

***IN VITRO* REGENERATION OF *Orthosiphon stamineus* BY
ORGANOGENESIS**

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TABLES OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1 : INTRODUCTION	
1.1 Background Study	1
1.2 Problem Statement	3
1.3 Significant of the Study	3
1.4 Objectives of the Study	3
CHAPTER 2 : LITERATURE REVIEW	
2.1 <i>Orthosiphon stamineus</i>	4
2.2 Micropropagation Technique	6
2.2.1 Sterilization of explant	7
2.2.2 Sterilization of media and apparatus	10
2.2.3 Culture process	11
2.3 Media Composition	12
2.3.1 Macronutrients	12
2.3.2 Micronutrients	13
2.3.3 Vitamins and other supplement	14
2.4 Plant Hormone	16
2.4.1 Cytokinin	16
2.4.2 Auxin	17
CHAPTER 3: METHODOLOGY	
3.1 Materials	18
3.1.1 Raw materials	18
3.1.2 Chemicals	18
3.1.3 Apparatus	19
3.2 Methods	19
3.2.1 Media preparation	19
3.2.2 Explant sterilization	20
3.2.3 Culture Process	22

3.2.4	Data analysis	23
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CHAPTER 4: RESULTS AND DISCUSSION

4.1	Determination of explants sterilization method	24
4.1.1	Meristem explant	24
4.1.2	Young leaves explant	27
4.1.3	Young roots explant	28
4.2	Determination of <i>in vitro</i> plant growth	29
4.3	<i>In vitro</i> propagation of explants	34
4.4	Factors of contamination	36
4.4.1	Media	36
4.4.2	Bacteria, fungi and yeast	37
4.4.3	Nonsterile apparatus and materials	37
4.4.4	Airborne microorganism	38

CHAPTER 5: CONCLUSION AND RECOMMENDATION 39

CITED REFERENCES 41

CURRICULUM VITAE 45

ABSTRACT

***IN VITRO* REGENERATION OF *Orthosiphon stamineus* BY ORGANOGENESIS**

Orthosiphon stamineus or 'misai kucing' leaves have diuretic properties and has been utilized to expel uric corrosive stones from the kidneys because it provides rich medicinal compounds such as terpenoids, polyphenols and sterols. Due to the high demand of *O. stamineus*, this research is done with the reason to fulfill the demand and urgency from the consumers or from various industries to obtain the high quality product of *O. stamineus*. The aims of this study are to increase the number of individuals' plants and determine the sterilization methods of explants which different concentration of bleach was treated on explants. Couples drops of Tween 80 with the 5%, 10%, 15%, 20% and 25% sodium hypochlorite concentration of were used. In this experiment, explant from *O. stamineus* which are meristems, young leaves and young roots was put into Murashige and Skoog (MS) medium supplemented with BAP (6-Benzylaminopurine) and NAA (1-Naphthaleneacetic) and incubated at $25\pm 2^{\circ}\text{C}$ and 16/8 photoperiod hours. The growth of explant was observed within 6 weeks. The results of this study showed that the higher survival rate for explant is in 20% concentration of bleach treated for 20 minutes. Meanwhile, for the young roots and young leaves the best bleach concentration in sterilization process is 10% within 10 minutes. The healthy explant was subculture for 3 weeks and showed growth with higher number of leaves and the roots also lengthened rapidly. It is recommend increasing precautionary steps during sterilization process for example, sterilize the apparatus and materials that will be used that can lead to contamination.