

CONTENTS

	<i>Page</i>
I List of Tables	i
II List of Figures	vii
I- Introduction	1
II- Review of literature	4
III- Material and Methods	79
IV- results and Discussion	89
 <i>Part I: Stem cuttings studies</i>	 89
IV : 1.1. Mango	
IV: 1.1.1. Seasonal changes in some chemical constituent of cuttings as related to excising / collecting date and treatment of mother tree:	89
IV.1.1.1.A- Total indoles	89
IV.1.1.1.B- Total phenoles.	92
IV.1.1.2. Vegetative growth.	95
IV.1.1.2.1 Rooting Percentage.	95
IV. 1.1.2.2 Number of roots per cutting.	104
IV.1.1.2.3 Average root per cutting	109
IV.1.1.2.4 Number of shoots per cuttings	115
IV.1.1.2.5 Average shoot length per cutting	119
IV.1.1.2.6 Number of leaves per rooted cutting.	125
IV.1.1.2.7 Survival percentage.	131
IV.1.1.3 Anatomy of initiation and adventitious root formation.	139
 IV.1.2 Pecan	 144
IV. 1.2.1. Seasonal changes in some chemical constituents of cuttings as related to existing "collecting" date and treated mother trees.	144
IV.1.2.a- Changes in total indoles	145
IV.1.2.1. b- Changes in total phenols	147
IV.1.2.2. Vegetative growth.	149
IV.1.2.2.1. Percentage of rooting	149
IV.1.2.2. Number of development roots per cutting	159
IV.1.2.2.3 Average length of initiated roots.	166
IV.1.2.2.4 Number of developed shoots per cutting	171
IV.1.2.2.5 Average shoot length (cm) cutting	176
IV.1.2.2.6 Number of leaves per rooted cutting.	182
IV.1.2.3 Anatomy of initiation and adventitious root formation	188
 Part II: Invitro propagation.	 194
IV.II.I. Mango	
IV.II.1.1. Initiation and establishment of Taymour mango shoot tip and nodal cultures.	194
IV.II.1.1. A: Surface sterilization	197
IV.II. 1.1.b. Survival and establishment	201
IV. II.1.2. Proliferation stage of Taymour mango.	205
IV.II.1.3 Rooting stage..	

IV.II.2. Pecan	207
IV.II.2.1. Initiation and establishment of curtis pecan shoot tip and nodal cultures.	207
IV.II.2.1.a: Surface sterilization	207
IV.II.2.1.b: Survival and establishment	209
IV. II.2.2. Proliferation stage.	211
V. IV.II.2.3: Rooting stage.	214
 V. Summary and Conclusions	216
VI. Literature Cited	228
VII. Arabic Summary	-