

INTRODUCTION

Garlic (Allium sativum L.) is the second most widely used of the cultivated Alliums after onions . Egypt is one of the world's largest garlic producers, and may be ranked the second in this respect after Spain. Egypt also is considered as one of the largest garlic exporters.

Garlic is widely used for disguising the smell and flavour of salted meat and fish, also is often put in curries. It is also used in preparing a salad, salami sausages and many other preserved foods. In Egypt, it is fried and cook with vegetable and meat. Dehydrated garlic, in powdered or granulated form, is replacing the freish bulbs for industrial and home use in many countries. It's medicinal values were recognized in very early times, but it is no longer official in modern western pharmacopoeias. It was regarded as a powerful antidote against poisons of all kinds. Allicin of garlic has antibacterial properties. Garlic oil, is used to a limited extent for flavouring food. The extracted garlic oil may be used in some medical products.

There is no question as to the essentiality of nitrogen, phosphorus, iron and micro-nutrients to garlic plant. However, very little is known about it's requirements from such elements during different periods of growth. Accordingly,

it was thought advisable to carry out an experiment on the requirements of garlic plants from N, P, Fe and micro-nutrients during different periods of growth, by using sand culture technique.

As garlic is always propagated vegetatively by single cloves, which contain a sufficient of different organic and inorganic nutrients for enable the developing sprouts during earlier period of vegetative growth, thus the experiment began after three weeks from sowing. The experimental periods was divided into two periods , the first from 3- 15 weeks green foliage leaf formation stage, and the second from 15 to 27, weeks which mainly characterized by bulb development stage.