

Control of cadmium accumulation in topsoil and crops from contaminated farmland

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ABSTRACT

Soil layers in which a charcoal layer and a textile sheet were installed between the topsoil and the cadmium (Cd) contaminated subsoil were developed to prevent crops from Cd contamination. The charcoal layer was designed to protect the topsoil from Cd contamination caused by soil water infiltrating from the contaminated subsoil, and the textile sheet was to block crop root extension into the contaminated subsoil. The effects of the layers developed were examined by pot experiments. The experiments revealed that the charcoal layer could adsorb Cd and interfere with uptake of Cd by soybeans, thereby the Cd content in the soybean seeds were lower than the standard value in Japan.

Keywords: Adsorption; Cadmium; Charcoal; Soybeans

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