Effect of salinity and bentonite on the characteristics of mineral soil. Study the behaviour of leguminous plants (Vicia Faba L.)

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ABSTRACT

In order to improve the agricultural product, especially leguminous plants (*Vicia faba* L.) in sandy soils, we used bentonite to ameliorate their physical and chemicals properties. To evaluate the ecological advantage of this clay in these soils, an increasing amounts of bentonite were added to the sandy soil, then the physical and chemical characteristics of the mixture were identified such as pH, E.C. (electrical conductivity), total calcareous, active calcareous, total phosphorus, organic carbon, organic matter, total nitrogen and exchange cations capacity. The drought causes a rise of salts in the rhizosphere particularly in arid and semi-arid regions. This work is an analysis of the response of the leguminous plant *Vicia faba* L. to increasing concentrations of bentonite and salt as well as to understand the variability of certain metabolic activities, mineral content and morpho-physiological behavior of the plant response to this abiotic stress. Results show that variability exists in physical and chemical characteristics and morphological growth of the plant according to the bentonite amount mixed in the sandy soil sample.

Keywords: Bentonite, salty soil, physical and chemical characteristics, rehabilitation , leguminous plants (*Vicia faba* L.).