

甘薯添加對益生菌酸酪乳理化學特性之影響

黃珮琪¹ 彭美常² 洪連儂^{2*}

¹新東陽股份有限公司

²東海大學畜產與生物科技學系

(收件日期：101年6月15日；接受日期：101年7月12日)

摘要

本試驗主要探討甘薯添加對益生菌酸酪乳理化性質之影響。將保加利亞桿菌 *Lactobacillus bulgaricus* BCRC 14009 (LB) 與嗜熱乳鏈球菌 *Streptococcus thermophilus* BCRC 12257 (ST) 分別與四株雙叉乳桿菌 *Bifidobacterium bifidum* BCRC 14146 (B1)、*Bifidobacterium longum* BCRC 14602 (B2)、*Bifidobacterium bifidum* BCRC 14670 (B3) 與 *Bifidobacterium catenulatum* BCRC14667 (B4) 各接種至含0、10、15與20%甘薯泥之脫脂乳中發酵製作益生菌酸酪乳 (LSB1、LSB2、LSB3及LSB4)，並於貯存第0、7、14、21與28天測定益生菌酸酪乳理化學性質與活菌數之變化，另以感官品評評估甘薯益生菌酸酪乳之接受度。結果顯示，甘薯添加可顯著縮短酸酪乳發酵時間60–120分鐘以上；且隨甘薯添加量增加，乳清析出量會隨之降低，以含15與20%甘薯泥之益生菌酸酪乳最顯著 ($P < 0.05$)；甘薯添加能提高益生菌酸酪乳貯存初期之活菌數，經貯存28天後仍維持6 Log cfu/g 以上。感官品評以含15與20%甘薯泥之益生菌酸酪乳接受度較佳。綜上所述，甘薯能縮短益生菌酸酪乳製作時間及改善酸酪乳理化學性質，並賦予酸酪乳新風味。

關鍵詞：理化學性質、益生菌酸酪乳、甘薯

*通訊作者：lien@thu.edu.tw

Effect of Sweet Potato on Physiochemical Properties of Probiotic Yoghurt

Pei-Chi Huang¹, Mei-Chang Peng,² and Lien-Tsung Hung^{2*}

¹Hsin-Tung Yang CO., LTD

²Department of Animal Science and Biotechnology, Tunghai University, Taichung, Taiwan

(Date Received: June 15, 2012; Date Accepted: July 12, 2012)

Abstract

The experiment aimed to discuss effects of sweet potato addition on physiochemical properties of probiotic yoghurt. *Lactobacillus bulgaricus* BCRC 14009 (LB), *Streptococcus thermophilus* BCRC 14146 (ST), and four bifidobacteria (*Bifidobacterium bifidum* BCRC 14146 (B1), *Bifidobacterium longum* BCRC 14602 (B2), *Bifidobacterium bifidum* BCRC 14670 (B3), and *Bifidobacterium catenulatum* BCRC14667 (B4)) were inoculated in 0, 10, 15, and 20% sweet potato paste milk respectively to ferment four probiotic yoghurts (LSB1, LSB2, LSB3, and LSB4). Then, physiochemical properties and bacterial viable counts were analyzed during 0, 7, 14, 21 and 28 days of storage at 4°C. Sensory evaluation of probiotic yoghurt that contained sweet potato was analyzed to compare acceptability among different sweet potato levels. The result showed that addition of sweet potato in yoghurt could decrease fermentation time about 60 - 120 minutes significantly, and decrease syneresis significantly ($p < 0.05$), especially for 15% and 20%. Addition of sweet potato in yoghurt could increase bacterial viable counts of probiotic yoghurt in 0 day, and maintained bacterial viable counts 6 Log cfu/g up after 28 days of storage at 4°C. Yoghurt contained 15% and 20% sweet potato had greater acceptability in sensory evaluation. In conclusion, sweet potato can increase the growth activity of starters and decrease fermentation time; it also can improve physiochemical of probiotic yoghurt and create new yoghurt flavor.

Key words: Physiochemical properties,

Probiotic, Sweet potato, Yoghurt

*Corresponding author: lien@thu.edu.tw