INTRODUCTION

INTRODUCTION

Viola odorata. L. (Violet) belongs to the family Violaceae is a favourite small perennial herb plant .

Albert (1943), reported that ***Viola odorata***, L. is the garden sweet or florists violet . Violets are tufted plants with long prostrate stolons and cordate ovate, serrated leaves. The flowers are fragrant, deep violet in color, but rarely, white or rose-colored, originated into Europe, Asia and Africa .

Flowers and leaves of ***Viola odorata***, L. contain volatile oils which is extracted almost with volatile solvents. The yield of concrete depends on the growth statement of the plant organs.

Yields of concrete range from 0.09 - 0.17% for violet flowers and from 0.05 - 0.13% for the leaves. The violet absolute is extremely important as a perfuming agent employed in cosmetics, soaps, perfumes and pharmaceutical preparations (Guenther 1961) .

Also, Roy (1981), reported that violet flowers were used to decorate and perfume rooms and the leaves were used in salads and other recipes. The powdered root, sold as violet powder, was widely used as a perfume and as a base for tooth - powder. Pieces of the dried root were given to teething babies to bit on .

In the past few years, great attention has been focussed on the possibility of using foliar application of growth regulators and micro-nutrients in order to improve both growth and quality of flowering plants .

Although micro-nutrients are needed in relatively very small quantites for adequate plant production, their deficiences cause a great disturbance in the physiological and metabolic processes involved in the plant. The insufficient supply of these elements to horticultural plants is considered to be one of the most important nutritional problems especially after the decrease of these elements in the Nile water (Nabhan 1966). Moreover, the PH of the most Egyptian soil are

relatively high. Therefore, this study aimed to investigate the effect of foliar application of specific micro-nutrients, Fe, Mn and Zn applied at different levels on growth, flowering, essential oil and chemical composition of ***Viola odorata***, L.

A nother experiment was also carried out in order to increase plant growth, flowering and essential oil by mean of using different levels of GA3 applied as foliar application.