

CONTENTS

	Page
INTRODUCTION	1
REVIEW OF LITERATURE	3
MATERIALS AND METHODS	57
RESULTS AND DISCUSSION	69
First Experiment	69
I- Effect of irrigation on:	69
A- Growth	69
B- Yield and yield components	76
C- Chemical contents	82
II- Effect of nitrogen fertilization:	88
A- Growth	88
B- Yield and yield components	94
C- Chemical contents	100
III- Effect of interaction:	107
Second Experiment	121
I- Effect of bacterial inoculation on:	121
A- Growth	121
B- Yield and yield components	125
C- Chemical contents	129
II- Effect of nitrogen fertilizer on:	134
A- Growth	134
B- Yield and yield components	138
C- Chemical contents	143
III- Effect of interaction	149
SUMMARY	162
LITERATURE CITED	172
ACKNOWLEDGEMENT	191
ARABIC SUMMARY	