

INTRODUCTION

Tomato (Lycopersicon esculentum, Mill.) is considered as the most important vegetable crop grown in A.R.E., not only for local consumption but also for the achievement of processing and exportation purposes. As mentioned by Department of Agricultural Economic and Statistics Ministry of Agriculture, A.R.E., the cultivated area reached 156644 and 166826 faddan which yielded about 1714533 and 1932090 tons with an average of 10.95 and 11.58 tons per faddan of tomato fruits for winter seasons of 1986/1987 and 1987/1988 respectively.

Many factors affect tomato growgh, flowering, fruit setting and consequently fruit yield mainly the environmental factors of weather and soil conditions beside to those factors related with the plant itself.

Nevertheless, production is still obstructed by many problems, among them is the unsuitability of environmental conditions, i.e., cold and frosty weather, that affect the whole aspects and functions of plant growth, development and productivity, especially under short season conditions in winter.

The fruit production in either tomato or other vegetable crops need the assistance of mankind, so, among the pathways followed for improving the quantity and quality of winter tomato fruits, were the seed-cold treatment and application of major elements to satisfy the needs of the plants from such

elements and in turn good growth is mostly associated with good yield.

Consequently, this work aimed to investigate the effect of seed-cold treatment individually or their interaction with the application of different rates of P and K fertilizers on the growth, chemical composition, flowering, yield and fruit quality of tomato plants cv. U.C 97-3.