What Is the Effect of the pH of Water Used to Dilute Fertilizers on Mineral Content in Soil?

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Purpose: To optimize the effectiveness of fertilizers. Maximizing the productivity of the fertilizer leads to preventing overfertilization. Overfertilization negatively affects the environment by contributing to pollution Procedure: Solutions of varying pH were created and then fertilizer was diluted in them. The solutions were then left to absorb in soil samples. The soil samples were then ground up and sieved. The fine soil was mixed with NaOH in a flask and then mixed periodically. The filter paper for the chromatograms was prepared by letting them absorb AgNO3 using capillary action. The filter paper was then placed in a box that allowed no light through them for 4 hours. The soil solution was placed in Petri dishes using a pipette. The filter paper was placed in the Petri dishes. The filter paper was left overnight to become soil chromatograms. Data: When considering error bars, not a lot of correlations are present, meaning the mineral contents were almost the same for all of the chromatograms. The error bars suggest that the pH of the water when diluting the water is irrelevant because all of the error bars on the graph overlap. Conclusion: The hypothesis that the fertilizer will be most effective in increasing the mineral content of soil when the pH of water used to dilute the soil is closer to a neutral pH of 7, was not supported by the experiment.

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