Mitigating Aluminum Toxicity in Phaseolus vulgaris: Biochar's Role as a Tool for Pollution Remediation

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This research seeks to understand how biochar can be used to absorb heavy metals in soil specifically focusing on aluminum as a way to mitigate aluminum toxicity. Biochar has the potential to be a key remediation tool. Using Phaseolus vulgaris as a model organism allowed for a unique analysis of biochar interactions within bush beans. This study contained many test groups that allowed for varied results. Biochar and aluminum were added to one group hoping to display how biochar could neutralize pollutants in the soil and prevent aluminum toxicity. Through tissue analysis, this was proven to be correct as this group had a lower concentration than the aluminum group. Different forms of data collection were taken that showed varying results. Including the collection of height, weight, and production metrics. This research helped to understand how different factors ultimately affect the growth and development of Phaseolus vulgaris. This study shows the need for further research on the absorbent properties and degradation of biochar which could offer potential insights into the possible environmental and agricultural applications of biochar.

Awards Won: