

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

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Abstrak

The accident of a nuclear reactor has a possibility to release radioactive substance 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}Cs) which has a half-life of 30 years. If ^{137}Cs enters the human body, it will be distributed evenly throughout the body so that the critical organ of ^{137}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}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}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 ± 0.126) mg/ (g dry roots). The largest of total absorption during this research is (9.308 ± 0.995) .