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## **EFFECTS OF ENCAPSULATION ON THE VIABILITY OF PROBIOTIC STRAINS EXPOSED TO LETHAL CONDITIONS**

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The effect of microencapsulation in an alginate matrix on the viability of several potential probiotic strains (*Lactobacillus paracasei* LAFTI® L26, *L. acidophilus* Ki and *Bifidobacterium animalis* BB-12®), in the presence and absence of L-cysteine, during the exposure to lethal conditions of temperature (55 °C for *L. acidophilus* Ki and 60 °C for *L. paracasei* and *B. animalis* BB-12®, during 60 min), pH (3.0 during 6h) and salt (25% during 24h), was evaluated. The microcapsules were prepared via extrusion by aerodynamically-assisted flow. The effect of the disintegration of the microcapsules by mixing with sodium citrate in the enumeration of survivors was also evaluated. The lethal treatments were performed in whey protein concentrate medium and the survivors were enumerated accordingly. In general, the microencapsulated cells were more sensitive to the lethal conditions. The addition of L-cysteine to growth medium did not increase the viability of the tested strains except for *B. animalis* BB-12®. Furthermore, the disintegration in sodium citrate did not affect the viability. The survival of the probiotic strains was dependent on the lethal stress being imposed and planktonic cells were more resistant to the tested lethal conditions. Encapsulation of these probiotic bacteria did not improve their survival through lethal conditions.

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