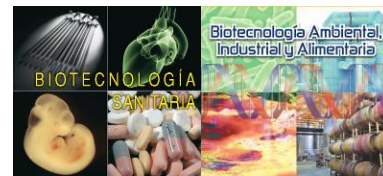


Talk

TRANSFORMATION OF PROCESS WATER IN THE AGRI-FOOD INDUSTRY FOR ITS USE IN THE AGRICULTURE IN ORDER TO IMPROVE THE AGRICULTURAL PROCESSES.



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ABSTRACT

The agricultural sector is facing a challenge because they need to increase the productivity of the agricultural crops due to the growing global population. Moreover, another problem is the negative impact that the chemical fertilizers and pesticides have in the ecosystems and human health. For this reason, investigation is needed to find other type of fertilizers to avoid this detrimental impact. Nowadays, biostimulants are playing an important role, they are considered as plant growth regulators because they enhance flowering, germination, plant growth and crop productivity and are environmental-friendly [1].

In this study, the efficiency of the microalgae and their use as biostimulants have been put to test. In order to prove the effects in the plant growth and crop productivity using lettuce as test crop, seven solutions have been prepared with different concentrations of natural fertilizer, microorganisms and microalgae. After that, these solutions were tested to prove if microalgae promoted seed germination and plant development in radishes' seed. Finally, cut flowers (daisies) were used to prove the efficiency of microalgae in the maintenance of post-harvey, so four solutions which had water, aspirin, microalgae culture (with the microalgae) and seaweed liquid extract (without the microalgae) were prepared.

The results showed improve in the test crops as well as in the cut flowers. This can be explained because microalgae produce phytohormones like auxins, gibberelins, cytokinins and abscisc acid and other exogenous molecules as lipids, aminoacids, polysaccharide, etc. That can cause this beneficial effect [2].

In conclusion, the microalgae seems to be a perfect substitute for the chemical fertilizers because of its benefits and non-harmful effects.

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