INTRODUCTION

1-Introduction

Lilium belongs to family, liliaceae. Lily Noble plants for outdoor bloom, and few of them grown under glass. They comprise one of the distinctive flower forms. The lily has become one of the popular flowers of the world.

Division of offsets, bulbils, scales or seeds are the methods to propagate lilies. The best and easiest method with most species the division of the offsets, consider and the best time to do this dividing and replanting is from two to four weeks after the florets fade or immediately after seeds ripen.

Its popularity is due not alone to the fact that *Lilium longiflorum* is the acknowledged Easter lily of commerice, but it is a plant particularly well adapted for church, wedding and other decorations at any season of the year **(Bailey, 1914).**

On different plants several investigations proved that used P or K fertilization to encourage and increase the vegetative growth, flowering parameters, as well as, bulbs production, such as **Roberts *et al.* (1964)** on lilium, **Nederpel (1971)** and **Thomas *et al.* (1998)** on freesia, **Bose *et al.* (1980)** on amaryllis, **El-sayed *et al.* (1987)** on tuberosa, **Fisher and Kalthoff (1987)** on anemones, **Roy *et al.* (1995)** and **Singh *et al.* (1997)** on gladiolus, **Aiello *et al.* (1997)** on iris

At the mean time bio–fertilization as active dry yeast applications were suggested for promoting growth and flowering characters of various plants as Hibiscus **(Shadia *et al.* 1998)** and magnolia, **(Ramadan, 2001)**. The various positive effects of applying active dry yeast were attributed to its own content of different nutrients, high percentage of protein, large amount of vitamin B and natural plant growth regulators such as cytokinins **(Winkler *et al.* 1962, Roberts, 1976, Karig and Harber, 1980, Castilfranea and Beale, 1983, Spencer *et al.* 1983, Barnett *et al.* 1990, Fathy and Farid, 1996, Atawia and El-Desouky, 1997 and Fathy *et al.* 2000).**

However, carbohydrates and Mineral contents i.e.. N, P and K on gladiolus **(El-Khateeb, 1979)**, tuberosa **(Barham *et al.*, 1983)** on freesia

(Koriesh and Badawy, 1984 and **Abou – Dahab, 1987)** on dahlia **(El-Hanafy, 1985)** on Iris **(Nabih *et al.*, 1987)**, tuberose **(El-Tantawy *et al.*, 1992** and **Badawy, 1998)** were found to increase as a result of increased P, K and yeast fertilization or bio- fertilization treatments.

This investigation was consummated to find out the effects of different fertilization (P and K) or bio-fertilization (yeast) levels on growth, flowering, bulbs production and chemical composition of *Lilium longiflorum* var. lasio and poliana.