

## **In Vivo Evaluation of Prebiotic and Synbiotic Properties of Processed Sweet Potato Products**

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### **Abstract**

The aims of this research were to investigate the prebiotic and synbiotic properties of sweet potato products (combined with *L. casei* subsp *Rhamnosus* for probiotic) in increasing the number of Lactic Acid Bacteria (LAB) and suppressing the number of *E. coli* and the occurrence of *Salmonella* in vivo. Some previous study showed that sweet potato is a potent source of prebiotic. The sweet potato products evaluated were sweet potato flakes (SPF) and sweet potato ice cream mix. The in vivo assay used male rat strain Sprague-Dawley. Total microbes, LAB, *E. coli* and *Salmonella* in fecal were analyzed before, during and after feeding period. Feeding with SPF as prebiotic, *L. casei* subsp *Rhamnosus* as probiotic, and combination of both as synbiotic for ten days were able to increase the number of LAB (0.4-1.1 log CFU/g) and suppress the number of *E. coli* in rat feces (1.5-1.7 log CFU/g). All of the treatment did not affect the occurrence of *Salmonella* in rat feces. The treatment of sweet potato ice cream mix as prebiotics and the combination of sweet potato ice cream mix and *L. casei* subsp. *Rhamnosus* as synbiotic for ten days did not effect the number of LAB and *E. coli* in rat feces.

Key words: sweet potato, prebiotic, oligosaccharide, probiotic, synbiotic