Accepted Manuscript

Effects of Arbuscular Mycorrhizal Symbiosis on Growth, Nutrient and Metal Uptake by Maize Seedlings (*Zea mays* L.) Grown in Soils Spiked with Lanthanum and Cadmium



Qing Chang, Feng-wei Diao, Qi-fan Wang, Liang Pan, Zhen-hua Dang, Wei Guo

PII: S0269-7491(17)34889-3

DOI: 10.1016/j.envpol.2018.06.003

Reference: ENPO 11198

To appear in: Environmental Pollution

Received Date: 23 November 2017

Accepted Date: 01 June 2018

Please cite this article as: Qing Chang, Feng-wei Diao, Qi-fan Wang, Liang Pan, Zhen-hua Dang, Wei Guo, Effects of Arbuscular Mycorrhizal Symbiosis on Growth, Nutrient and Metal Uptake by Maize Seedlings (*Zea mays* L.) Grown in Soils Spiked with Lanthanum and Cadmium, *Environmental Pollution* (2018), doi: 10.1016/j.envpol.2018.06.003

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.

ACCEPTED MANUSCRIPT

Effects of Arbuscular Mycorrhizal Symbiosis on Growth, 1 Nutrient and Metal Uptake by Maize Seedlings (Zea mays L.) 2 Grown in Soils Spiked with Lanthanum and Cadmium 3 4 Qing Chang, Feng-wei Diao, Qi-fan Wang, Liang Pan, Zhen-hua Dang, Wei 5 Guo* 6 7 Ministry of Education Key Laboratory of Ecology and Resource Use of the Mongolian 8 Plateau & Inner Mongolia Key Laboratory of Environmental Pollution Control and 9 Waste Resource Recycle, School of Ecology and Environment, Inner Mongolia 10 University, Hohhot 010021, China 11 12 *Corresponding Authors. E-mail address: ndguowei@163.com (W. Guo). 13 14 15 **Abstract** Multiple contaminants can affect plant-microbial remediation processes because of 16 their interactive effects on environmental behaviour, bioavailability and plant growth. 17 Recent studies have suggested that arbuscular mycorrhizal fungi (AMF) can facilitate 18 the revegetation of soils co-contaminated with rare earth elements (REEs) and heavy 19 20 metals. However, little is known regarding the role of AMF in the interaction of REEs 21 and heavy metals. A pot experiment was conducted to evaluate the effects of Claroideoglomus etunicatum on the biomass, nutrient uptake, metal uptake and 22 translocation of maize grown in soils spiked with Lanthanum (La) and Cadmium 23 24 (Cd). The results indicated that individual and combined applications of La (100 mg

kg⁻¹) and Cd (5 mg kg⁻¹) significantly decreased root colonization rates by 22.0% to

25

Download English Version:

https://daneshyari.com/en/article/8856095

Download Persian Version:

https://daneshyari.com/article/8856095

<u>Daneshyari.com</u>