



Journal

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**EFFECT OF SEAWEED
EXTRACT AND HUNDZ SOIL
CONDITIONERS ON SEEDS
PRODUCTION OF COMMON
BEAN
(*PHASEOLUS VULGARIS* L.)
UNDER DROUGHT CONDITIONS**

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ABSTRACT

The present study aimed to investigate the effect of seaweed extract (SWE) and hundz soil (HS) as soil conditioners on growth, yield and chemical constituents of common bean plants under drought stress. Two field experiments were conducted, in March 2013 and 2014. Irrigation was conducted after the depletion of 60%, 75% and 90% of available soil water. Two samples were taken after 60 days from sowing and at harvest time.

The obtained results showed that SWE and HS led to a significant increase in leaves number per plant, leaf area, fresh and dry weights of leaves in both seasons at 60 days from planting comparing with the control. As for the yield components, SWE and HS led to a significant increase in number of seeds per pod and the yield of plant in both seasons at harvest time comparing with the control. All treatments and their combinations showed a stimulated effect in average number of seeds per plant, seeds yield per fadden and weight of 100 seed as compared with control in both seasons.

Also all treatments and their combinations caused a significant increase in nitrogen, phosphorus, total protein and total soluble carbohydrates concentrations compared to the control in both seasons. The highest values of calcium concentrations in common bean seeds were observed by SWE and HS treatments at harvest time compared to the control in both seasons.

Finally, it could be concluded that the most treatments, seaweed extract and hundz soil conditioner improving common bean tolerance under drought conditions.

Key words: Common bean, Drought stress, hundz soil conditioner, *Phaseolus vulgaris*, seaweed extract.