INTRODUCTION

1- INTRODUCTION

Common bean *(Phaseolus vulgaris L.)* is the main cultivated species and the most important economic crop plant in the genus Phaseolus. It is grown for production not only the green pods but also for dry seeds. In the last decade, common bean in Egypt occupies a great figure in the local consumption and promising for export. *The cultivated area for green bean and dry common bean plants in the year 2001 were 50720 and 34633 feddan respectively produced, 214887 and 40645 tons with an average of 4.24 and 1.17 tons /fed.

Common bean yield could be increased horizontally by increasing the cultivated area and / or vertically by increasing the yield of unit area. Increasing the yield / unit area can be achieved through cultivation of high yielding ability cultivars and application of the suitable levels of fertilization especially phosphatic fertilizers. Phosphorus is one of the essential elements needed for plant photosynthesis. It is important in enzymatic system and plays a vital role in division and development of meristematic tissues. It is a constituent of many vital compounds in plant since it plays a direct role as an energy carrier through ATP and ADP compounds. Also it is essential for fruit ripening as well as seed germination.

The problem of phosphorus in the Egyptian soil is due to the tendency of the pH to be high in soil in which phosphorus is

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easily converted to unavailable form such $Ca3\ (PO_4)_2$.

Therefore, the present work was undertaken to study the effect of biofertilizer application as biological technique for reducing the rates of mineral fertilizers applied and to determine the optimum level of phosphorus fertilizer required by bean plants for obtaining the maximum yield with best quality either from snap bean and / or dry bean and the effect of such used phosphatic fertilizers on growth and chemical contents of plant and seeds.