Cairo University

Faculty of Veterinary Medicine
Department of Microbiology

Rapid diagnosis of mastitis caused by *Mycoplasma* species in dairy cows using Polymerase Chain Reaction

Thesis Presented
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For the degree of M. V. Sc.
Microbiology
(Bacteriology, Immunology, Mycology)

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Abstract

Mycoplasma species are highly contagious pathogens cause a serious problem on dairy farms. The present study aimed to detect the incidence of *Mycoplasma* mastitis and the causative species of infection, and to compare between conventional methods and multiplex PCR for detection of *M. bovis*and *M. bovigenitalium* directly from the examined milk samples. A total of 956 milk samples from cows suffered from mastitis as well as 13 milk tank samples were investigated. Then a total of 50 randomly selected samples from the mentioned individual cow's milk as well as 5 from milk tanks were subjected to comparative study between conventional and multiplex PCR. Multiplex PCR was performed for identification of *M .bovis*and *M. bovigenitalium*using specific primers. Also In this study 2*Mycoplasma bovis* (accession no. KU900731 and KU900732) isolates and 2 *Mycoplasma bovigenitalium* (accession no. KU900733 and KU900734) were analyzed.The results revealed that the m PCR matched the conventional method among the investigated samples except in : Farm 7 whereas the m PCR detected three *M. bovis*while the conventional method could detect one. Farm 5 and farm 9 whereas both *M. bovis and M. bovigenitalium* were detected in 4 and 2 samples respectively. It could be concluded that PCR-based technology for *Mycoplasma* yields the highest level of sensitivity and specificity.

Dedication

I dedicate this work to

My

Mother and Father

Brothers,

Close friends,

Especially Dr. Rabab Taha,

Acknowledgement

I am extremely grateful to **Allah** for his help, prosperity and kindness and under whose willing this work was carried out.

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