Lead Phytoremediation in Contaminated Soils Using Ornamental Landscape Plants

Thompson, Danna (School: St. Joseph's Academy)

The purpose of this experiment is to determine ornamental landscape plants that uptake lead out of the soil using phytoremediation. To execute this experiment, the scientist planted 120 plants; 30 Brake Ferns, 30 Asian Jasmine, 30 St. Augustinegrass, and 30 Big Blue Lilyturf plants. These plants were separated into six different bins and each plant had its own pot in the bin. The bins had PVC piping that connected to the buckets for the contaminated water to flow into. The scientist treated 10 of each plant with 3 lead treatments: control, 250ppm, and 500ppm. The scientist continued to water the plants and let them grow for 52 days. At the end of the 52 days, the scientist harvested the plants and had them tested for lead. The scientist concluded that the Brake Ferns that were treated with the 500ppm treatment took up a majority of the lead it was treated with, as did the Brake Fern plants that were treated with the 250ppm treatment. The St. Augustinegrass that was treated with 500ppm also took up a significant amount of lead, as did the plants treated with 250ppm. Both the Asian Jasmine and the Big Blue Lilyturf took up lead, but it was a much smaller amount of lead. Overall, the scientist was able to successfully find species of plants that removed lead from soil using phytoremediation.