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Title

Countermeasures on agricultural areas after the Chernobyl and Fukushima accident

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Title

Following the accident at the Chernobyl nuclear power plant on 26 April 1986, considerable quantities of radioactive materials were released into the atmosphere, contaminating the food and feed of several European countries at significant levels from a health point of view. Measures have been taken to ensure that agricultural products were only introduced into the Union market according to common arrangements which safeguard the health of the population while maintaining the market unity. This accident significantly impacted the agricultural sector. About 23 % of Belarus territory (46 thousand km²), populated by 2.2 million people and 1.8 million ha agricultural land were contaminated with ¹³⁷Cs (37kBq.m⁻²) of which 265 000 ha were totally excluded from the agricultural system. In this context, a large program of countermeasures was conducted to evaluate the liquidation possibility for the consequences of radioactive contamination of great magnitude. Particularly in the field of agricultural production for the contaminated territories, the radionuclides concentration in the main food products significantly decreased compared to the first years after the Chernobyl disaster.

Japan also faced a large contamination of its land with countermeasures to be taken on agricultural productions. First, the experience gain during the response to the Chernobyl contamination was used as a start, and then specificity of the Japanese culture (e.g. rice and soja) and soil was taken into account to adapt the countermeasures.

One of the crucial problems related to agricultural production in the contaminated districts is to reduce the entry of radionuclides in food products. This issue can be solved by a set of actions to reduce the migration of radionuclides in the links of the biological chain "soil - plant" and "plant (forage) - agricultural animals."

The presentation will focus both on Chernobyl and Fukushima response to the food and agricultural products contamination. Some comparisons of the effectiveness of action taken for these two situations will also be presented.