

Cultivation method of *Eleocharis acicularis* on phytoremediation

M. Sakakibara¹, M. Hikoda², S. Sano³ and K. Sera⁴

¹Graduate School of Science & Engineering, Ehime University
2-5 Bunkyo-cho, Matsuyama 790-8577, Japan

²Tsuda Junior Highschool
1106 Kitasaya, Matsuyama 791-8031, Japan

³Faculty of Education, Ehime University
3 Bunkyo-cho, Matsuyama 790-8577, Japan

⁴Cyclotron Research Center, Iwate Medical University
Tomegamori, Takizawa 020-0173, Japan

Abstract

Regarded as a highly promising technology, phytoremediation uses plants that absorb contaminants, such as toxic heavy metals, to remediate polluted soils, and has the benefits of low cost and low environmental impact. *Eleocharis acicularis* is well known as heavy metal hyperaccumulating aquatic plant and expected as the strong candidate for application to phytoremediation of polluted water. The objectives of this study were to examine cultivation method of *E. acicularis* on phytoextraction of heavy metal polluted water. In order to establish a cultivation method of *E. acicularis*, three methods have been experimented; (1) direct , (2) pot cultivation , and (3) floating cultivation.

Based on the cultivation experiments the floating cultivation method is most suitable for phytoremediation of heavy metal polluted water by *Eleocharis acicularis*.

Keywords : macrophytes, *Eleocharis acicularis*, phytoextraction, heavy metal, contaminated water, mine site, floating cultivation method