DEDICATION

To my dear family,

Mother› s soul,

Father,

Brothers,

sisters,

I dedicate this work

With love and respect

Zawahir

ACKNOWLEDGMENT

Praise be to Allah who gave me the health, strength and patience to conduct this study.

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List of Content

Page No

List of Tables

lactoperoxidase treated cow's milk stored at 4°C temperature

ABSTRACT

This study was carried out to evaluate the effect of activated Lactoperoxidase system by different levels of sodium thiocynate and sodium percarbonate, on the keeping quality of raw cow's milk. The milk was collected and used from the dairy farm, Faculty of Animal Production Science and Technology. Three levels of sodium thiocynate (12, 16, 20 mg/L) and sodium percarbonate (20, 30 40 mg/L) were used. The samples were activated at about 30 min followed by storing at 37°C for 8 hours and at 4°C for 7 days. Physiochemical and microbiological characteristics of milk were determined at 0, 2, 4, 6 and 8 hr intervals for milk stored at 37°C and 0, 1, 2, 3, 4, 5, 6 and 7 day intervals for milk stored at 4°C. In

each case, the keeping quality of activated samples was compared with that of the control. The results showed that there were significant differences ($P<0.01$) between the activated and control samples. While, at 37°C and 4°C control milk samples were clearly spoiled at about the 4^{th} hour and the 4^{th} day, the activated milk samples were not spoiled until the end of storage period for milk stored for 8^{th} hrs and 7 days. Also the results revealed no significant differences in milk composition (fat, protein, density and total solid) among control and activated milk samples.

ملخص البحث

أجريت هذه الدراسة لتقييم تأثيرتنشيط نظام اللاكتوبيروكسيديزبواسطة مستويات مختلفة من ثايوسيانات الصوديوم وبيركربونيت الصوديوم، للحفاظ على جودة لبن البقر الخام. وقد تم جمعت عينات اللبن و استخدمت من مزرعة الألبان، بكلية علوم و تكنولوجيا الانتاج الحيواني. استخدمت ثلاثة مستويات من ثايوسيانات الصوديوم وبيركربونيت الصوديوم (12 ، 16 ،20 ملغم/لتر) و(20، 30 ،40 ملغم / لتر) . تم تفعيل العينات في حوالي 30 دقيقة ثم تخزينهاعند 37 درجة مئوية لمدة 8 ساعات وعند 4 درجة مئوية لمدة 7 أيام. وتم تحديد الخواص الفيزيوكيميائية و الميكروبيولوجية للبن لفترات 0، 2، 4، 6و 8 ساعات للبن المخزن في 37^{o}م ولفترات 0، 1، 2، 3، 4، 5، 6 و7 ايام للبن المخزن في 4 ^{o}م . في كل حالةتمتمقارنةنوعية حفظ عينة من اللبن المنشط مع عينة لبن الضابط. أظهرت النتائج أن هناك اختلافات كبيرة

($P<0.01$) بين العينات المنشطة والضابط. كانت عينات اللبن الضابط التى حفظت فى 37 درجة مئوية و 4 درجة مئوية أظهرت فسادها بعد 4ساعات و4 ايام من الحفظ ، بينما عينات اللبن التي تم تفعيلها لم تفسد حتى نهاية فترة التخزين. كما أظهرت النتائج عدم وجود فروق معنوية في تركيب اللبن (الدهون، البروتين، كثافة والمواد الصلبة الكلية) بين العينات الضابط والعينات التي تم تفعيلها.