

August 27-28, 2018
Zurich, SwitzerlandTazaki Kazue, J Org Inorg Chem 2018, Volume 4
DOI: 10.21767/2472-1123-C5-013

RADIOACTIVE VEGETATION OF THE FUKUSHIMA DAIICHI NUCLEAR POWER PLANT ACCIDENT 7 YEARS LATER IN JAPAN

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Radioactive vegetation and crops was found in Minami-Soma, Fukushima, Japan, 7 years after the Great East Japan Earthquake, on March 11, 2011. The leak of radioactive ¹³⁴Cs, ¹³⁷Cs, ⁴⁰K, ⁸⁹Sr, ⁹⁰Sr and traces of some radionuclides which originated from the Fukushima Daiichi Nuclear Power Plant (FDNPP) accident were found in many kinds of vegetations collected from Minami-Soma, Fukushima, which is 25 km away from FDNPP. We document the mineralogy, the chemistry, and the micro-morphology, using a combination of micro techniques. Quantitative analyses of vegetation and crops, using Ge semiconductor detector and energy-dispersive x-ray fluorescence analyses (ED-XRF), x-ray powder diffraction analyses (XRD), and scanning electron microscopy equipped with energy dispersive spectroscopy (SEM-EDS). The objective of this contribution is to illustrate the ability of various vegetation with minerals and microorganisms which are capable of absorbing both radionuclides and stable isotopes from polluted paddy soils, water and plants in extreme conditions near contaminated Tetsuzan dam in Minami Soma, Fukushima in July 16-18 in 2018. In addition, we found deformed pine tree and pine cone in Minami-Soma City, associated with high radioactivity of fallen

leaves and moss. The results obtained here provide evidence of radiation reloaded and ecological impacts of the FDNPP, 7 years later.

Biography

Tazaki Kazue has completed her PhD in Doctor of Science (Geology, Mineralogy), Tokyo Kyoiku University, Japan. She has worked as Post Doctorate Visiting Fellow at Geological Survey of Canada, ISPG in Calgary, Research Associate at McGill University in Montreal, and Senior Research Associate at The University of Western Ontario, London, Ontario, Canada. She has worked as Associate Professor, at Shimane University, and as Professor, at Kanazawa University, Japan. She was a Visiting Professor at Lac Hong University, in Vietnam and Visiting Professor at the University of Dodoma, Tanzania. She has published more than 500 papers of Environmental Sciences. She got many awards from the Geological Society of Japan, Natural Sciences and Engineering Research Council of Canada, Mineralogical Society of Japan, Clay Mineralogical Association of Japan, Ishikawa TV, the Earth Science Award of Chigaku Dantai Kenkyu-Kai, and the award of International Solopetmist Society Contribution.

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