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## Oscillatory processes of water and mineral metabolism of plants cultivated on thin-layer juvenile analogues of soil

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We analyze the experimental data on the dynamics of water and mineral metabolism of tomato plants by using the methods of spectral analysis. Plants were cultivated under controlled conditions. We have used the various compositions of juvenile analogues of thin-layer soil. It is shown that the composition of the soil analogue significantly affects the dynamics of water-mineral metabolism of plants and plant productivity. It was found that the dynamics of the water and mineral metabolism of plants has a clear oscillatory structure. We have identified the most intense frequencies of this process. It was found that in order to maximize the productivity of plants it is necessary that the process of transpiration should contain simultaneously both high-frequency and low-frequency periodicities. This creates the most favorable environment for the development and functioning of the plant root system. It was shown that vibrations of water metabolism closely connected with the vibrations of the content of chemical elements in plants.

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