1-INTRODUCTION

Legumes play an important role in the traditional diets of most Mediterranean countries. In contrast in Western countries beans tend to play only a minor dietary role despite the fact that they are low in fat and are excellent sources of carbohydrate, protein, dietary fiber. The application of bio-fertilizers is economically important to reduce the cost of fertilizers and ecologically to avoid environmental pollution.

Many scientists at different parts of the world had concluded that inoculation with N_2 fixers can save half the normal field rate of inorganic nitrogen fertilizer ***(Badawy et al., 1997)***.

On the other hand 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 merstimatic tissues. Also 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. It is essential for fruit ripening as well as seed germination. Leguminous vegetable crops mainly Common Bean (*Phaseolus vulgaris* L.) and Pea (*Pisum sativum* L.) play an important role for human nutrition as a cheap source of proteins, carbohydrates, vitamins and minerals. In addition they have an essential role in the soil

fertility. They are commercially grown to produce green pods and dry seeds.

1) Bean (*Phaseolus vulgaris* L.) cultivated area in the year 2001 was 50720* faddan for green pods production with total green pods yield was 214887 tons its average are 4.24 ton/fed. and 34633 faddan for dry seeds production with total seed yield 40645 tons its average are 1.17 ton/fed.

2) Pea (*Pisum sativum* L.) cultivated area in the year 2001 was 56782* faddan for green pods production with total green pods yield was 227135 tons with an average 4.0 ton/fed and 19 faddans for dry seeds production with total seed yield 37 tons its average are 1.90 ton/fed.

Several investigators reported the beneficial effects of NPK fertilizers on growth and yield. However, the continuous increase in the cost of using chemical NPK fertilizers prevents the farmers to use sufficient amount of fertilizers, since the excessive use of NPK fertilizers represents the major cost in plant production and causes pollution of the agricultural environment as well as the use of N-fertilizers in excess levels caused significant increase in nitrate accumulation of several vegetable crops.

Under these circumstances supplementing or substitution of inorganic fertilizers with organic sources, especially those of microbial organ, is important.

Hence, it is worthy to study the suitable levels of each and the effect of biological fertilizers.

Therefore, this investigation was carried out to study the effect of three bio-fertilizers and two levels of nitrogen and phosphorus fertilizers on Bean and Pea plants vegetative growth, yield and their seeds chemical composition.

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•* ***Department of Agricultural Statistics, Ministry of Agriculture and Land Reclamation, Egypt 2001.***