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ECOSYSTEMS FOR THE DEVELOPMENT OF LIFE ON MARS

Abstract

The importance of life security and the possibility of surviving in another planet, it's the aim of this research. That's why, it's essential to study, and prove the hydroponics crops because through them researches can determine the minimum requirements and conditions for food to develop. Additionally, this will provide vital resources for the missions, testing different seeds in order to analyze their behavior in this environment. + Plants Need Light to Grow In open fields on Earth, light is plentiful. But out in space, use of direct sunlight for plant growth is a challenge. Yet having sufficient light will be required growing plants efficiently. + Protection From Radiation As if finding the right soil, water and lighting wasn't enough of a challenge, food crops also would need to be protected from radiation and kept inside a pressurized environment with adequate nutrients and appropriate lighting. The shelter will be able to withstand radiation and the extreme temperatures of a Martian environment. + Source of Recycling Growing crops in space or on another planet could provide other benefits besides food. The plants serve to provide oxygen and remove carbon dioxide from air sources. While plants grow, they generate oxygen through photosynthesis, and they would scrub carbon dioxide out of the air inside a cabin environment. Wheeler said if you co-utilize them in the right manner, they could help process wastewater. + Energy and Water As we know of limited access to the use of energy and water on mars (two important things for growing crops) this proposal seeks to optimize the correct use of this two things to have favorable results, thinking that they are the most important; in this subject, the search for water on Mars is vital, that's why we bear in mind specific silicates and sedimentary rocks that have been on studies before and their importance is huge not only for the growing cops, but also for any kind of life on the planet. Our proposal focuses on the development of a monitoring and control system specialized in hydroponics that seeks to determine the behavior of corn, squash, beans and potatoes plantations; The device will be designed based on the primary needs taking into account a limited use of water, energy, likewise, it will have a system that monitors the quantities of oxygen that these plants produce.