How Do Sound Waves Affect Plant Root Physiology and Photosynthesis?

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Title: What is the effect sound waves have on plant root physiology and photosynthesis? Purpose: To test the effects of sound pollution on photosynthesis, and plant root physiology. Methods: Six cups of radish plants were grown in identical conditions, Three were exposed to recordings of our agricultural and community sounds for 24/7(hours, days). The radishes were divided up into two separate containers, keeping the sound out of three, and keeping sound around three. Plants were watered and had sunlight along with measuring stem height and leaf width every other day until day 15. On day 12 leaf samples were cut, and placed in 10 mL of alcohol, and refrigerated overnight. The chlorophyll solution from the previous day, was placed in a spectrophotometer to calculate percent transmittance. On the 15th day, the height of the plants, leaf width, length of roots, and weight of roots were measured. Results: My data shows that sound pollution does affect plant health negatively. Although the plant height, and leaf width became longer and wider in the plants exposed to the sound recording, towards the end of this experiment, the leaves concealed from sound soared forward in height and leaf width, and had healthier roots and chlorophyll levels. Conclusion: This experiment was conducted to analyze the effects of sound pollution on plant health. Through the data I collected, I am able to accept my hypothesis as the root, stem, leaf, and chlorophyll health, overall, was proved healthier when shielded from sound pollution.

Awards Won:

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