1. INTRODUCTION ........................................ 1
2. REVIEW OF LITERATURE .......................... 4
3. MATERIALS AND METHODS ....................... 67
4. RESULTS AND DISCUSSION ....................... 84

1. First experiment: Effect of N-fertilizer sources, biofertilizer inoculation and foliar spray with Delfan or garlic extract on growth, yield and fruit quality of sweet peppers grown in summer season. 84
   1.1. Vegetative growth 84
   1.2. Chlorophyll content 90
   1.3. N uptake 95
   1.4. P uptake 99
   1.5. K uptake 101
   1.6. Early and total yield 106
   1.7. Fruit physical characteristics 114
   1.8. Fruit chemical constituents 119
      1.8.1. Fruit acidity, vitamin-C, sugars content 119
      1.8.2. Fruit nitrate-N content 124
      1.8.3. Fruit heavy metal content 127
      1.8.4. Fruit micronutrients content 131

2. Second experiment: Effect of protecting method, chilling seeds and foliar application treatments with Delfan, sucrose and micronutrients on cold tolerance and productivity of sweet pepper grown at winter season. 137
   2.1. Vegetative growth 138
   2.2. Chlorophyll content 144
2.3. N uptake 149
2.4. P uptake 151
2.5. K uptake 156
2.6. Flowering 159
2.7. Early and total yield 163
2.8. Fruit physical characteristics 173
2.9. Fruit chemical constituents 178
5. SUMMARY AND CONCLUSION .......... 184
6. REFERENCES .............................. 199
7. ARABIC SUMMARY