

Abstract

In order to succeed in the production of agricultural products, the selection of the appropriate plant materials and the supply of their needs are necessary. The correct understanding of plant growth, the recognition of plant requirements and management in their use are success key in production. In our country, irregular use of chemical fertilizers and lack of attention to the importance and positive effects of organic materials in improving the fertility of agricultural soils has been resulted in the increase of use of chemical fertilizers, and the creation of environmental pollution and ecological damage. Therefore to reduce these risks should be used from fertilizer that in addition to increasing the availability of nutrients elements , improve the physical and microbial conditions of the soil. One of these fertilizer is the use of bio- fertilizers. One of the biological resources is marine algae which are rich in materials needed for plant growth, there fore in this study, the effect of alga (*Ulva fasciata* L.) extract has been investigated on Sesamum plant (*Sesamum indicum* L.) indices. is one of the cultivated plants. Due to the high quantity and quality of oil obtained of it has a special place among cultivated plants in the tropical and subtropical regions in the world. This experiment has been conducted on Farm conditions. The experimental factors consisted of algae extract in 3 concentration of 10, 15 and 20%. It should be noted that the control plant was used without applying algae extract. According to the obtained data, most of the traits physiological (Except for germination percentage) and biochemical properties between the treatments examined of *Sesamum indicum* plant were significantly different. Morphological characters Such as The length of plumule and radicle, stem length, fresh weight, dry weight, diameter and leaf area of sesame plant in different treatments of algae extract increased significantly compared to control. The results showed that the lowest efficiency compared to control plants in growth physiology characters in most of the was 15% concentration and in biochemical characters at 10% concentration. the best results of the studied characters were observed in the concentration of 20%. Alga extract with having essential plant elements and growth hormones, without damage to nature as a bio-fertilizer can be a good alternative to chemical fertilizers and can have an important role in managing the supply of healthy food.

Keywords: BioFertilizer, extract Alga, *Ulva fasciata*, Sesame



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Title

**The effect of green algae (*Ulva fasciata* L.) extract on
growth and physiological parameters of sesame plant
(*sesamum indicum* L.)**

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