1- INTRODUCTION

Leguminous crops are of great importance for human feeding as their seeds contain considerable amounts of plant protein, carbohydrates, minerals, vitamins and some of the essential amino acids.

Peas (*Pisum sativum* L.) is one of the necessary leguminous vegetable crops, which could be cultivated in most of the Egyptian fields especially in the new reclaimed soils. The total cultivated area of garden pea in Egypt was 82736 feddan with productivity 186247 ton with average 4.08 ton / fed. The newly cultivated area of peas in Egypt especially in South Sainai Governorate was reduced in the same experimental years. This reduction in cultivated area may be due to the high salinity of irrigation water and high calcareous saline soil. Many investigators studied the effect of salinity on peas and mentioned that osmotic stress decreased epicotyl growth and water potential in mature tissue. Cell elongation in pea epicotyls was much more sensitive to osmotic stress than was cell division. Furthermore, the salt stress produces dwarf plants with less number and small photosynthetic leaves surface and considerable amount of flowers fall down after or before the pollination. All of these factors sharply decrease the yield and inferior seed quality (**Abed *et al.*, 1987**(a and b), and **Seijo *et al.*, 1997**).

In the desert soils, the cultivation of peas or other leguminous crops are of great difficulties without application

of *Rhizobium sp.* Many investigators revealed that *Rhizobium sp.* has the ability to fix atmospheric nitrogen as well as production of growth regulators which affect, to great extent, the plant growth and production (**Datta and Basu 1997**and **El-Desouky *et al.*, 1997**). The abundance of mineral phosphorus in the soil causes higher activity of *Rhizobium* for nitrogen fixation and production of growth regulators.

The application of other micro-organisms specially those which dissolves unsoluble phosphate may enhance the activity of *Rhizobium* as soon as in presence of organic manure. Many investigators revealed the importance of phosphate dissolving bacteria (PDB) for increasing the solubility of phosphorus among them was **Abd-El-Magid *et al.* (1992)**. They reveled that the inoculation of PDB was found to be of great effect on the activity of *Rhizobium*.

Therefore, this experiment was conducted to study the ability of increasing the growth, yield and quality of pea grown under sandy soil conditions and irrigated with saline water by using different sources of organic manures and bio-fertilizers as a clean cultivation in comparison with the application of mineral fertilizers.

Table (A): The productivity of green pods and dry seeds of peas in all over Egypt during 1999 and 2000 winter seasons.

Governorates	Production of green pods yield of peas						Production of dry seeds yield of peas					
	1999			2000			1999			2000		
	Area/fed	Yield ton/fed.	Product-ion / ton	Area/ fed.	Yield ton/fed.	Product-ion / ton	Area/ fed.	Yield ton/fed.	Product-ion / ton	Area/ fed.	Yield ton/fed.	Product-ion / ton
Alexandria	2470	4.16	10277	4849	5.21	25247	0	0	0	0	0	0
Behaera	5054	4.25	21483	15433	3.27	50429	0	0	0	0	0	0
Gharbia	3288	3.55	11682	5504	3.66	19602	212	0.72	153	0	0	0
Kafr El-Shiekh	809	3.80	3072	295	3.73	1101	0	0	0	0	0	0
Dakahlia	5481	5.66	31034	11506	6.91	79472	0	0	0	0	0	0
Doamiettl	110	4.73	520	116	4.81	558	0	0	0	0	0	0
Sharkia	3136	3.94	12365	5707	6.12	34909	0	0	0	17	3.00	51
Ismailia	1290	5.30	6833	1035	5.42	5607	0	0	0	0	0	0
Port-Said	0	0	0	0	0	0	0	0	0	0	0	0
Suez	8	3.25	26	8	3.75	30	0	0	0	0	0	0
Menoufia	798	3.76	3000	2542	3.13	7945	0	0	0	0	0	0
Kalyoubia	4813	6.06	29168	4762	6.27	29878	0	0	0	0	0	0
Cairo	11	3.36	37	14	3.50	49	0	0	0	0	0	0
Giza	2197	4.96	10896	2002	4.77	9541	0	0	0	0	0	0
Bini Suef	156	3.09	482	111	3.50	389	44	0.80	35	45	0.93	42
Fayoum	360	3.42	1232	489	3.54	1733	0	0	0	0	0	0
Menia	861	5.10	4387	284	4.99	1417	0	0	0	0	0	0
Asyout	77	7.30	562	181	6.38	1155	0	0	0	0	0	0
Suhag	52	3.42	178	27	3.70	100	22	1.18	26	0	0	0
Quena	12	5.25	63	4	4.75	19	0	0	0	0	0	0
Aswan	6	4.00	24	4	5.00	20	0	0	0	0	0	0
Luxor	0	0	0	0	0	0	0	0	0	0	0	0
New Valley	32	4.03	129	25	4.36	109	112	0.45	50	134	0.43	57
Matruh	820	1.99	1632	1265	2.00	2530	0	0	0	0	0	0
Red Sea	0	0	0	0	0	0	0	0	0	0	0	0
North Sainai	35	3.09	108	1	3.00	3	0	0	0	0	0	0
South Sainai	5	3.00	15	0	0	0	0	0	0	0	0	0
Noubaria	21879	1.69	37042	26572	2.47	65693	0	0	0	0	0	0
Total	53760	3.46	186247	82736	4.08	337536	390	0.68	264	196	0.77	150

Agriculture Statistics, Ministry of Agriculture.