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Uptake and transport of Cd supplied at different growth stages in hydroponically cultured soybean plants

Hisao ODA[1)], Saeko YADA[1)] and Akira KAWASAKI[1)]

1) National Institute for Agro-Environmental Sciences

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Abstract:
Soybean plants (*Glycine max*) were grown in hydroponic culture solution and applied Cd via roots for 48 h at different growth stages: third and fourth node (V3-4), full bloom (R2), full pod (R4), full seed (R6) and beginning maturity (R7). At a period of full maturity, soybean plants were sampled and analyzed by ICP-MS to determine Cd concentrations and calculated the amount of Cd uptake.
The Cd concentration of seeds became the highest at R4 and R6 growth stages. The Cd concentrations between seeds and pods were remarkably correlated and close to the each other at every growth stages. It was suggested that Cd concentration of seeds would be estimated from that of pods.
The amount of Cd uptake increased with the progress of growth stages. But after R6, the ratio of Cd uptake in seeds to that in whole plant reduced. Hence the Cd absorbed from R4 to R6 was the most contributive to raise the Cd amount of seeds.

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