

HERRIGUE: INFLUENCE OF *Monochroa* AND -gall (L.)
Bacch., *Monochroa solana* (L.) Lin' AND *Leptochloa*
chrysopoda (L.) Pers. IN RICE FIELDS OF MELANTAO

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Herbicide resistance of *echinochloa crus-galli*, beauv, *echinochloa colona* (l) link and *leptochloa chinensis* (l) nees in rice field of Kelantan / Hartini Mahmud.



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**HERBICIDE RESISTANCE OF *Echinochloa crus-galli* (L.) Beauv, *Echinochloa colona* (L.) Link AND *Leptochloa chinensis* (L.) Nees IN RICE FIELDS OF
KELANTAN**

By

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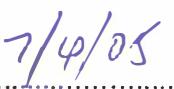
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: Herbicide Resistance of *Echinochloa crus-galli* (L.) Beauv, *Echinochloa colona* (L.) Link and *Leptochloa chinensis* (L.) Nees in Rice Fields of Kelantan oleh Hartini Binti Mahmud, no. matrik: Uk 6718 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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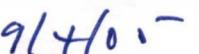
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TABLE OF CONTENTS

	PAGES	
ACKNOWLEDGEMENT	ii	
LIST OF TABLES	v	
LIST OF FIGURES	vi	
LIST OF SYMBOLS	vii	
LIST OF APPENDICES	viii	
ABSTRACT	x	
ABSTRAK	xi	
CHAPTER 1	INTRODUCTION	
1.0	Introduction	1
1.1	Objectives	3
CHAPTER 2	LITERATURE REVIEW	
2.1	Weeds in paddy fields	4
2.1.1	<i>Echinochloa crus-galli</i>	6
2.1.2	<i>Echinochloa colona</i>	7
2.1.3	<i>Leptochloa chinensis</i>	8
2.2	Herbicides	13
2.2.1	Sethoxydim	17

2.2.3 Fenoxaprop	21
2.3 Why herbicide resistance evolves in paddy fields	22
2.3.1 Mechanism of resistance	23
2.3.2 Herbicide resistance cases in worldwide	24
2.3.3 Herbicide resistance cases in Malaysia	27
2.3.4 Screening for herbicide resistance	30
CHAPTER 3 METHODOLOGY	
3.1 Seed Collections	32
3.2 Herbicides	33
3.3 Seed processing and seed sowing	33
3.4 Screening for herbicide resistance (R) and susceptible biotype (S)	33
3.5 Planting confirmed R and S biotypes	34
3.6 Dose-response experiments	34
CHAPTER 4 RESULT	36
CHAPTER 5 DISCUSSION	49
CHAPTER 6 CONCLUSION	58
REFERENCES	61
APPENDICES	66
VITAE CURICULUM	82

LIST OF TABLE	PAGES
Table 2.2 (a) Number of herbicides groups arising from individual toxiphore	15
Table 2.2 (b) Herbicides groups site of action	16
Table 2.3.2 (a) Herbicides resistances cases globally for <i>Echinochloa crus-galli</i>	25
Table 2.3.2 (b) Herbicides resistances cases globally for <i>Echinochloa colona</i>	26
Table 2.3.2 (c) Herbicides resistances cases globally for <i>Leptochloa chinensis</i>	26
Table 2.3.3 (a) Herbicides resistances cases at rice fields in Malaysia	29
Table 4.1 Screening of sethoxydim resistance in <i>Leptochloa chinensis</i> , <i>Echinochloa crus-galli</i> , <i>Echinochloa colona</i> from rice fields at five different locations in Kelantan	38
Table 4.2 Screening of propanil resistance in <i>Leptochloa chinensis</i> , <i>Echinochloa crus-galli</i> , <i>Echinochloa colona</i> from rice fields at five different locations in Kelantan	38
Table 4.3 Screening of fenoxaprop resistance in <i>Leptochloa chinensis</i> , <i>Echinochloa crus-galli</i> , <i>Echinochloa colona</i> from rice fields at five different locations in Kelantan	39

LIST OF FIGURE	PAGE
Figure 2.1.1: <i>Echinochloa crus-galli</i> (L.) Beauv	10
Figure 2.1.2: <i>Echinochloa colona</i> (L.) Link	11
Figure 2.1.3: <i>Leptochloa chinensis</i> (L.)Nees ¹	12
Figure 2.2(a): Structural formula for sethoxydim	21
Figure 2.2(b): Structural formula for propanil	21
Figure 2.2(b): Structural formula for fenoxaprop	22

LIST OF SYMBOLS

Ppm	Part per million
ml	Mililitre
%	Percent
Ha	Hectare
a.i.	Active ingredient
L	Litre
Cm	Centimetre
⁰ C	Centigrade degrees
Kpa	Kilopascal
2, 4 D	2, 4 –dichlorophenoxy acetic acid
DCA	Dichloroaniline
AAA	Aryl aclamidase

LIST OF APPENDICES	PAGE
APPENDICES A	
Appendix A.1: Figure of <i>Echinochloa crus-galli</i>	66
Appendix A.2: Figure of <i>Echinochloa colona</i>	67
Appendix A.3: Figure of <i>Leptochloa chinensis</i>	68
Appendix A.4 :Figure of <i>Echinochloa oryzicola</i>	69
Appendix A.5: Figure of <i>Echinochloa glabrescens</i>	69
Appendix A.6: Figure of <i>Eleusine indica</i>	70
Appendix A.7: Figure of <i>Iscaehmun rugosom</i>	70
Appendix A.8: Figure of <i>Rottboellia cochinchinensis</i>	71
Appendix A.9: Figure of <i>Cyperus iria</i>	71
Appendix A.10: Figure of <i>Fimbristylis milacea</i>	72
Appendix A.11: Figure of <i>Sphenoclea zeylanica</i>	72
Appendix A.12: Figure of <i>Jussia linifolia</i>	73
Appendix A.13: Figure of <i>Mimulus orbicularis</i>	73
Appendix A.14: Figure of <i>Sagittaria guyanensis</i>	74
Appendix A.15: Figure of <i>Bacopa monnieri</i>	74

Appendix A.16: Figure of 100 %; discs retained their origin color (green)	75
Appendix A.17: Figure of 75 % of the leaf disc area remained green (pale yellow)	75
Appendix A.18: Figure of 50 % of the leaf disc area remained green (yellow)	76
Appendix A.19: Figure of 25 % of the leaf disc area remained green (pale brown)	76
Appendix A.20: Figure of 0 % for complete discoloration (brown)	77
Appendix A.21: Map Of Kelantan with nine districts	78
Appendix A.22: Map of Location KADA at Kelantan	79

APPENDICES B

Appendix B.1: Weed species reported as important in rice in various countries of the world	80
Appendix B.2: Name of weed species found in rice fields in Malaysia	81

ABSTRACT

Seed of weed species such as *Leptochloa chinensis* (L.) Nees, *Echinochloa colona* (L.) Link and *Echinochloa crus-galli* (L.) Beauv were collected from Kelantan state at five different locations of rice fields. All of these weed species were collected from PPK Kubang Sepat, PPK Alor Mas, PPK Nilam Puri, PPK Bakat Baru and Rantau Panjang. Whole plant assays at recommended dosage were conducted on these weed species with three herbicides namely propanil, sethoxydim and fenoxaprop in the greenhouse. *Leptochloa chinensis* biotypes from PPK Kubang Sepat and Rantau Panjang biotypes were resistant to both propanil and sethoxydim. *Echinochloa colona* from PPK Nilam Puri and *Echinochloa crus-galli* from PPK Kubang Sepat had developed resistance towards fenoxaprop and propanil, respectively. Subsequent studies involving leaf discs assay at the laboratory revealed that these resistant biotypes were two times more resistant compared to their respective susceptible biotypes.

KERINTANGAN TERHADAP HERBISID DI DALAM SAWAH PADI DI KELANTAN

ABSTRAK

Biji rumpai seperti *Leptochloa chinensis*, *Echinochloa colona* dan *Echinochloa crus-galli* dikutip dari lima lokasi sawah padi di negeri Kelantan. Kesemua spesies tersebut diambil dari PPK Kubang Sepat, PPK Alor Mas, PPK Nilam Puri, PPK Bakat Baru dan Rantau Panjang. Pegasaian tumbuhan dijalankan ke atas kesemua spesies rumpai dengan menguji tiga herbisid iaitu propanil, setoxidim dan fenokaprop pada dos yang disyorkan di rumah kaca. *Leptochloa chinensis* dari PPK Kubang Sepat dan Rantau Panjang adalah rintang terhadap propanil dan sethoxydim. *Echinochloa crus-galli* dari PPK Kubang Sepat didapati rintang terhadap propanil manakala *Echinochloa colona* dari PPK Nilam Puri pula adalah rintang terhadap fenoxaprop. Kajian lanjutan menggunakan pengasaian cakera daun menunjukkan bahawa biotip rintang adalah dua kali ganda lebih rintang berbanding biotip rentan.