Phytobioremediation of cadmium-contaminated soil using combination of Ipomoea reptans Poir and Trichoderma sp. and its effect on spinach growth and yield

Title	Phytobioremediation of cadmium-contaminated soil using combination of Ipomoea reptans Poir and Trichoderma sp. and its effect on spinach growth and yield
Author Order	of
Accreditation	1
Abstract	This research aimed to study the potential role of Ipomoea reptans and Trichoderma sp. on the absorption of cadmium from cadmium-contaminated soil and its effect on and growth rate and yield of spinach. The research was arranged in a completely randomized blok design with two factors. The first factor was the density of Ipomoea reptans consisting of 0, 2, and 4 plants/polybag. The second factor was the dosage of Trichoderma sp. consisting of 0, 50 and 100% dose of Trichoderma sp. Results of the research showed that Ipomoea reptans with 2 plants/polybag effectively reduced Cd to 66.31% and increased the growth of spinach by 20% on plant height, shoot dry weight of spinach by 35%. Application of 100% dose of Trichoderma sp. effectively reduced Cd by 63.81% and increased spinach plant growth by 18% on plant height and increased shoot dry weight of spinach by 23%). There were interactions of phytoremediator of 2 Ipomoea reptans plants/polybag with bioremediator of 50% Trichoderma sp. that effectively reduced Cd to 71.19% and improved 43% of plant height and leaf number, 31% of leaf area, and 63% of shoot dry weight of spinach plant compared with plants without application of Ipomoea reptans and Trichoderma sp.
Publisher Name	Brawijaya University
Publish Date	2018-09-30
Publish Year	2018
Doi	DOI: 10.15243/jdmlm.2018.061.1519
Citation	
Source	Journal of Degraded and Mining Lands Management
Source Issue	Vol 6, No 1 (2018)
Source Page	1519-1526
Url	https://jdmlm.ub.ac.id/index.php/jdmlm/article/view/472/pdf
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