

## The difference land process of the radioactive material by the soil erosion from various land use divisions

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The Fukushima Daiichi power plant accident has released large amount of radioactive materials to the atmosphere. Since then we are being monitoring the radioactive material distribution by soil erosion in different land use types (moderate slope tabako field, steep hill slope, grass land, grazing land and young cedar forest stand) in Yamakiya-Kawamata town, Fukushima prefecture., Stainless plat was used to construct runoff plot per land use type. At each erosion event, eroded materials were collected in the outlets of each plot and the radioactive materials contents were determined using gamma-ray spectrometer. Within the observation period (July 17 to September 4, 2011), results indicates that large volume of outflow ( $717 \text{ m}^3 \text{ ha}^{-1}$ ) was recorded from grass land use type. Moderate slope of tabako field had shown the highest values in sediment load ( $920 \text{ kg ha}^{-1}$ ) and inventories of both  $^{137}\text{Cs}$  ( $1.0 \text{ kBq m}^{-2}$ ) and  $^{134}\text{Cs}$  ( $1.2 \text{ kBq m}^{-2}$ ). The differences of sediment load and radioactive materials among the land-use types might be partly because of the difference in slope and land cover types. For example, the smallest amount of outflows in both sediment and radioactivity were obtained from young cedar forest stand where the canopy, undergrowth and tick litter layer on the forest floor prevent the mobilization of radionuclide coded soil materials which ends lowest outflow amount.

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