Cairo University
Faculty of Veterinary Medicine
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APPLICATION OF BIO RISK REGULATION FOR EPIDEMICSCONTROL IN EQUINE FARMS

A thesis presented by

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Abstract

Equine influenza virus (EIV) is considered the most important cause of respiratory affection of horses because it is highly contagious disease that has potential to disrupt major equestrian events. Equine influenza (EI) can be controlled by vaccination, but without Biosecurity measures there is no control on the respiratory problems as well as antigenic drift impacts on vaccine efficacy so the bio risk regulations is urgently needed, Appropriate biorisk management strategies should be developed, established and implemented in the control programs to deal with this problem.

In this study a total number of 357 of different equidae species (horse-donkey-mule) were examined for the presence of clinical signs of respiratory problem including fever, harsh sound, dry cough and mucopurulent discharge. 357 serum samples and 74 nasal swabs were collected from the examined equidea from 10 Egyptians governorates classified into three regions , Upper Egypt(Beni-suef- Fayoum-Luxor- Qena) , Central region (Cairo –Giza) and Delta region (Alexandria-Gharbia- Beheira –Kafr El-Shiekh) . ELISA and HI was conducted on serum samples to detect antibodies against EIV, where (58%) were tested positive for antibody against EIV by ELISA and (51.24%) by HI.

Real Time PCR was carried out directly on nasal swabs using specific primers where all samples tested were negative.

Biosecurity measures were applied on farm against another one with no biosecurity measures for a period from 2014 till 2016. The noticed was decreasing the percentage of the clinically suspected cases(from 33.33% till 12.5%) in the farm which apply the biosecurity measures and the other one still show increasing in the new clinically suspected cases (from 40%, 45% to 50%).

DEDICATION

I dedicate this work to ALLAH almighty my creator , my strong pillar, my source of inspiration, strength, wisdom, knowledge and understanding.

A special thanks to my family. Words cannot express how grateful I am to my mother and my father for all of the sacrifices and being a constant source of support, their pray for me was what sustained me thus for. I am truly thankful and proud for having you in my life .

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CONTENTS

LIST OF ABBREEVATIONS

EIV	Equine Influenza Virus
PCR	Polymerase Chain Reaction
HI	Heamagglutination Inhibition
HA	Heamagglutination
FAO	Food and Agriculture Organization
OIE	Office of International Epizootics
ELISA	Enzyme Linked Immune Sorbent Assay
rt-PCR	Real Time Polymerase Chain Reaction
rpm	Revolutions per minute
lab	Laboratory
min	Minute
sec	second
SOPs	Standard operator procedure
PPE	Personal protective equipments
Ab	antibodies
qRT-PCR	Qualitative reverse transcription PCR
PBS	Phosphate buffer saline
RBCs	Red Blood Cells

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