

以活性麵筋粉產製油炸麵筋球之研究

陳志成、張基郁

E-mail: 9015669@mail.dyu.edu.tw

摘要

油炸麵筋球為我國傳統食品之一，具有特殊風味，且廣受素食人口的喜愛。油炸麵筋球的製造，通常以次級粉為原料，其產製步驟包含製作麵糰、鬆弛、攪打洗筋、熟成、切粒成型、油炸及冷卻等；在攪打洗筋的步驟中，製造了大量含有澱粉的洗筋液，也間接造成嚴重的環境污染。若使用活性麵筋粉來產製油炸麵筋球，將可以改善此污染；然而，以活性麵筋粉直接製作麵筋，其筋性太強而不利機器的操作。此外，製造麵筋球，通常以在高溫油炸較不安定的黃豆油為油炸油。因此，本研究在探討以活性麵筋粉及安定性較佳的棕櫚油為油炸油的油炸麵筋球的產製條件。本論文包含三個部分。首先，以活性麵筋粉不添加任何麵糰改良劑來產製油炸麵筋球之條件探討；結果發現，以60/100之活性麵筋粉/水的混合比例，經攪打10分鐘後，再經切粒、油炸及冷卻等步驟，可得到較佳品質之油炸麵筋球。其次，探討麵筋糰改良劑對以活性麵筋粉產製之油炸麵筋球品質之影響，本論文所使用的麵筋糰改良劑有半胱胺酸、抗壞血酸及醋酸；結果發現，分別添加半胱胺酸、抗壞血酸及醋酸水溶液的最佳濃度10-3、10-5及10-8M於活性麵筋粉中，製得麵筋糰，再產製成油炸麵筋球，皆可有效改良油炸麵筋球的品質，而其中以添加10-3M的半胱胺酸所製得的油炸麵筋球品質最佳。最後，探討以活性麵筋粉及包含棕櫚油的油炸油所製得的麵筋球的油脂氧化安定性；研究結果發現，使用棕櫚油為油炸油，其所製得的油炸麵筋球產品所含油脂之酸價(AV)、鹼色度(AC)及FOS讀值，比使用黃豆油為油炸油者高，這可能是棕櫚油本身含有豐富的游離脂肪酸和類胡蘿蔔素所引起。然而其UV232測定值則比單純使用黃豆油為油炸油者低；此結果顯示，油炸油中有棕櫚油的添加，可以提高油炸麵筋球在儲藏期間之油脂氧化安定性。

關鍵詞：油炸麵筋球、油炸油、麵糰改良劑、棕櫚油、活性麵筋

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