

Resilience Agronomy starting from Fukushima

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ABSTRACT

Ten years have passed since the nuclear power plant accident. Researchers from various fields have been involved in agricultural issues in Fukushima since the accident. These efforts have been accumulated as reconstruction knowledge which is about to be revived as an old but new agricultural science to solve problems in the field.

Japanese agricultural technology was developed by dedicated farmers during the Edo and Meiji periods. Dr. Tokiyoshi Yokoi, a graduate of Komaba Agricultural School, saw that the agricultural scientists of the time, who had learned Western science, were trying to do things without seeing the actual field, and he ridiculed them at a lecture, saying, "Agricultural science flourishes, but agriculture dies". Agricultural science in Japan started with the Veterinary Society in 1884, and by 1929, 16 societies had been established, and now consists of more than 50 societies reflecting the subdivision of research fields. Recently, the Society for Reconstruction and Agricultural Sciences became the 53rd society to join the Japan Society of Agricultural Sciences.

In March 2011, the Tohoku region was devastated by the tsunami caused by the Great East Japan Earthquake, and the coastal area of Fukushima Prefecture was contaminated by radioactive materials due to the nuclear power plant accident. While the 1986 Chernobyl accident was brought to an end with the sarcophagus treatment, the first human challenge to revive the region continues in Fukushima. The Reconstruction Agency is trying to create an international education and research center that will be the core of creative reconstruction, including an attempt to disseminate such reconstruction knowledge to the world.

Rural areas are places of food production and living environments, and agricultural science is a discipline that works with the people who live there. In science, we search for literature and set a research theme, but in Fukushima, there are many issues arising from the nuclear accident. As Professor Yokoi said, "Ask the rice about rice, and ask the farmers about agriculture.", we have a chance to ask modern farmers who have returned in the areas where vacation orders have been lifted without defeated by adversity. If faculty members and students go to the sites and talk with the farmers, they will be able to see the issues and come up with research themes such as how to combine the traditional composting method that has been around since the Edo period with the latest technology to restore the soil fertility lost due to decontamination. Agricultural science is the culmination of comprehensive science and technology. Agricultural science, which had been fragmented, is now trying to revive like a phoenix from Fukushima, Japan.

In this presentation, I talk about the role and prospects of agricultural informatics in rural area, showing our challenges of smart agriculture including agricultural IoT/ICT in Iitate Village, Fukushima.

Keywords: *Resilience Agricultural Sciences, Agricultural informatics, Smart agriculture, Rural area, IoT, ICT*