

Accepted Manuscript

Content and distribution of heavy metals in herbaceous plants under the effect of industrial aerosol emissions

Tatiana M. Minkina, Saglara S. Mandzhieva, Victor A. Chaplygin, Tatiana V. Bauer, Marina V. Burachevskaya, Dina G. Nevidomskaya, Svetlana N. Sushkova, Aleksey K. Sherstnev, Inna V. Zamulina

PII: S0375-6742(16)30114-5
DOI: doi: [10.1016/j.gexplo.2016.05.011](https://doi.org/10.1016/j.gexplo.2016.05.011)
Reference: GEXPLO 5748

To appear in: *Journal of Geochemical Exploration*

Received date: 20 April 2016
Revised date: 19 May 2016
Accepted date: 24 May 2016

Please cite this article as: Minkina, Tatiana M., Mandzhieva, Saglara S., Chaplygin, Victor A., Bauer, Tatiana V., Burachevskaya, Marina V., Nevidomskaya, Dina G., Sushkova, Svetlana N., Sherstnev, Aleksey K., Zamulina, Inna V., Content and distribution of heavy metals in herbaceous plants under the effect of industrial aerosol emissions, *Journal of Geochemical Exploration* (2016), doi: [10.1016/j.gexplo.2016.05.011](https://doi.org/10.1016/j.gexplo.2016.05.011)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



CONTENT AND DISTRIBUTION OF HEAVY METALS IN HERBACEOUS PLANTS
UNDER THE EFFECT OF INDUSTRIAL AEROSOL EMISSIONS

Tatiana M. Minkina, Saglara S. Mandzhieva, Victor A. Chaplygin, Tatiana V. Bauer,
Marina V. Burachevskaya, Dina G. Nevidomskaya, Svetlana N. Sushkova, Aleksey K.
Sherstnev, Inna V. Zamulina

Southern Federal University, 344090 Rostov-on-Don, prosp. Stachki 194/1, Russia

Corresponding author: Tatiana M. Minkina, Tel: +79281196465, e-mail:
msaglara@mail.ru

ABSTRACT

The effect of soil properties and distance from the source of technogenic emissions on the input of Pb, Zn, Cd, Cu, Mn, Cr, and Ni into herbaceous plants of the families *Poaceae* and *Asteraceae* has been studied. It is found that the high level of anthropogenic load related to the atmospheric emissions from the Novochoerkassk Power Station (Russia) aggravates the accumulation of heavy metals in herbaceous plants. Contamination with Pb, Cd, Cr and Ni is revealed in plants growing near the Power Station. Correlation between the accumulation of HMs in different herbaceous plant species and the distance from the emission source is revealed. The main factors of the distribution of heavy metals in the above and underground organs of plants include the individual physiological features of different plants determining their barrier function. *Ambrosia artemisiifolia* (L.), *Artemisia austriaca* (Pall. ex. Wild.), *Achillea nobilis* (L.), and *Tanacetum vulgare* (L.) are accumulators of heavy metals.

Keywords: *accumulation factor, acropetal coefficient, heavy metals, technogenic*

Download English Version:

<https://daneshyari.com/en/article/5754499>

Download Persian Version:

<https://daneshyari.com/article/5754499>

[Daneshyari.com](https://daneshyari.com)