

C O N T E N T S

	PAGE No.
CHAPTER I : INTRODUCTION	1
CHAPTER II : MATERIALS AND METHODS	37
CHAPTER III : RESULTS	57
Section - A : Initiation and establishment of callus cultures of <u>Nicotiana tabacum</u> L. var. Anand-2 and <u>Gossypium hirsutum</u> L. cv. Sankar-5.	57
Section - B : Growth and accumulation of total and reducing sugars in callus cultures of <u>Gossypium hirsutum</u>	60
Section C-I : Physiological studies with Amylase, Invertase, MDH, G-6-PDH and FDPA and total and reducing sugars and total starch during growth of callus tissues of tobacco and cotton	79
Section C-II: Physiological studies with GOT, ME and PEPC and total and reducing sugars during growth of callus tissues of tobacco and cotton in the dark.	94
Section - D : Hormonal effect on growth and develop- ment of Amylase, Invertase, MDH, G-6-PDH and FDPA and on total and reducing sugars in callus cultures of cotton	103
Section - E : Effect of carbohydrates on growth and development of Amylase, Invertase, MDH, G-6-PDH and FDPA and on total and reducing sugars in callus cultures of cotton	137

Section - F : Organogenesis in callus cultures of <i>Nicotiana tabacum</i> L. ...	183
Section G-I : Physiological studies with Amylase, Invertase, MDH, G-6-PDH and FDPA and total and reducing sugars and total starch in callus tissues of tobacco and cotton on shoot inducing medium.	186
Section G-II: Physiological studies with GOT, ME and PEPC and total and reducing sugars in callus tissues of tobacco and cotton cultured on shoot forming medium in the dark	201
Section H-I : Physiological studies with Amylase, Invertase, MDH, G-6-PDH and FDPA and total and reducing sugars and total starch in callus tissues of tobacco and cotton cultured on root differen- tiating medium.... ..	212
Section H-II: Physiological studies with GOT, ME and PEPC and total and reducing sugars in callus tissues of tobacco and cotton cultured on root differentiating medium in the dark.	227
Section - I : Osmotic requirement for shoot and root formation in callus cultures of tobacco	237
Section - J : Effect of an inhibitor (Rifamycin) on organogenesis and carbohydrate metabolizing enzymes in callus cultures of tobacco	242

PAGE No.

CHAPTER IV	:	DISCUSSION	...	...	...	262
CHAPTER V	:	SUMMARY	...	...	...	340
		BIBLIOGRAPHY	...	...	...	346
		PUBLICATIONS/PRESENTATIONS BY THE RESEARCHER	...			394

.....