

204,6±84,5 nm for (MLP) and magnetoliposomal form PS (1), accordingly, which are optimal for biomedical use [4]. The TEM results confirm these figures. The obtained magnetoliposomes loaded with PS can be separated in magnetic fields of 0,3 Tl induction, which allows to deliver MLP forms of PS to the tumor.

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**D. Raj<sup>1</sup>, A. Kumar<sup>2</sup>, S. K. Maiti<sup>1</sup>**

<sup>1</sup>*Department of Environmental Science and Engineering,  
Indian Institute of Technology (Indian School of Mines),  
826004, India, Dhanbad,*

<sup>2</sup>*Laboratory of Biotechnology, Institute  
of Natural Sciences and Mathematics,  
Ural Federal University,  
620002, Russia, Ekaterinburg, Mira St., 19,  
adarsh.biorem@gmail.com*

### **ASSESSMENT OF POTENTIALLY TOXIC ELEMENTS IN THE COAL DUST AND ITS ACCUMULATION BY TWO DOMINANT TREE SPECIES *ALBIZIA LEBBECK* AND *MADHUCA LONGIFOLIA* GROWN ON RECLAIMED COAL MINE DUMPS\***

**Keywords:** potentially toxic elements, coal mine, tree species, mercury, reclaimed mine soil, bioaccumulation.

The coal mine activities lead to the release of several potentially toxic elements (PTEs) to the surrounding environment. The PTEs containing coal-dust get deposited on the tree leaves growing in the nearby areas of coal mine. The adsorption of PTEs to the tree leaves imbalances the metabolic activities (photosynthesis) of tree, which in turn causes the decrease in chlorophyll content. To determine the concentration of PTEs in the tree leaves, two dominant tree species *viz.* *Albizia lebeck* and *Madhuca longifolia*, growing on the reclaimed mine soil (RMS) were selected.

The Cr concentration in *M. longifolia* was found to be 5.49 mg/kg, which was 1.84 folds higher than that of *A. lebeck*. The mercury (Hg) accumulation in the tree leaves of both the species were very less, which could be due to the less availability of Hg in RMS. The bioaccumulation coefficient (BAC) for Cr in *M longifolia* was comparatively higher than *A. lebeck*. The BAC for Cd was found to be maximum (0.29) in *M longifolia*. The Pb concentrations in the leaves of *M longifolia* and *A. lebeck*, were 2.73 and 2.11 mg/kg, respectively. The outcomes of the study justified that the PTEs were not transferred from RMS to the leaves instead it get adsorbed from the coal-dust. Thus preventive measures are required to minimize the release of coal dust from coal mines.

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**E. A. Zavyalova, D. A. Alontseva, K. Yu. Bulina, A. E. Droshnev**

*Federal State Budget Scientific Institution  
“Federal Scientific Centre VIEV”,  
109428, Russia, Moscow, Rjazanskij pr., 24/1,  
aquazeda@mail.ru*

## **DIFFERENTIAL DIAGNOSIS OF SALMON FISH YERSINIOSIS BY POLYMERASE CHAIN REACTION**

**Keywords:** yersiniosis, salmon fish diseases, polymerase chain reaction, test system, diagnostics.

Among the infectious diseases of rainbow trout grown in fresh water, yersiniosis – ERM (Enteric Red Month), caused by the bacterium *Yersinia ruckeri*, a member of the *Enterobacteriaceae* family, is a serious danger.

Yersiniosis is recognized as an enzootic infection in a number of regions active in trout-breeding – North America, Europe, Australia, South Africa. Currently, due to the massive but virtually uncontrolled international transport of fish-planting material, the disease is quite widespread.

Since 2010, yersiniosis has been detected in the Russian Federation [1], where the list of quarantine diseases is not included, but due to mass death and damage of the commercial type of products causes severe damage to fish farms [2].

Polymerase chain reaction is a direct method of DNA detection, it has high specificity and sensitivity, where selection of a specific fragment and selection of