

CONTENTS

CHAPTER	TITLE	PAGE NO.
	INTRODUCTION	01
I	REVIEW OF LITERATURE	
	A. Soil Salinity	08
	B. Salinity and Plant Growth	11
II	MATERIALS AND METHODS	
	A. Materials	18
	B. Methods	20
	I Organic Constituents	
	a. Chlorophyll	20
	b. TAN	21
	c. Total Lipids	22
	d. Carbohydrates	22
	e. Polyphenols	24
	f. Total Nitrogen and Crude Protein	26
	g. Proline	27
	II. Inorganic Constituents	
	a. Preparation of Plant Extract	28
	b. Estimation of Phosphorus	29
	c. Estimation of Iron	30
	d. Estimation of Sodium, Potassium Calcium and Magnesium	30
	e. Estimation of Chlorides	31
III	GERMINATION UNDER SALINE CONDITIONS	
	A. Introduction	33
	B. Biochemical Changes During Germination	37
	C. Germination under Saline Condition	43
	D. Result and Discussion	

CHAPTER	TITLE	PAGE NO.
	I. Germination Percentage	48
	II. Moisture Percentage and Dry Matter Content	54
	III. Organic Constituents	
	i. Carbohydrates	58
	ii. TAN	64
	iii. Total Nitrogen and Crude Protein	67
	iv. Total Lipids	68
	v. Proline	69
	IV. Inorganic Constituents	
	i. Sodium	73
	ii. Potassium	76
	iii. Calcium	78
	iv. Magnesium	79
	v. Phosphorus	81
	vi. Iron	81
	vii. Chloride	82
IV	SALT STRESS	
	A. Introduction	
	I. Saline and Sodic Soil	85
	II. Salt Stress and Plant Growth	86
	III. Salt Stress and Plant Metabolism	90
	B. Results and Discussion	
	I. Salt Stress and Plant Growth	97
	II. Salt Stress and Organic Constituents	
	i. Chlorophyll	103
	ii. TAN	106
	iii. Carbohydrates	110
	iv. Total Nitrogen and Crude Protein	114
	v. Polyphenol	117
	vi. Proline	120

CHAPTER	TITLE	PAGE NO.
	III. Salt Stress and Inorganic Constituents	
	i. Sodium	123
	ii. Phosphorus	127
	iii. Potassium	129
	iv. Calcium	131
	v. Chloride	134
	vi. Iron	136
	vii. Magnesium	138
V	EFFECT OF DIFFERENT FORMS OF NITROGEN FERTILIZERS	
	A. Introduction	141
	B. Forms of Nitrogen	141
	C. Role of Nitrogen in Plant Metabolism	144
	D. Nitrogen Deficiency	145
	E. Results and Discussion	
	I. Growth	148
	II. Moisture Percentage	152
	III. Organic Constituents	
	i. Chlorophyll	153
	ii. TAN	153
	iii. Carbohydrates	156
	iv. Total Nitrogen and Crude Protein	159
	v. Proline	160
	vi. Polyphenol	162
	IV. Inorganic Constituents	
	i. Sodium	164
	ii. Phosphorus	167
	iii. Potassium	169
	iv. Calcium	172
	v. Chloride	175
	vi. Iron	178
	vii. Magnesium	181
VI	SUMMARY AND CONCLUSIONS	186
	BIBLIOGRAPHY	199
	**	