Plant Based Water Purification

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Many places lack clean water and the chemicals needed to treat water are not easily accessible either. Moringa plants tend to grow near the equator where most countries lack water. Moringa plants are known for its cleaning ability. The hypothesis of this project is if the moringa seeds can provide the same amount of water purification as currently achieved by chemical treatment, then it will provide an alternate, non-toxic solution. To test this, two experiments were done, a bacteria test and a UV light test with four types of water. First, moringa solutions were made by crushing seeds and mixing it with distilled water. Two solutions were made, a 2g and a 4g. For the bacteria test, bacteria were placed on agar plates and three variations were done. The first plate had only bacteria, the second had bacteria with the 2g moringa solution, and a third one with the 4g solution. The second experiment was done in a lab using a UV light. The types of waters tested were creek, river, park, and dirty waters. Both moringa solutions were mixed into the waters with alum powder also being tested. The variations being tested were distilled water, the type of water, 2g moringa solution mixed in, 4g moringa solution, and alum. The results were statistically significant, but the moringa solutions did not clean as effectively as the alum powder. While not cleaning as effectively, this was a step in the right direction and further testing can be done with moringa seeds.

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