

## **Removal of Heavy Metal Ions from Drinking Water by Using Rice Straw Method**

A. Gowsiya, J.T. Cooray

*Department of Science and Technology, Uva Wellassa University, Badulla,  
Sri Lanka*

Adsorption of some common heavy metals ions from drinking water by rice straw method was investigated by using filtration method. The adsorption capacity was investigated by various concentrations of heavy metals ions solutions. The effect of initial metal ion concentration and binding capacity of rice straw for each heavy metal have been studied. Initial concentrations of water sample were selected according to the most available range of natural waters in Sri Lanka. The results showed that rice straw was not releasing anything undesirable to the water. When the initial concentration of heavy metal ions increased, removal percentage also increased. Manganese and lead were efficiently removed from drinking water by using rice straw method. But iron has showed less binding capacity in rice straw method. As the result rice straw method is not efficient for removing iron from drinking water. The order of efficiency of metal ion removal in rice straw method is Mn (II) > Pb (II) > Fe (III). Average removal percentage of heavy metal ions are Mn (II), Pb(II) and Fe(III) is 71.5%, 51.18% 21.1% respectively.

**Keywords:** Adsorption, Binding Capacity, Heavy metal, Rice straw method