عنوان مقاله:

.The potential of lead and cadmium remediation in Fraxinus rotundifolia Mill. and Robinia pseudoacacia L

محل انتشار:

کنفرانس بین المللی توسعه پایدار، راهکارها و چالش ها با محوریت کشاورزی، منابع طبیعی، محیط زیست و گردشگری (سال: 1393)

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خلاصه مقاله:

Phytoremediation is one of the hopeful methods for reclamation of sites contaminated with toxic metals by using hyperaccumulator plants. Present study conducted on the ability of two plant species; Robinia pseudoacacia L. and Fraxinus rotundifolia Mill. to remediate the lead and cadmium from the polluted environments. In this study, 72 two-years old seedlings were treated by cadmium chloride and lead (II) nitrate solutions separately in Karaj. Solutions by 500 mg -1L concentration were sprayed on the leaves of each seedling in July 2008. Then the leaves were collected from the seedlings during August and at the beginning of autumn. Moreover twigs, roots and pot soils were sampled for each species in January 2008. Samples were extracted and then analyzed by ICP. The data were analyzed by completely randomized design in SPSS. The results showed that the amounts of Pb and Cd in the leaves of F. rotundifolia were higher than R. pseudoacacia significantly. Moreover, The amounts of Cd in the roots of F. rotundifolia were higher than R. pseudoacacia. So, it could be concluded that F. rotundifolia is more valuable in absorption of the lead and cadmium especially in high polluted sites. The maximum concentration in mature leaf of F. rotundifolia was 142.468 mg-1 kg. Therefore, it may be announced as a hyperaccumulator species based on previous .studies

کلمات کلیدی:

,.Remediation, Lead, Cadmium, Fraxinus rotundifolia Mill., Robinia pseudoacacia L