

CONTENTS

	PAGE
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	3
3. MATERIALS AND METHODS	23
4. RESULTS AND DISCUSSION	36
4.1. Experiment I: Evaluation of some bean cultivars under drought conditions	36
4.1.1. Vegetative growth characters	36
4.1.2. Dry matter content	40
4.1.3. Flowering and fruiting characteristics	42
4.1.4. Dry seed yield and its components	46
4.1.5. Chemical composition of plants	50
4.1.6. Anatomical studies of leaves	60
4.2. Experiment II: Effect of some chemical compounds on common bean plants grown under water-stress	67
4.2.1. Vegetative growth characters	67
4.2.2. Dry matter content	70
4.2.3. Flowering and fruiting characteristics	72
4.2.4. Dry seed yield and its components	72
4.2.5. Chemical composition of plants	77
4.2.6. Anatomical studies of leaves	83
4.3. Experiment III: Interespecific hybridization	89
4.3.1. Crosses	89
4.3.2. Pod culture	97
4.3.3. Embryo culture	101
5. SUMMARY AND CONCLUSION	106
6. REFERENCES	113
7. ARABIC SUMMARY	