

**THE EFFECT OF ANIMAL MANURE AND SULPHUR ON SOME SOIL PHYSICAL PROPERTIES , GROWTH AND YIELD OF BROAD BEAN *Vicia faba* UNDER SALINE CALCAREOUS SOIL CONDITION.**

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**ABSTRACT**

Field experiment was conducted in silty clay alluvial calcareous salo orthid soil. Broad bean ( *Vicia faba* ), Spanish cultivar was grown during winter season 2009-2010, three animal manure levels ( Sheep residues ) 0,4 and 8 tons ha<sup>-1</sup> and three sulphur % 98 treatments (0,2 and 4 ton ha<sup>-1</sup>) were used .Randomized Complete Block design in Factorial experiment was followed .

The results indicated to positive effect of both animal manure and sulphur application on some soil physical properties . Soil bulk density was reduced at two animal manure levels 4and8 ton ha<sup>-1</sup> and sulphur fertilization treatments 2and 4ton ha<sup>-1</sup> non significantly. Meanwhile, water infiltration rate increased significantly at the above treatments of animal manure, sulphur and their interaction .

The results indicated that some plant growth properties like plant height and No. of tillers / plant increased significantly and vegetative dry matter / plant non significantly as a response for the above treatments. On the other hand, some yield parameters namely , mean weight of pods/plant , weight of 1000 grains, total yield and pure total weight of grains per hectare were increased significantly under a favorable treatments under investigation . However , maximum grain yield reached about 2457 kg ha<sup>-1</sup> at the interactive treatment ( 8 ton animal manure + 4 tons sulphur ha<sup>-1</sup>) .The results did not indicate to an important increase in mean grain weight/ mean total pod weight ratio as well as in No. of pods/plant.

From the above results it can be deduced that both of sheep residues and sulphur are considered to be a good sources for plant nutrition and to improve the physical , chemical of soil properties .