

## Daya serap tanaman enceng gondok (*Eichhornia crassipes* L.) sebagai salah satu alternatif fitoremediator $^{137}\text{Cs}$

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### Abstrak

The accident of a nuclear reactor has a possibility to release radioactive substances to the surrounding environment so that the environment can be contaminated. One of the radionuclides which will be released to the environment is cesium-137 ( $^{137}\text{Cs}$ ) which has a half-life of 30 years. If  $^{137}\text{Cs}$  enters the human body, it will be distributed evenly throughout the body so that the critical organ of  $^{137}\text{Cs}$  is the whole body.

Phytoremediation is a means of restoring the contaminated environment using plants. *Eichhornia crassipes* are a harmful water plant which can grow fast and easily everywhere, and have the ability to absorb the various elements found in water unselectively. Therefore *Eichhornia crassipes* was chosen as the object of this research. By analyzing the absorption ability of *Eichhornia crassipes*, it can be recognized whether this plant can be used as a phytoremediator for  $^{137}\text{Cs}$  or not. After acclimated, *Eichhornia crassipes* was given  $^{133}\text{CsNO}_3$  solution of variation of concentration as much as 5, 10, and 15 mg/l. On the fourth, eighth, twelfth, and sixteenth day after plants were given  $^{133}\text{Cs}$ , *Eichhornia crassipes* was taken and analyzed by neutron activation analysis.

The result of this research shows that  $^{133}\text{CsNO}_3$  absorbed is mostly accumulated on the root of the *Eichhornia crassipes*, that is  $(15.367 \pm 0.126)$  mg/ (g dry roots). The largest of total absorption during this research is  $(9.308 \pm 0.995)$ .