ABSTRACT

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THE EFFECTS OF CONSUMING BANANA VAR. TANDUK, ULI, RAJA SEREH, AND CAVENDISH (Musa sp.) WHICH CONTAIN PREBIOTIC ON Lactobacillus, Enterobacteriaceae, AND PH OF THE DIGESTIVE TRACT OF BALB/C MICE

Prebiotic can be fermented selectively by probiotic saccharolytic bacteria such as Lactobacillus. Banana is one of the main source of prebiotic in diet, such as inulin, FOS, and resistant starch. However, information regarding the in vivo prebiotic activity of Indonesian Banana varieties is very limited. This research is aimed to analyze the effects of consuming banana var. Tanduk (PT), Uli (PU), Raja Sereh (PRS), and Cavendish (PC) on Body Weight (BW), pH value, Lactobacillus, and Enterobacteriaceae of the digestive tract of Balb/c mice. Balb/c mice were given 0.015 gr inulin/ Body Weight (BW)/ day or banana whose dry matter was 0.15 gr/ BW/ day by ad libitum method for 50 days. BW of inulin and banana groups were found to be lower than control group. PU, PRS, and PC groups had a higher count of fecal Lactobacillus than control while inulin and all banana groups had a lower count of fecal Enterobacteriaceae than control on D40. pH value of cecum, proximal, and distal colon of inulin and all banana groups were also lower than control. Inulin group had a highest count of cecal Lactobacillus than control and banana groups. Meanwhile, PU and PT groups had the highest count of Lactobacillus in proximal and distal colon, respectively. PU and PRS groups had fewer Enterobacteriaceae counts than control, inulin, PT, and PC groups. Therefore, consumption of inulin, PT, PU, PRS, and PC as sources of prebiotics had been proven to be able to promote the growth and activity of Lactobacillus and inhibit the growth of Enterobacteriaceae.

Keywords: Prebiotic, Banana, Lactobacillus, Enterobacteriaceae, Digestive Tract

References: 140 (1934-2014)