

Study of the reality of using hydroponics and the use effect of an innovative nutrient solution of reed on plant growth in the hydroponic system

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1. What is the reality of using hydroponics in our society?
2. How can we create a nutritious solution for hydroponic system from rogue plant (reed)?
3. What is the effect of using the innovative nutrient solution from rogue plant (reed) on plant growth in the hydroponic system?

Research Procedures

- Identifying, reviewing and documenting some sources of information related to the topic of research.
- Coordinating a visit for a community member interested in different farming techniques, including hydroponics.
- Publishing a questionnaire to study the reality of people's use of aquaculture in Omani society.
- Determining the appropriate protocols for collecting research data, which were mainly represented in the water protocol and the land cover protocol.
- Applying the research by implementing the protocols established at the study site.
- Collecting data and organizing it into tables.
- Entering data on the program website. .
- Analyze the data collected through the implemented protocols.
- Reaching conclusions and recommendations.

Abstract

The research aims to study the reality of using hydroponics with respect to climate change, and the effect of an innovative nutrient solution from reed on plant growth in the hydroponics system.

A questionnaire was developed and published, and the research was applied in the school's hydroponics system, where the activities of the water protocol (conductivity, salinity, and acidity) were applied before and after adding the nutrient solution from the reed. In addition, the ground cover protocol for cultivated plants was applied and the growth rate was measured weekly.

The results of the research indicated that the community members had less than average awareness of hydroponics (48.2%), and the scarcity of their use of hydroponic systems, whether in their homes or farms (12.8%). The researchers succeeded in inventing the nutrient solution from the reed and adding it to the hydroponic system, which resulted in better growth rates in tomato plants (4.25 cm within two weeks) compared to using regular nutrients from the market (3.06 cm within two weeks). Thus, the researchers recommend the need to spread awareness about hydroponics, and the possibility of exploiting the reed and using it in nutrient solutions for hydroponic systems.

References

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