

# 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

	<b>Page</b>
<b>No</b>	
DEDICATION.....	I
ACKNOWLEDGEMENT.....	II
List of content.....	III
List of tables.....	V
Abstract.....	VI
Arabic abstract.....	VII
 <b>CHAPTER ONE</b>	
1. Introduction.....	1
 <b>CHAPTER TWO</b>	
2. Literature Review.....	4
2.1 Lactoperoxidase system.....	4
2.1.1 Constitutive components of Lactoperoxidase system...	6
2.1.1.1 The Lactoperoxidase enzyme.....	6
2.1.1.2 Thiocyanate Ion.....	7
2.1.1.3 Hydrogen peroxide.....	8
2.2 Mechanism of action.....	10
2.3 Thermal inactivation of the Lactoperoxidase system....	11
2.4 Microbiological effect of the Lactoperoxidase system...	11

2.4.1 Antibacterial effect.....	13
2.4.2 Antiviral effect.....	14
2.4.3 Antifungal effect.....	15
2.5 Application of Lactoperoxidase system in milk and dairy industry.....	16
<b>CHAPTER THREE</b>	
3. Materials and Methods.....	22
3.1 Materials.....	22
3.2 Experimental design.....	22
3.3 Experimental procedure.....	22
3.3 Method of activation of Lactoperoxidase System.....	23
3.4 Chemical analysis.....	23
3.4.1 Determination of the titratable acidity.....	23
3.4.2 Determination of fat.....	23
3.4.3 Determination of protein.....	24
3.5.4 Determination of total solids.....	25
3.5.5 Determination of density.....	25
3.6 Microbiological analysis.....	25
3.7 Statistical analysis.....	26
<b>CHAPTER FOUR</b>	
Results.....	27
<b>CHAPTER FIVE</b>	
Discussion.....	35
<b>CHAPTER SIX</b>	
Conclusions and Recommendation.....	38
References.....	40

### List of Tables

<b>Subject</b>	<b>Title of the Table</b>	<b>Page</b>
<b>Table (1):</b>	<b>Titrateable acidity % of cow's raw milk samples treated with different levels of sodium thiocyanate and sodium percarbonate during storage at 37°C</b>	<b>27</b>
<b>Table (2):</b>	<b>Titrateable acidity % of raw milk samples treated with different levels of sodium thiocyanate and sodium percarbonate during storage at 4°C (refrigeration)</b>	<b>28</b>
<b>Table (3):</b>	<b>Effect of LP activation on the total bacterial counts (log cfu/ml) of the raw cow's milk samples stored at 37 °C for 8 hours</b>	<b>30</b>
<b>Table (4):</b>	<b>Effect of LP activation on total bacterial counts (cfu/ml) of raw cow's milk samples stored at 4 °C for 7 days</b>	<b>31</b>
<b>Table (5):</b>	<b>Effect of LP activation on total bacterial counts (cfu/ml) of raw cow's milk samples stored at 4 °C for 7 days</b>	<b>32</b>
<b>Table (6):</b>	<b>Chemical composition made from control and</b>	<b>33</b>

**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 thiocyanate 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 thiocyanate (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<sup>th</sup> hour and the 4<sup>th</sup> day, the activated milk samples were not spoiled until the end of storage period for milk stored for 8<sup>th</sup> 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 تأثير تنشيط نظام اللاكتوبيريوكسيديز بواسطة مستويات مختلفة من ثايوسيانات الصوديوم وبيركربونيت الصوديوم، للحفاظ على جودة لبن البقر الخام. وقد تم جمع 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 تخزينها عند 37 درجة مئوية لمدة 8 ساعات وعند 4 درجة مئوية لمدة 7 أيام. وتم تحديد الخواص الفيزيوكيميائية و الميكروبيولوجية للبن لفترات 0، 2، 4، 6 و 8 ساعات للبن المخزن في 37°م ولفترات 0، 1، 2، 3، 4، 5، 6 و 7 ايام للبن المخزن في 4 °م. في كل حالة تمت مقارنة نوعية 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 التي حفظت فى 37 درجة مئوية و 4 درجة مئوية أظهرت فسادها بعد 4 ساعات و 4 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.