# Long-term Radiation Monitoring from Contaminated Soil buried in Paddies in Iitate Village, Fukushima

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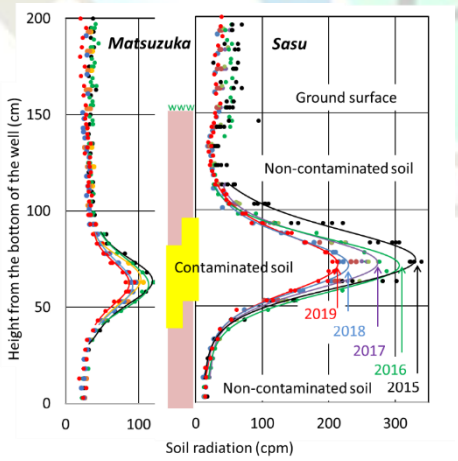
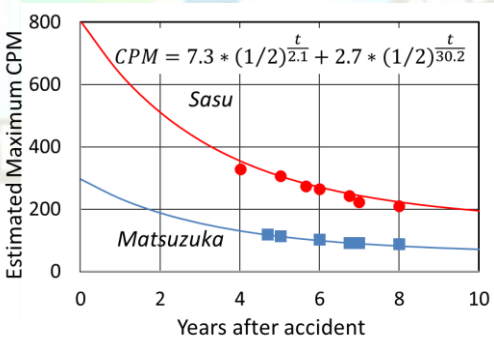
## *Abstract*

Radiocesium released from Fukushima Daiichi nuclear power plant in March 2011 was accumulated in paddy fields within 5 cm of the surface soil layer. In order to remove this radiocesium, Japanese government carried out decontamination work to strip off surface layer soil. For this reason, the paddy fields of Iitate village of Fukushima Prefecture are filled with a lot of flexible container bags packed with contaminated soil. On the other hand, based on the nature that radiocesium is fixed to clay minerals, we conducted an in-situ burial experiment of contaminated soil at a paddy field (Sasu) in Iitate Village, Fukushima Prefecture, and have been testing rice cultivation every year at the paddy field where soil contaminated with radiocesium was buried. However, there remains fear that radiocesium might be released again to the environment. In order to prove that radiocesium will not leak from the paddy field, we are measuring the soil radiation in the well from March 2015. As a result of measurement of soil radiation every year, we found that the soil radiation has a Gaussian distribution with a peak of which depth has not changed for 4 years. This tendency was the same as in the pasture of cattle (Matsuzuka) where a contaminated paddy bank was buried. These results indicate that radiocesium is unlikely to leach from the contaminated soil buried in paddy fields. In addition, it was found from this study that the soil radiation will decrease naturally obeying a theoretical equation.




Estimation of radiation dose in soil

Profiles of radiation doses in the soil. Solid lines are fitting curves of data measured in 2015-2019.

***Key Words***

Fukushima, radiocesium, leakage, soil radiation, paddy field