IN VITRO REGENERATION OF PINEAPPLE (Ananas comosus) VARIETY MD2 USING DIFFERENT CONCENTRATIONS OF BAP AND NAA

SITI AISYAH BINTI OTHMAN

Final Year Project Report Submitted in

Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science (Hons.) Technology and Plantation Management in the Faculty of Plantation and Agrotechnology

Universiti Teknologi MARA

JULY 2015

ACKNOWLEDGEMENTS

Alhamdulillah and praise to ALLAH S.W.T because of HIS mercy and blessing, I was able to complete and submit my final year project report successfully.

Firstly, I wish to express my sincere gratitude to my dearest supervisor, Dr Asmah Awal for who had guided me a lot, giving valuable advice and comments when running the project and for her patience to review my report during these two semester.

I also wish to thank all AT220 lecturers and staffs especially Mdm Noer Hartini, Mdm Sarah, Miss Wan Natasya, Miss Noordinah, Norma Ziati and Mr Anuar for their helps and cooperation.

Also my deepest and special thanks to my parents, Mdm Umer Salamah bt A. Kechik and Mr. Othman bin Jusoh for giving me strength spiritually, mentally and physically.

Lastly, thank you to Mr. Hisham Toha from Lembaga Perindustrian Nanas Malaysia in helping me in supplying the pineapple explant for this research. I am grateful to everyone who had directly or indirectly involved in completing this final year project.

SITI AISYAH BINTI OTHMAN

TABLE OF CONTENTS

			Page
AC	KNOWI	LEDGEMENTS	iii
TABLE OF CONTENTS			iv
		IGURES	vi
	T OF T		vii
LIS	ST OF A	BBREVIATIONS	viii
AB	STRAC	Γ	X
AB	STRAK		xi
	APTER		
1		RODUCTION	
	1.1	Background of study	1
	1.2		4
	1.3		4
	1.4	· ·	5
	1.5	Hypothesis	5
2	LITI	ERATURE REVIEW	
~	2.1	Background of pineapple	6
	2	2.1.1 Scientific classification of pineapple	6
		2.1.2 Pineapple variety MD2	6
	2.2	In vitro regeneration of pineapple variety MD2	8
	2.3		10
	2.4	Acclimatization of MD2 pineapple plantlets	12
2	nar A n	ΓERIALS AND METHODS	
3	3.1		17
	3.1	Location of study Materials and apparatus	17
	3.3	Experimental procedure	19
	3.4	Parameters of study	21
	3.5	Statistical analysis	22
		•	
4	RES	RESULTS	
5	DISC	CUSSION	41
6	CON	NCLUSIONS AND RECOMMENDATIONS	44

CITED REFERENCES	45
APPENDICES	48
CURRICULUM VITAE	59

ABSTRACT

Pineapple is the third most important fruits in the world that have high demand usually for food consumption, which can be propagated traditionally and through *in vitro* technique. *In vitro* regeneration of pineapple variety MD2 was carried out using different concentrations of BAP and NAA and to determine the best concentration that can give the best result to produce MD2 pineapple disease free. Ten different concentrations of BAP and NAA were applied into MS solid media. The parameters collected are; number of shoots per explant, length of shoots, length of plantlet and fresh weight of plantlet were collected and recorded weekly. The data was analyzed by using Minitab 16.1 and Microsoft Excel software. The results obtained in this experiment indicated that there is significant difference in the number of shoots per explant, length of shoots, length of plantlet and fresh weight of plantlets. An optimum concentration of BAP and NAA found from this study was at 2.5 mg/L BAP combine with 0.25 mg/L NAA. It gave highest mean value in number of shoot, length of shoot, length of plantlet and fresh weight of plantlet. However, ANOVA of the experiment shows that there is no significant different between each treatment.