

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT.....	iii
ABSTRACT (IN ENGLISH).....	v
ABSTRACT (IN THAI).....	vii
TABLE OF CONTENTS.....	ix
LIST OF TABLES.....	xii
LIST OF FIGURES.....	xiii
ABBREVIATIONS.....	xiv
INTRODUCTION.....	1
LITERATURE REVIEW.....	3
1. Bionomics of medical importance of <i>Musca domestica</i>	3
2. Bionomics of medical importance of <i>Chrysomya megacephala</i>	8
3. Fly control strategy.....	11
4. Toxicity and residual effects of synthetic insecticides.....	13
5. Toxicity test methods against insects.....	14
6. Toxicity effect of crude plant extracts against flies.....	14
7. Eucalyptol properties and toxicity reports.....	15
PURPOSE OF THE STUDY.....	18
MATERIALS AND METHODS	
1. Rearing of <i>M. domestica</i> and <i>C. megacephala</i> in laboratory.....	19
2. Assessment of eucalyptol toxicity.....	20
2.1 Topical application method for assessment eucalyptol	
toxicity against adults <i>M. domestica</i> and <i>C. megacephala</i>	20

TABLE OF CONTENTS (cont.)

	Page
2.1.1 Life span of alive flies after being tested with eucalyptol using topical application.....	23
2.2 Dipping method for third-stage larvae of <i>M. domestica</i> and <i>C. megacephala</i>	23
2.2.1 Emergence of <i>M. domestica</i> and <i>C. megacephala</i> after third-instar larvae being dipped with each concentration of eucalyptol.....	25
2.2.2 Surface ultrastructure of third-stage larvae of <i>M. domestica</i> and <i>C. megacephala</i> after being treated with 100% eucalyptol using scanning electron microscope (SEM).....	25
RESULTS	
2.1 Assessment of eucalyptol toxicity against adults <i>M. domestica</i> and <i>C. megacephala</i> by using topical application method.....	27
2.1.1 Life span of alive flies after being tested with eucalyptol using topical application.....	29
2.2 Assessment of eucalyptol toxicity against third-stage larvae of <i>M. domestica</i> and <i>C. megacephala</i> by using dipping method.....	33

TABLE OF CONTENTS (cont.)

	Page
2.2.1 Emergence of <i>M. domestica</i> and <i>C. megacephala</i> after third-stage larvae being dipped with each concentration of eucalyptol.....	34
2.2.2 Surface ultrastructure of third stage larvae of <i>M. domestica</i> and <i>C. megacephala</i> after being treated with 100% eucalyptol using scanning electron microscope (SEM).....	36
DISCUSSION.....	43
REFERENCES.....	48
CURRICULUM VITAE.....	54

LIST OF TABLES

Table		Page
1	Occurrence of eucalyptol in the essential oil from aromatic plants.....	16
2	Assessment of eucalyptol toxicity on adult flies by topical application method.....	22
3	Assessment of eucalyptol toxicity on third-stage larvae by dipping method.....	24
4	Toxicity activity of eucalyptol against <i>M. domestica</i> adults using topical application method.....	27
5	Toxicity activity of eucalyptol against <i>C. megacephala</i> adults using topical application method.....	28
6	Life span of alive flies [median (range)] after being topically tested with varying concentration of eucalyptol.....	30
7	Toxicity activity of eucalyptol against third-stage larvae <i>M. domestica</i> and <i>C. megacephala</i> using dipping method.....	33
8	Emergence of <i>M. domestica</i> and <i>C. megacephala</i> after larvae being dipped with eucalyptol.....	35

LIST OF FIGURES

Figure		Page
1	Structural formula of eucalyptol.....	17
2	Median life span of adult <i>M. domestica</i> after being topically tested with eucalyptol.....	31
3	Median life span of adult <i>C. megacepha</i> after being topically tested with eucalyptol.....	32
4	SEM micrographs of third-stage larva <i>M. domestica</i> after being dipped with absolute ethanol.....	37
5	SEM micrographs of third-stage larva <i>M. domestica</i> after being dipped with concentrated eucalyptol.....	38
6	SEM micrographs of third-stage larva <i>C. megacephala</i> after being dipped with absolute ethanol.....	40
7	SEM micrographs of third-stage larva <i>C. megacephala</i> after being dipped with concentrated eucalyptol.....	41

ABBREVIATIONS

~	approximate
>	more than
<	less than
%	Percentage
°C	degree Celsius
CO ₂	carbondioxide
cm	centimeter
µg	microgram
µl	microliter
g/ml	gram per milliliter
hr	hour
i.e.	id est
km	kilometer
LC	lethal concentration
LD	lethal dose
min	minute
mm	millimeter
mm ²	square millimeter
n	number examined
no.	number
sec	second
v/v	volume per volume
w/v	weight per volume