DEDICATION

This work is dedicated to my

Family

Teachers

Friends

With love

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ABSTRACT

This investigation was carried out to evaluate the effect of storage in salted whey on the mineral contents and physicochemical properties of Sudanese white cheese (Jibna Bayda). Cheese was made from cows' milk using the traditional method, with 3% salt. 200g of cheese was packaged in 10 plastic container. 200ml of salted whey (3%) were added to half of package, and 200ml of unsalted whey (0%) obtained from unsalted cheese sample made by the traditional method were added to the second half of package, all packages were stored at refrigerator temperature 5±1ºC. samples were collected for analyses at zero time 21, 42, and 75 days of storage, for Ca, Na, K, Mg, Zn, Fe, Mn, moisture, fat, ash, protein, acidity, pH and total solids were determined.

Storage in salted whey has significant ($P \leq 0.05$) effect on mineral contents of cheese, the highest values were obtained in cheese samples stored in unsalted whey, minerals including Ca, K, Mg, Fe, Zn and Mn increased to 53.80, 43.95, 49.95, 3.78, 0.39 and 1.40 mg/100g respectively at the end of storage period in unsalted whey, while Na decreased to 19.53 mg/100g. Acidity, fat and total solids of cheese samples stored in unsalted whey recorded higher values 0.40, 24.25, 48.62 %, than those stored in salted whey. Moisture, pH, ash and protein content of the samples stored in unsalted whey were significantly ($P \leq 0.05$) decreased at the end of storage 55.46, 4.05, 1.73 and 10.52 % respectively than those stored in salted whey. Therefore, storage of Sudanese white cheese was found to be better in unsalted whey as higher mineral contents were obtained.

الملخص

أجريت هذه الدراسة لمعرفة تأثيرالتخزين فى الشرش المملح على محتوى المعادن و الخواص الفيزيائية و الكيميائية للجبنة السودانية البيضاء. صنعت الجبنة بالطريقة التقليدية من لبن البقر مع اضافة 3 % ملح طعام وتمت تعبئتها فى عشر عبوات بلاستيكية تحتوى كل عبوة على 200 جم, و قسمت الى نصفين, وأضيف فى كل عبوة من النصف الاول 200 مل شرش مملح (3%),وأضيفت فى كل عبوة من النصف الثانى 200 مل شرش غير مملح (0%) تم الحصول عليه من عينة جبنة مصنعه بالطريقة التقليدية بدون اضافة الملح. وخزنت كل العبوات فى درجة حرارة التبريد 5±1°م. تم التحليل فى اليوم الاول, 21, 42و 75 يوم من التخزين, وذلك لمعرفة محتوى الكالسيوم, الصوديوم, البوتاسيوم, الماغنسيوم, الزنك, الحديد و المنجنيز, نسبة الرطوبه, الدهن, الرماد, البروتين, الحموضه, الأس الهيدروجينى و الجوامد الصلبه الكلية.

أثر التخزين فى الشرش المملح معنوياً) (P≤ 0.05على محتوى المعادن و الخواص الفيزيائية و الكيميائية للجبنة. كانت القيم الاعلى فى العينات المخزنة فى الشرش غير المملح, زاد محتوى الكالسيوم, الماغنسيوم, البوتاسيوم, الحديد, الزنك, و المنجنيزالى 53.80 , 43.95 , 49.95 , 3.78 و 1.40ملجم/ 100 جم على التوالى اثناء فترة التخزين فى العينات المخزنة فى الشرش غير المملح, بينما انخفض محتوى الصوديوم الى 19.53 ملجم/ 100 جم. الحموضة, الدهن, الجوامد الصلبة الكلية فى الجبنة المخزنة فى الشرش غير المملح سجلت أعلى قيم 0.40 , 24.25 , 48,62 % مقارنة بالجبنة المخزنة فى الشرش المملح. اما الرطوبه, الاس الهيدروجينى, محتوى الرماد و البروتين كانت معنوياً ((P≤0.05 أقل عند نهاية فترة التخزين 55.46 , 4.05 , 1.73 و 10.52 % على التوالى فى الجبنة المخزنة فى الشرش غير المملح مقارنة بالجبنة المخزنة فى الشرش المملح. لهذا وجدنا أن تخزين الجبنة فى الشرش غير المملح أفضل وذلك لزيادة نسبة المعادن المتحصل عليها.