

CONTENTS

CHAPTER	TITLE	PAGE NO.
	List of Plates	
	List of Tables	
	List of Figures	
	Abbreviations	
	INTRODUCTION	1
I	REVIEW OF LITERATURE	
	A] Introduction	3
	B] History	3
	C] General properties	4
	D] Salicylic acid Biosynthesis	4
	E] Factors Influencing Salicylic acid content in plants	7
	F] Role of Salicylic acid in Physiological processes of plants:	9
	a) effect of Salicylic acid on seed germination, growth and development	9
	b) Leaf senescence and abscission	11
	c) Rooting	11
	d) Flowering	12
	e) Ethylene Biosynthesis	14
	f) Membrane function and nutrient uptake	15
	g) Stomatal behaviour	16
	h) Respiration	17
	i) Enzyme activities	19
	j) Protein level	21
	k) Disease resistance	22
II	MATERIALS AND METHODS	
	A] Germination studies:	27
	a) Germination and seedling growth	27
	b) Water uptake	27

c) Respiration rate	28
d) Enzyme dehydrogenase (EC. 1.1.1.4)	28
e) Enzyme α - amylase(EC. 3.2.1.1)	29
f) Enzyme Acid phosphatase (Apase) (EC. 3.1.3.2)	30
g) Enzyme Alkaline phosphatase (EC. 3.1.3.1)	31
h) Enzyme nitrate reductase(EC. 1.6.6.1)	31
i) Enzyme catalase(EC. 1.11.1.6)	32
j) Enzyme peroxidase(EC. 1.11.1.7)	32
k) Soluble proteins	33
B] Pigment analysis	34
III RESULTS AND DISSCUION	
A] Germination studies:	35
a) Germination and seedling growth	35
b) Water uptake	43
c) Respiration	46
d) Enzyme dehydrogenase (EC. 1.1.1.4)	49
e) Enzyme α - amylase (EC. 3.2.1.1)	52
f) Enzyme Acid phosphatase (EC. 3.1.3.2)	55
g) Enzyme Alkaline phosphatase (EC. 3.1.3.1)	55
h) Enzyme nitrate reductase (EC. 1.6.6.1)	60
i) Enzyme catalase (EC. 1.11.1.6)	63
j) Enzyme peroxidase(EC 1.11.1.7)	67
B] Pigments analysis	69
a) Chlorophylls	69
b) Carotenoids	75
IV SUMMARY AND CONCLUSIONS:	87
V BIBLIOGRAPHY	92
PUBLICATIONS	121
STATEMENT- I	
STATEMENT- II	