

EFFECE OF DIFFERENT SOURCES AND RATES OF PHOSPHORUS FERTILIZER ON GARLIC PRODUCTION

FOLY, H. M.¹ AND Y.T. ABD EL-MAGEED²

1. Horticulture Research Institute, ARC, Giza
2. Horticulture Department, Faculty of Agriculture, Minia University, Minia

(Manuscript received 15 October 2009)

Abstract

Two field Experiments were conducted in the two successive seasons of 2006 / 2007 and 2007 / 2008 at the Experimental Research Center, Minia Univ – to investigate the effect of different sources and rates of phosphorus fertilizer on the production of garlic cultivar " Sids 40 " .

Three different sources and rates of phosphorus fertilizer were applied as follows:

- 1- Bio- phosphorine (Suspensions of phosphoarine dissolving bacteria) at two rates i.e., 1 L or 2 L / 100 Kg of garlic cloves .
- 2- Orthophosphoric acid at two i.e., rates 1 % and 2 % as spraying solution .
- 3- Super phosphate (15.5% P₂O₅) at 60 and 75 Kg of P₂O₅ / Fed.

The obtained results showed that all the three different sources of phosphorus sources differed significantly on their effects on garlic growth and production , The best highest effect was obtained from the ordinary superphosphate (15.5 %) followed by the bio- phosphorin. Meanwhile, the two rates of each source differed significantly on their effect. Whereas, the highest rate of each of the three sources showed the best results on their effect on garlic growth and yielding of garlic .The most promising treatment was obtained from 60 Kg P₂O₅ on growth characters and either bio- phospharine at 2L/ 100 Kg garlic cloves or 60 kg P₂O₅ for garlic production with insignificant differences between their mean means as companied with superphosphate .

4 – The weight losses after 3 and 6 months of production was unpaired with using bio phospharine .

INTRODUCTION

Garlic (*Allium Sativum*) is one of the oldest and economically vegetable crops in Egypt. Garlic has been used as food and medicine in many cultures for thousands of years . Egypt is considered to be one of the major producers of garlic in the world .The major garlic growing areas in Egypt at EL – Minia and Beni- sueif governorates .

Recently great efforts have been done to produce clean and healthy vegetable crops. Biofertilizers , which can be defined as preparation containing live cell of efficient strains of nitrogen fixing organisms or phosphate solublizing bacteria could be used instead of chemical fertilizers (Subba ,1984) . Phosphorus is considered the second essential nutrient element for plant growth and development , it plays an