

CONTENTS

Page No.

1.	General Introduction	1
2.	<i>In vitro</i> regeneration	13
2.1.	Direct Organogenesis	13
2.1.1.	Introduction.....	13
2.1.2.	Materials and Methods	15
2.1.3.	Results	19
2.1.4.	Discussion.....	19
2.1.5.	Summary	21
2.2.	Indirect Organogenesis	22
2.2.1.	Introduction	22
2.2.2.	Materials and Methods	23
2.2.3.	Results	26
2.2.4.	Discussion	27
2.2.5.	Summary.....	29
3.	Chitinase Gene Transformation and Transgenic Developments ...	30
3.1.	Introduction	30
3.2.	Materials and Methods	32
3.3.	Results	35
3.4.	Discussion	36
3.5.	Summary.....	38
3.6.	Direct Organogenesis	39
3.6.1.	Introduction	39
3.6.2.	Materials and Methods	40
3.6.3.	Results	44
3.6.4.	Discussion	44
3.6.5.	Summary.....	47

3.7.	Indirect Organogenesis	48
3.7.1.	Introduction	48
3.7.2.	Materials and Methods	49
3.7.3.	Results	51
3.7.4.	Discussion	53
3.7.5.	Summary	55
4.	Indirect Somatic Embryogenesis from Transgenic Immature	
	leaf	56
4.1.	Introduction	56
4.2.	Materials and Methods	59
4.3.	Results	63
4.4.	Discussion	65
4.5.	Summary	65
5.	Chitinase enzyme analysis, PCR, Southern Blotting and Field	
	testing in control and transgenics	70
5.1.	Introduction	70
5.2.	Materials and Methods	73
5.3.	Results	75
5.4.	Discussion	78
5.5.	Summary	82
	References	i

List of Publications