Moringa oleifera: Purify Your Water Supply

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Every day, thousands of people in the underdeveloped world die from lack of a clean drinking source or a water related disease. This led me to my science fair project: can water be easily purified using the Moringa oleifera plant? I predicted that by adding powdered Moringa oleifera seeds to dirty water, it would be purified in a cost- and energy-efficient way, while proving a method of providing a clean drinking source for underdeveloped countries. To perform the experiment, combine crushed Moringa seeds with 250 mL of clean water, shaking it in a water bottle for one minute. Filter the resulting milky fluid through a tea strainer and muslin cloth to remove excess seed parts, and pour it into the contaminated water. Stir the water, then allow it to sit undisturbed for 1-2 hours. Take samples of both the control and treated water to a water-testing center within 30 hours to prevent bacteria from dying. Record your results. The results of the water test showed that the untreated sample contained 1732.9 colonies of coliform bacteria per 100 mL of water, while the sample treated with Moringa oleifera contained 131.4 colonies of coliform bacteria per 100 mL of water. The Moringa oleifera seed powder removed 92.417% of coliform bacteria from the water. This method of purification was able to significantly decrease levels of turbidity and bacteria in the water sample. Through more research, science may find a way to use Moringa Oleifera to bring clean water to millions in the future.

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