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Designing an App for Evaluating the Effects of Sound Waves (Music) on Plant Growth

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Abstract

Background: The effect of music on plant growth is still a dubious issue among scientists and experts. Researchers and experts conducted many studies to demonstrate that musical stimulation improves plant growth. The role of technology cannot be ignored today. Nature, in particular plants and their importance in life, are neglected due to existence of various industries and human attachment to them.

However, nature and supervening natural disasters give a warning to humans submerged in technology and artificial industry and remind them of the importance of plants and taking care of them. Biological scientists are constantly trying to find a way to live a better life, a way to conserve nature, produce high-yield plants, and use genetic manipulation to obtain better, nutrient -rich products.

Objectives: To improve living conditions, researchers and scientists try the use of sound waves (music) and investigate their effects on different aspects of life. Successes have been reported in this regard including the positive effect of music on cow lactation, mental illness treatment, labor productivity growth, etc. This study aims to examine the effects of sound waves (music) on plant growth.

Methods: The effect of sound waves (music) on plant growth is investigated in this research by designing and developing an app that can monitor acoustic features (frequency range, intensity of sound, etc.).

Results: Most people think that plant growth is predetermined and is stopped temporarily or permanently only in response to different tensions. Plants seem to be out of behavior and intelligence since they have no obvious motion. However, plants dominate every prospect. Biomass allocated to plant species is 77%. Plants monitor at least 23 different environment variables continuously due to their significant sensitivity. People, in particular farmers, have long hoped to find better ways in improving farming, to grow plants faster, and to have richer harvest. According to studies, music affects the processes of germination, growth, and development of plants as well as physiological phenomenon (photosynthesis), flowering time and rate, and also plant performance. Among different types of music, mild music has a greater effect. Heavy music like heavy metal and rock is not only not useful, but also has a negative effect on plant growth. Rock music may result in shorter plants. Mild music makes plants give off more oxygen, therefore, the amount of Carbon dioxide received increases. This will lead to more growth of fruit and flowers as well as improved performance. Moreover, evidence shows that sound waves cause production of more resistant and healthier plants. Farmers and affiliated industries face one of the growing problems in the world, which is drought and water scarcity in different countries such as Iran. According to research, plants influenced by music need less water. Therefore, paying attention to this issue may be helpful in this situation of water scarcity and have a role in solving this problem.

Keywords: Sound Waves; Cellular Phone; Application; Music; Growth of Plants