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Survival of *Lactobacillus* on gastrointestinal tract in rats fed with normal and high cholesterol diet: Dose-response effect of *L. casei* strain Shirota

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Probiotics are living organisms that when administered in adequate amounts are beneficial to the hosts. Aiming at evaluating their effect on the intestinal microbiota, a 28-days study was conducted with 64 male Wistar rats in two dietary conditions - the standard rodent diet AIN-93M and a cholesterol and fat enriched diet. The animals were divided in four groups of eight individuals for each dietary condition. From the 14th to the 28th day, each group received 1ml of a solution with different concentrations of *L. casei* Shirota strain daily: no bacteria (only saline), 104, 106 and 108 CFU. The results showed that the effect of dose was not significant (P>0.05) with regard to weight gain, consumption and food efficiency ratio (FER) of the rats fed with the different diets. However, there was a significant (P<0.01) dose-response effect in Lactobacillus recovery in the stool, showing that, regardless of the kind of diet, the intake of increasing doses of *L. casei* spp. is related to an increase of this probiotic in the animals' gastrointestinal tract. On the other hand, the bacterial recovery was higher in the animals receiving the standard diet (P<0.01) than the recovery in the animals receiving the hypercholesterolemic diet. There was an interaction between diet composition and microbiota.

Biography

Ferlando Lima Santos is Doctorate in Food Science and Technology by the Federal University of Vicosa. He is Professor at the Center for Health Sciences of UFRB and has received the Individual Research Fellowship Productivity and Innovative Extension grant by CNPq. He is Coordinator of the UFRB Nucleus for Technological Innovation, of the CCS Probiotics Laboratory and of the project Kefir of the Recôncavo. He is the head of the research group: Bioproducts and processes applied to human nutrition BIONUTRI, registered with CNPq; Member of the editorial committee of several Brazilian journals.

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