

Effect of Si fertilizer on phytoremediation by *Eleocharis acicularis*

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Abstract

Phytoremediation is an environmental remediation technique that takes advantage of plant physiology and metabolism. *Eleocharis acicularis* is of great significance in the phytoremediation of water and sediments contaminated by heavy metals. In this study, a field cultivation experiment is performed to examine the applicability of Si-fertilizer to the accumulation of heavy metals using *E. acicularis*. Results of the field cultivation experiments, Si-fertilizer promotes the Mn, Pb, and As accumulation of *E. acicularis*. And also, the bioconcentration factor for Mn, Pb, and As are promoted using Si-fertilizer. The present result indicates that Si-fertilizer is efficient tool to the Mn, Pb, and As accumulation of *E. acicularis*.

Keywords : PIXE, ICP-MS, Heavy metals, Phytoremediation, Si fertilizer, *Eleocharis acicularis*