres) was found. In raspberry juice, viability decreased rapidly, disappearing at the end of the storage period, which was caused by the absorption of high concentrations of anthocyanin inside microcapsules more than low pH.

Conclusions: Low pH affected the survival of *L. casei* under refrigeration; even when they were microencapsulated, acidic conditions impacted their viability. Although pH affects viability, its value is very sensitive and will depend on the type of fruit juice and its composition. Some fruit juices contain compounds used as substrates for Lactobacillus and other compounds with antimicrobial effects.

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* Corresponding author.
E-mail address: araceliolivares@creas.cl (A. Olivares).

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Interactive 360° video

To view this interactive 360 degree video, supplementary to the materials and methods section, please visit this URL http://ejbiotechnology.info/public/360view/2022/VTPCREAS_2V7/INDEX.HTML.

To view the video correctly, it is necessary to scroll through the screen to navigate across the laboratory where you will find 6 interactive points. For an immersive experience a head-mounted display can be used.