

CONTENTS

	PAGE NO.
CHAPTER 1 INTRODUCTION	1-8
CHAPTER 2 REVIEW OF LITERATURE	9-27
2.1 Auxin	9
2.1.1 Indole-3-butyric acid (IBA)	12
2.1.2 α -Naphthalene acetic acid (NAA)	16
2.2. Gibberellins	19
2.2.1 Role of Gibberellins	20
2.3 Ethylene	25
CHAPTER 3 MATERIALS AND METHODS	28-36
3.1 Plant Description	28
3.1.1 Dahlia (<i>Dahlia pinnata</i>)	28
3.1.2 Chrysanthemum (<i>Chrysanthemum morifolium</i> Ramat)	28
3.1.3 Rose (<i>Rosa indica</i> , <i>R. alba</i>)	29
3.1.4 Mussaenda (<i>Mussaenda philipica</i>)	29
3.1.5 Azalea (<i>Rhododendron conlea</i>)	30
3.2 Chemical used	30
3.3 Glasswares	31
3.4 Preparation of Chemicals	31
3.4.1 Indole butyric acid	31
3.4.2 α -Naphthalene acetic acid	32
3.4.3 GA ₃ (Gibberellic acid) solution	32
3.4.4 GA ₄₊₇	32
3.4.5 (2-Chloroethyl) Phosphonic acid or Ethrel	32
3.5 Preparation of cuttings	33
3.6 Soil, Pot and glassware sterilization	33
3.7 Method of Application (Quick dip Method)	33
3.8 Experimental design	34

3.8.1	Combined effects	35
3.8.2	Preparation of permanent slide	35
3.9	Statistical analysis of the data	35
3.9.1	Critical difference (CD)	35
CHAPTER 4	EXPERIMENTAL FINDINGS	37-129
4.1	Effect of IBA	37
4.1.1	Effect of IBA on Dahlia	37
4.1.2	Effect of IBA on Chrysanthemum	39
4.1.3	Effect of IBA on Rose	42
4.1.4	Effect of IBA on Mussaenda	44
4.1.5	Effect of IBA on Azalea	46
4.2	Effect of NAA	48
4.2.1	Effect of NAA on Dahlia	48
4.2.2	Effect of NAA on Chrysanthemum	51
4.2.3	Effect of NAA on Rose	53
4.2.4	Effect of NAA on Mussaenda	55
4.2.5	Effect of NAA on Azalea	58
4.3	Effect of Rootex	61
4.3.1	Effect of Rootex on Dahlia	61
4.3.2	Effect of Rootex on Chrysanthemum	63
4.3.3	Effect of Rootex on Rose	65
4.3.4	Effect of Rootex on Mussaenda	68
4.3.5	Effect of Rootex on Azalea	70
4.4	Effect of Rootone	73
4.4.1	Effect of Rootone on Dahlia	73
4.4.2	Effect of Rootone on Chrysanthemum	75
4.4.3	Effect of Rootone on Rose	77
4.4.4	Effect of Rootone on Mussaenda	80
4.4.5	Effect of Rootone on Azalea	82
4.5	Interaction	83
4.5.1	Interaction between GA ₃ and IBA	83
4.5.1.1	Interaction between GA ₃ and IBA on Dahlia	83
4.5.1.2	Interaction between GA ₃ and IBA on chrysanthemum	87
4.5.1.3	Interaction between GA ₃ and IBA on Rose	88

4.5.1.4	Interaction between GA ₃ and IBA on Mussaenda	90
4.5.1.5	Interaction between GA ₃ and IBA on Azalea	92
4.5.2	Interaction between GA ₃ and NAA	94
4.5.2.1	Interaction between GA ₃ and NAA on Dahlia	95
4.5.2.2	Interaction between GA ₃ and NAA on Chrysanthemum	96
4.5.2.3	Interaction between GA ₃ and NAA on Rose	97
4.5.2.4	Interaction between GA ₃ and NAA on Mussaenda	98
4.5.2.5	Interaction between GA ₃ and NAA on Azalea	100
4.5.3	Interaction between GA ₄₊₇ and IBA	101
4.5.3.1	Interaction between GA ₄₊₇ and IBA on Dahlia	102
4.5.3.2	Interaction between GA ₄₊₇ and IBA on Chrysanthemum	103
4.5.3.3	Interaction between GA ₄₊₇ and IBA on Rose	105
4.5.3.4	Interaction between GA ₄₊₇ and IBA on Mussaenda	106
4.5.3.5	Interaction between GA ₄₊₇ and IBA on Azalea	108
4.5.4	Interaction between GA ₄₊₇ and NAA	109
4.5.4.1	Interaction between GA ₄₊₇ and NAA on Dahlia	110
4.5.4.2	Interaction between GA ₄₊₇ and NAA on Chrysanthemum	111
4.5.4.3	Interaction between GA ₄₊₇ and NAA on Rose	112
4.5.4.4	Interaction between GA ₄₊₇ and NAA on Mussaenda	114
4.5.4.5	Interaction between GA ₄₊₇ and NAA on Azalea	115
4.5.5	Interaction between ethrel and IBA	116
4.5.5.1	Interaction between ethrel and IBA on Dahlia	117
4.5.5.2	Interaction between ethrel and IBA on Chrysanthemum	118
4.5.5.3	Interaction between ethrel and IBA on Rose	119
4.5.5.4	Interaction between ethrel and IBA on Mussaenda	120
4.5.5.5	Interaction between ethrel and IBA on Azalea	121
4.5.6	Interaction between ethrel and NAA	122
4.5.6.1	Interaction between ethrel and NAA on Dahlia	123
4.5.6.2	Interaction between ethrel and NAA on Chrysanthemum	124
4.5.6.3	Interaction between ethrel and NAA on Rose	125
4.5.6.4	Interaction between ethrel and NAA on Mussaenda	127
4.5.6.5	Interaction between ethrel and NAA on Azalea	128

CHAPTER 5 DISCUSSION 130-145

5.1	Effect of Indole-3-butyric acid(IBA)	130
5.2	Effect of α -Naphthalene acetic acid (NAA)	133

5.3	Effect of Rootex	136
5.4	Effect of Rootone(Commercial formulation of IBA and NAA)	138
5.5	Interaction	140
5.5.1	Interaction between GA ₃ and IBA	141
5.5.2	Interaction between GA ₃ and NAA	141
5.5.3	Interaction between GA ₄₊₇ and IBA	142
5.5.4	Interaction between GA ₄₊₇ and NAA	142
5.5.5	Interaction between ethrel and IBA	144
5.5.6	Interaction between Ethrel and NAA	144
CHAPTER 6	SUMMARY	146-154
CHAPTER 7	BIBLIOGRAPHY	155-168