

Change of the Radioactive Material Pollution in the Kanto District

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A large quantity of radioactive material was released by an accident of the Tokyo Electric Fukushima first Nuclear Power Plant with the East Japan great earthquake disaster of March 11, 2011 and pour into the outskirts, and a hotspot (the point where a radiation dose resists locally) has occurred in a part of the away far-off Kanto district, and it is a very serious problem. It was brought mainly by the rain of March 21, and the radiation hotspot of the Kanto district is observed over the belt-shaped range of South Ibaraki, Northwest Chiba, and East Tokyo.

The radiation dose of the garden soil of the apartment complex first floor with Kashiwa-shi equal to the heartland of the hotspot of the Kanto district was 42,000Bq/m² on April 18. This is bigger than a value in Gomel of Belarus that suffered great damage by Chernobyl nuclear plant accident of 1986, and it corresponds to a management area or the refuge area. In June, the radiation dose of the soil precisely was measured with a plastic scintillator, and recorded 13,000 Bq/kg. In addition, an energy spectrum of the radiation dose was analyzed with a Ge semiconductor detector. The main nuclide was ¹⁴¹I (half-life: 8 days), ¹⁴³Cs (half-life: 2 years), and ¹⁴⁷Cs (half-life: 30 years).

In a part of the Kanto district, area distribution of the radiation dose was measured with GPS linked dosimeter on a car, automatically. As a result of having clarified a change of the distribution of a half year by comparison of the measurement of the winter (from January to March in 2012) and the summer (from July to September in 2011), the radiation dose had decreased.

Furthermore, dose of radioactivity in seven places of the apartment in Kashiwa-shi every three months were measured. The dose of radioactivity was fell down by winter in 2011 and did not change too much afterwards. It is thought that radioactive material which attached to dust moved and spread, and faded away by rain and wind. But it is reported that the radioactive material is concentrated on another place. A more unpredictable situation continues.

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