Saliz discolor: Prospects for phytoremediation of lead and polycyclic aromatic hydrocarbons

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Poster Presentation Abstract:

Members of the genus Salix, more commonly known as willows, are of great interest in the field of phytoremediation. Their ability to rapidly accumulate biomass, grow in disturbed conditions, aggressively seek water and development of extensive root systems are well documented – all highly desirable traits for phytoremediation, yet the remediation capabilities of most species remains unknown. The present study seeks to determine the ability of Salix discolor to remediate lead and polycyclic aromatic hydrocarbons (PAHs) – two of the most common pollutants in urban and industrial areas and which are often found in states of co-contamination. The ability of S. discolor to remove these contaminants from aqueous media was tested using a hydroponic experiment. The treatments consisted of an uncontaminated control, lead or PAH contamination and lead and PAH co-contamination. The concentration of the media was monitored weekly, and at the conclusion of the experiment the accumulation of the lead and PAHs in the roots, shoots and leaves of the plants will be analyzed using atomic absorption spectrometry and gas chromatography – mass spectrometry, respectively. Additionally, biomass accumulation will be recorded to determine the effects of contamination on the growth of the plants. Results are pending until the experiment has concluded.

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