CONTENTS

	Page
1-INTRODUCTION.	1
2-REVIEW OF LITERATURE.	2
2.1. Effect of form and level of nitrogen application on :	2
1. 1. Vegetative growth of tomato plant.	2
1. 2. Tomato fruit yield.	4
1. 3. Tomato fruit quality.	6
1. 4. N, P and K content of tomato plant foliage.	7
1. 5. NO3-N accumulation in tomato plant organs.	8
2.2. Effect of sulphur application on:	9
2.1. Soil-pH.	9
2.2. The availability of soil nutrients.	11
2.3. Vegetative growth of tomato plants.	12
2.4. Tomato fruit yield and quality.	12
2.3. Effect of phosphorus application on:	14
3.1. Vgetative growth of tomato plant.	14
3.2. Tomato fruit yield.	15
3.3. Tomato fruit quality.	16
2.4. Effect of nitrogen within phosphorus application on:	16
4.1. Vegetative growth of tomato plants.	16
4.2. Tomato fruit yield and quality.	17
3-MATERIALS AND METHODS.	20
3.1. Experimental procedures:	20
1.1. First experiment: Effect of N-level within N-source on growth, chemical	1 26
constituents fruit yield and fruit quality of tomato	
1.2. Second experiment: Effect of S within P on growth, chemical constituents,	, 22
yield and fruit quality of tomato.	
. Third experiment: Effect of N within P on growth, yield and fruit quality of	of 22
tomato	
3.2 Data recorded	23

	Page
3.3. Statistical analysis.	25
4-RESULTS AND DISCUSSION.	26
4.1. First experiment:	26
4. 1.1. Vegetative growth:	26
a- at flowering stage.	26
b- at fruit setting stage.	31
4.1.2. Mineral content of tomato plant foliage:	37
a- at flowering stage.	37
b- at fruit setting stage.	47
4.1.2.7. Nitrate accumulation in tomato plant organs as affected by source	56
within level of N-application.	
4.1.3. Fruit yield.	61
1.3.1. Effect of N-source on tomato fruit yield.	61
1.3.2. Effect of N-level on tomato fruit yield.	63
1.3.3. Effect pf N-source within N-level on tomato fruit yield.	65
4.1.4. Tomato fruit quality:	67
1.4.1.Effect of N-source on tomato fruit quality.	67
1.4.2. Effect of N- level on tomato fruit quality.	69
1.4.3. Effect of N-source within N-level on tomato fruit quality.	70
4.2. Second Experiment:	72
4.2.1. Vegetative growth:	72
a- at flowering stage.	72
b- at fruit setting stage.	80
4.2.2. Mineral content of tomato plant foliage:	84
a- at flowering stage.	84
b- at fruit setting stage.	91
4.2.3. Fruit yield:	100
2.3.1. Effect of sulphur application on tomato fruit yield.	100
2.3.2. Effect of phosphorus application on tomato fruit yield.	102
2.3.3 Effect of subdur within phosphorus application on tomato fruit yield.	103

	Page
4.2.4.tomato fruit quality:	105
2.4.1. Effect of sulphur application on tomato fruit quality.	105
2.4.2. Effect of phosphorus application on fruit quality.	107
2.4.3. effect of sulphur within phosphorus application on tomato fruit quality.	108
4.3. Third Experiment:	110
3.1. Effect of nitrogen and/or phosphorus on vegetative growth of tomato plant.	110
3.2. Effect of nitrogen and/or phosphorus on tomato fruit yield.	117
3.3. Effect of nitrogen and/or phosphorus on tomato fruit quality.	123
5-SUMMARY AND CONCLUSION.	129
6-REFERENCES.	137
7-ARABIC SUMMARY.	