

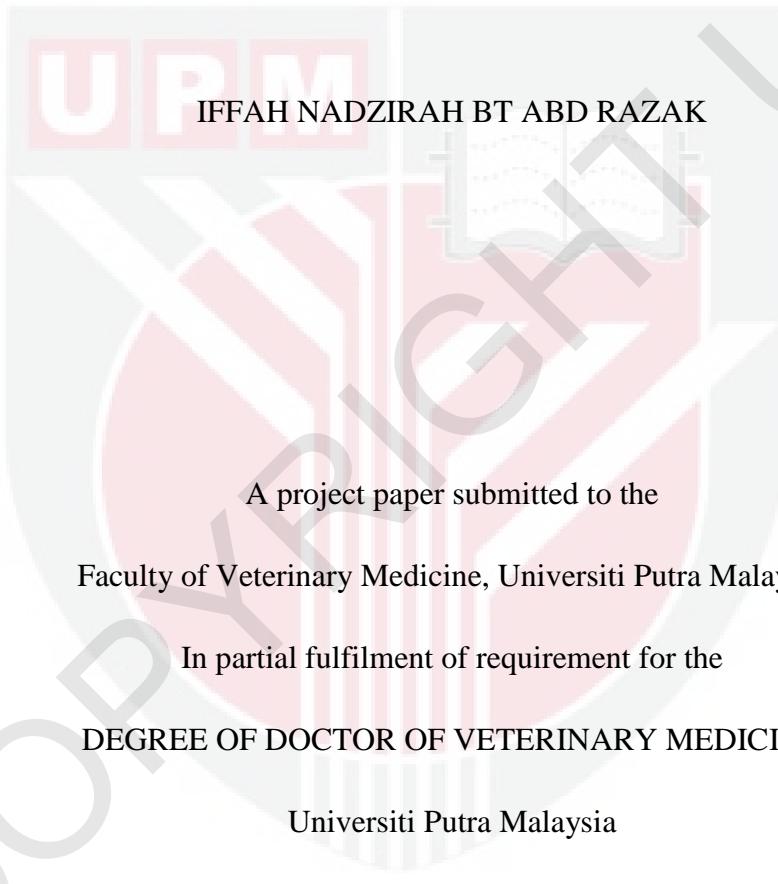


***MILK COMPOSITIONS OF DAIRY GOATS WITH AND WITHOUT
SUBCLINICAL INTRAMAMMARY INFECTIONS***

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MILK COMPOSITIONS OF DAIRY GOATS WITH AND WITHOUT
SUBCLINICAL INTRAMAMMARY INFECTIONS.



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It is hereby that we have read this project title “Milk composition of dairy goats with and without subclinical intra mammary infections”, by Iffah Nadzirah Bt Abd Razak and in my opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfilment for course VPD 4999- Final Year Project.

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LIST OF ABBREVIATIONS

Intramammary infections IMI

Somatic cell counts SCC

California Mastitis Test CMT

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ABSTRAK

Abstrak daripada projek yang dikemukakan kepada Fakulti Perubatan Veterinar untuk memenuhi sebahagian daripada keperluan kursus VPD 4999- Projek

KOMPOSISI SUSU KAMBING TENUSU DENGAN JANGKITAN INTRAMAMMARI DAN TANPA JANGKITAN INTRAMAMMARI.

Oleh

Iffah Nadzirah Binti Abd Razak

2015

Penyelia : Dr Rozaihan Mansor

Jangkitan Intramammari (IMI) menjelaskan komposisi susu seterusnya mengurangkan nilai kebersihan dan kualiti susu . Kajian ini telah dijalankan untuk membandingkan parameter komposisi susu kambing tenuus dengan dan tanpa IMI subklinikal , untuk menentukan kesan subklinikal IMI kepada komposisi susu dan juga untuk menentukan hubungan kiraan sel somatik (SCC) pada komposisi susu . Sejumlah dua puluh kambing Saanen dari salah satu Ladang Angkat Fakulti Perubatan Veterinar , Universiti Putra Malaysia (FPV , UPM) telah terlibat dalam kajian ini dan Carlifonia Matitis Test (CMT) telah digunakan untuk mengenal pasti

kambing tenusu yang dijangkiti dan tidak dijangkiti . Parameter komposisi susu termasuk lemak , protein , kasein , laktosa , jumlah pepejal , bukan lemak pepejal , keasidan , asid lemak bebas telah dianalisis dengan menggunakan FOSS Milkoscan™ FT2 . Tiada perbezaan yang signifikan ($p > 0.05$) didapati untuk semua parameter komposisi susu antara kambing teusu yang dijangkiti dan tidak dijangkiti, bagaimanapun , terdapat perbezaan yang signifikan ($p < 0.05$) pada SCC antara kambing tenusu di Ladang Angkat FPV , UPM yang dijangkiti dan tidak dijangkiti . Di samping itu, pekali korelasi antara SCC dengan semua parameter komposisi susu didapati rendah ($R < 0.5$) . Kesemua keputusan ini berbeza daripada kajian-kajian lain sebelum ini yang menunjukkan perubahan ketara dalam komposisi susu semasa subklinikal mastitis dan hubungkait antara SCC dan parameter komposisi susu . Ia boleh disimpulkan bahawa beberapa faktor seperti saiz sampel , peringkat laktasi dan baka kambing boleh menyebabkan variasi dalam keputusan oleh itu tiada satu pun parameter komposisi susu sesuai dijadikan sebagai penunjuk kepada jangkitan intra mammari subklinikal.

Kata Kunci: kambing tenusu , komposisi susu , jangkitan subklinikal intramammari , kiraan sel somatik



ABSTRACT

An abstract of the project paper presented to the Faculty of Veterinary Medicine in
partial fulfilment of course VPD 4999 – Project

MILK COMPOSITION OF DAIRY GOATS WITH AND WITHOUT SUBCLINICAL INTRAMAMMARY INFECTIONS

By

Iffah Nadzirah Binti Abd Razak

2015

Supervisor: Dr. Rozaihan Mansor

Intramammary infections (IMI) affect the composition of milk thus lowering the hygienic value and quality of the milk. This study was carried out to compare milk composition parameters of dairy goats with and without the subclinical IMI, to determine the effect of subclinical IMI on the milk composition and also to

determine the relationship of somatic cell count (SCC) on the milk compositions. A total 20 Saanen goats from one of Ladang Angkat of Faculty of Veterinary Medicine, University of Putra Malaysia (FPV, UPM) was involved in this study and Carlifonia Matitis Test (CMT) was used to identify subclinically infected and uninfected does. The milk composition parameters such as fat, protein, casein, lactose, total solid, solid non fat, acidity, free fatty acid were analysed using FOSS MilkoscanTM FT2. However, no significant difference ($p>0.05$) was found for all the milk composition parameteres between subclinically intramammary infected does with the uninfected does, however, a significant difference ($p<0.05$) of the SCC between subclinically infected and uninfected of dairy goats at Ladang Angkat FPV, UPM was found. In addition, the correlation coefficient between SCC and all the milk composition parameters was found to be low ($R<0.5$). These results differ from other previous studies that showed significant changes in the milk composition during subclinical mastitis and strong correlation between SCC and milk composition parameters. It can be concluded that no significant different of milk composition of subclinically infected and uninfected does, no correlation between SCC and milk composition and no effect of subclinical mastitis on the milk composition thus none of the milk composition parameter is suitable to indicates subclinical IMI.

Keywords: Dairy goats, milk compositions, subclinical intramammary infection, somatic cell count

1.0 INTRODUCTION

In Malaysia, there is a slow but increasing in the demand of goat's milk by increasing in the society affluence and also traditional beliefs on the added health benefits of goat milk (Sithambaram& Nizam, 2013). Thus, milk yield and the milk quality must be increased in order to meet the demand.

However, disease challenges like mastitis reduce the milk yield, the hygienic value as well as quality of the milk. This will affect the suitability of milk to be processed and the quality of its products. Subclinical IMI does not cause visible changes in the milk or udder and make it more economically important than clinical mastitis with a higher prevalence.

Subclinical IMI causing health hazards to the public since no visible changes of milk could be seen, thus the milk of infected animals can be mixed in the bulk tank which will eventually become the main source of enterotoxigenic from causative agent such as *E.coli*. (Hassan, 2013). Some strains of the *E.coli* that produce enterotoxin were also found to be resistant toward heat (Hassan(2013); Abera et at.,(2010). This study was carried out to compare milk composition parameters of dairy goats with and without the subclinical IMI, to determine the effect of subclinical IMI on the milk composition and also to determine the relationship of somatic cell count (SCC) on the milk composition.

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