

CONTENTS

	Page
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	3
2.1 Factors effecting Nitrogen, Phosphorus and Potassium supplying power.....	3
2.1.1 Soil reaction and Ca CO ₃ content	3
2.1.2 Soil texture	8
2.1.3 Soil salinity and water stress	15
2.1.4 Soil depth.....	18
2.1.5 Root distribution zone	21
2.2 Growth, yield and chemical composition of plant as parameters of nutrient supplying power and different soil conditions	21
2.2.1 Plant growth, dry matter production and yield	22
2.2.2 Nitrogen concentration and uptake by plants	23
2.2.3 Phosphorus concentration and uptake by plants.....	25
2.2.4 Potassium concentration and uptake by plants.....	27
3. MATERIALS AND METHODS	29
3.1 Experimentation.....	29
3.2 Analyses.....	30
3.2.1. Soil analyses.....	30
3.2.2. Plant analysis.....	33
3.3. Experimental design and statistical analysis.....	34
4. RESULTS AND DISCUSSION	35
4.1 Physical and chemical properties affecting the nutritive supplying power of the studied soil layers	35
4.2 Effect of saline water on soil chemical properties	40
4.3 Effect of saline water on nutrient status of the investigated soil layers.....	48
4.4 Effect of salinity of irrigation water , depth of soil layer and age of plant on N,P and K soil supplying power.....	56
4.4.1 Yield of plant material.....	56
4.4.2 Nitrogen concentration and uptake.....	66
4.4.3 Phosphorus concentration and uptake.....	78
4.4.4 Potassium concentration and uptake.....	88
5. SUMMARY AND CONCLUSION.....	100
6. REFERENCE.....	102
ARABIC SUMMARY.	