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ANALYSIS OF PLANT MORPHOLOGY AND PHYLOGENETICS OF INDIGENOUS PLANTS AS A
SOURCE OF FOOD, OXYGEN AND MEDICINAL PURPOSES FOR SPACE APPLICATIONS**Abstract**

Exploring the universe has been an unfulfilled dream of mankind since time immemorial. With growing interest and curiosity for this making humanity a thriving interplanetary species, Mars could be the first step taken. Knowing Mars can help we know more about the Earth's time scale and the origin of life. To do that, the development of the novel the technology and integration of multiple fields in terms of residential establishment should be taken lightly. This research focuses on combining many important areas of natural science into astrobiological and geological the idea of creating an effective bio-regenerative health support system for the Mars-centered environment in indigenous species that require less energy, water, nutrients and waste production. Mars' own habitat Too much nutrition depends on the heat sink to produce oxygen and food. Plant growth in the Mars area is cared for by the atmosphere in a circular manner, meaning that the growth and care of plants can be done by anyone a person who understands the needs of plants. The plants used in this study are relatively easy to grow needs and take less time to produce food from them and work for recreational purposes that help produce food from them psychological needs of space. The bioavailability of the Martian regolith is best suited for low-yield plants taking and the need for power. With the inclusion of a variety of plants from different local domains as well climatic conditions, the range of plants used for food production and oxygen production can grow over and over again. Indigenous plants such as *Nigella sativa* (black cumin), *Bocconia cordata* (Plume Poppy), and *Melocactus herntneri* (Brazilian cactus Coroa de Frade / Priest Crown) are some examples of plants that grow in extreme weather. conditions where there is a lack of water or a lack of nutrients. But these plants use it effectively conditions that exist to grow well and contain therapeutic properties that help the human body. It expands research on plant species can pay off in an efficient habitat for Mars and the poles method of drug preparation in a closed area
Keywords: Indigenous medicinal plants, Bioregenerative life support program, space food production, Mars habitat