

**Title: Probiotic protein filling elaboration:** *Lactobacillus acidophilus* LA-5 and *Bifidobacterium animalis* subsp. *lactis* BB-12 viability upon different honey concentrations

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**Abstract:**

Concern for the health and wellbeing is growing in food industry. Thus, functional foods elaboration is necessary. Probiotics, functional components example, are live microorganisms that if administrated in adequate quantities can provide health benefits to the host. *Lactobacillus acidophilus* LA-5 and *Bifidobacterium animalis* subsp. *lactis* BB-12 are proven probiotics, safe for consumption and with health benefits vastly researched. Honey addition to a probiotic food may enhance microorganisms viability since is composed by fermentable oligo- and monosaccharides. Whey protein and green banana flour addition can provide similar effects and other health benefits. Therefore the objective of this study was the proteic probiotic filling elaboration containing two probiotic strains and other components that may enhance its viability. Thereunto, triplicate formulations with three different concentrations of honey was elaborate (R1 – 13.42%, R2 – 6.71%, R3 – 0%) all added with LA-5 and BB-12 probiotics strains. Thereby textural and physicochemical parameters in triplicate and probiotic viability in duplicate was analysed weekly during 21 days of refrigerated storage. Whey protein addition to the filling resulted in a proteic food source as regulated by Brazilian legislation. Thus, the proteic filling was verified as a good food matrix for the placement of probiotic microorganisms since both strains was within the stipulated limits for probiotic food presenting populations of 6.88, 7.02 and 7.38 log CFU/g of LA-5 strain for R1, R2 and R3 formulations, respectively at the storage period end. The BB-12 strain had higher population scores with 8.04, 8.26 and 8.24 log CFU/g for R1, R2 and R3 formulations in the same period. With this study it was possible to conclude that honey addition did not enhance probiotics strain, although BB-12 strain presented higher adaptability to the filling matrix. Thus, honey addition affected final product hardness without affecting physicochemical characteristics that showed average values of 0.35 titratable acidity and 5.9 pH.

**Key-words:** Functional food. Whey protein concentrate. Green banana flour. Lacteal matrices.

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