【Workshop 1】Development of phyto-technology for decreasing heavy metal in food

**History and Studies of Arsenic Contamination in Soils and Crops in Japan**

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Total cultivated land of Japan was 4,714,000ha on 2004. About a half of total cultivated land is used for paddy fields, and the others are upland fields. A part of upland field for orchard is contaminated with copper (Cu), lead (Pb) and arsenic (As), which derived from pesticides, and a part of paddy field is contaminated with cadmium (Cd) and As, which derived from waste water from mine. In 1971, “Agricultural Land Soil Contamination Prevention Law” regulated for Cd : 1 mg kg$^{-1}$ in brown rice, Cu : 125 mg kg$^{-1}$ in soil and As : 15 mg kg$^{-1}$ in soil. There were 14 areas (391ha) of soils contaminated with As over 15 mg kg$^{-1}$, and 7 out of 14 areas (164 ha) have been already completed for countermeasure. In Japan, the damage of arsenic (As) occurs obviously in paddy rice compared with other upland crops. In 1970-80's, both the mechanism of As damage of paddy rice and countermeasure for paddy fields had been extensively studied by Koyama *et al.* (1975, 1976a, b) and Yamane *et al.* (1976, 1979, 1989).

Therefore, we would like to introduce these studies with background of As contamination in soils and crops in Japan, and we would like to propose future subjects to As contaminated soils and crops.