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reduction of radiocesium content in rice grain -- 6. Consecutive Field Trials of Rice Cultivation in Partially Decontaminated Paddy Fields to Reduce Radiocesium Absorption in the Iitate Village in Fukushima Prefecture -- 7. Effects of “clean feeding” management on livestock products contaminated with radioactive cesium due to the Fukushima Daiichi nuclear power plant accident -- 8. Adverse effects of radiocesium on the promotion of sustainable circular agriculture including livestock due to the Fukushima Daiichi nuclear power plant accident -- 9. Wild boars in Fukushima after the nuclear power plant accident: Distribution of radiocesium -- 10. Contamination of Wild Animals: Microhabitat Heterogeneity and Ecological Factors of Radioactive Cesium Exposure in Fukushima -- 11. Translocation of radiocesium in fruit trees -- 12. The effects of radioactive contamination on the forestry industry and commercial mushroom-log production in Fukushima, Japan -- 13. Radiocesium in timber of Japanese cedar, and Japanese red pine, in the forests of Minamisoma, Fukushima -- 14. Ecosystem monitoring of radiocesium redistribution dynamics in a forested catchment in Fukushima after the nuclear power plant accident in March 2011 -- 15. Reduction of air radiation dose by ponding paddy fields -- 16. Collaboration Structure for the Resurrection of Iitate Village, Fukushima: A Case Study of a Nonprofitable Organization -- 17. Impacts of the nuclear power plant accident and the start of trial operations in Fukushima fisheries -- 18. Consumer evaluation of foods from the disaster affected area: Change in 3 years -- 19. Imaging Techniques for Radiocesium in Soil and Plants.

Sommario/riassunto

This book reports the results from on-site research into radioactive cesium contamination in various agricultural systems affected by the Fukushima Daiichi Nuclear Power Plant accident that occurred in March 2011. This is the second volume from the research groups formed in the Graduate School of Agricultural and Life Sciences of The University of Tokyo who have published the initial data in their first volume. In this book, additional data collected in the subsequent years are presented to show how the radioactivity level in agricultural products and their growing environments have changed with time. The data clarify the route by which radioactive materials entered agricultural products and their movement among different components (e.g., soil, water, and trees) within an environmental system (e.g., forests). The book consists of various topics, including radioactivity inspection of food products; decontamination trials for rice and livestock production; the state of contamination in wild animals and birds, trees, mushrooms, and timber; the dynamics of radioactivity distribution in mountain and paddy fields; damage incurred by the forestry and fishery industries; and the change in consumers’ minds. The last chapter introduces a real-time radioisotope imaging system, the forefront technique to visualize actual movement of cesium in soil and in plants. This is the only book to provide systematic data about the actual change of radioactivity, and thus is of great value for all researchers who wish to understand the effect of radioactive fallout on agriculture. The project is ongoing; the research groups continue their work in the field for further evaluation of the long-term effects.