牛奶、乳清粉和乳糖對豆奶酸酪乳特性的影響

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摘 要

近年來國人飲用牛奶的比例逐漸增加，不過由於牛奶中含有乳糖，有許多人無法吸收牛奶中的乳糖，故本研究擬採用豆奶、牛奶、乳清粉、乳糖為主原料接種益生菌以生產機能性的酸酪乳。大豆富含蛋白質且含有機能性成分，例如異黃酮、低聚糖、多元不飽和脂肪酸和膳食纖維。於是，我們用豆奶發酵酸酪乳。目前我們在市場上還沒發現好的大豆酸酪乳產品。本研究在探討以豆奶製作機能性酸酪乳以及添加牛奶、乳清粉、乳糖對品質的影響。將豆奶添加牛奶、乳清粉、乳糖加熱至85℃、30min後冷卻，接種益生菌，再於43℃發酵4hr。探討添加不同原料，對大豆酸酪乳理化性質及其機能性成分之影響。

結果顯示：水分含量是以對照組>添加乳清粉>添加乳糖；滴定酸度為添加乳清粉>添加乳糖>對照組；黏度為對照組>添加乳糖>添加乳清粉，但添加乳糖與添加乳清粉的無顯著差異。有機酸含量均以乳酸最高，而對照組以檸檬酸最高，乳酸次之；添加乳清粉組以乳酸最高，檸檬酸次之；添加乳糖組則以乳酸最高，丙二酸次之。乳酸菌數以添加乳清粉及乳糖之酸酪乳最高，而三組之乳酸菌數均比市售產品高。pH值：對照組>添加乳糖>添加乳清粉，三者均隨儲藏時間而降低；凝乳張力：對照組>添加乳糖>添加乳清粉，與黏度同一趨勢；總接受性以添加乳清粉與乳糖之豆奶酸酪乳高於對照組，經儲藏7天和14天後亦然。色澤：以添加乳清粉的產品偏黃，乳糖組和對照組明亮度較添加乳清粉組高，但無顯著差異。異黃酮含量：發酵前後，均無顯著變化；胞外多糖以添加乳清粉組較乳糖組和對照組高。至於產品中乳蛋白和大豆蛋白之電泳分析結果顯示有部分蛋白質成分被分解而消失。整體而言，豆奶酸酪乳會因添加乳清粉和乳糖有利於產品之物性和官能性，而其機能性成分不會因發酵降低。

關鍵詞 : 豆奶、乳糖、乳清粉、酸酪乳

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