

Cultivation and analysis of rice plant using the soil contaminated with radioactive cesium

M. Yanaga¹, H. Miyoshi², S. Higaki³, K. Mori⁴, K. Nishizawa⁵, S. Goto⁶, K. Sera⁷,
D. Taniguchi⁸ and Y. Dezawa⁸

¹ Center for Radioscience Education and Research, Faculty of Science, Shizuoka University
836 Ohya, Suruga-ku, Shizuoka 422-8529, Japan

² Advance Radiation Research, Education, and Management Center, Tokushima University
3-18-15 Kuramoto-cho, Tokushima 770-8503, Japan

³ Radioisotope Center, The University of Tokyo
2-11-16 Yayoi, Bukyo-ku, Tokyo 113-0032, Japan

⁴ ING Co., Ltd.
14-1 Senjumiyamotouchou, Adachi-ku, Tokyo 120-0043, Japan

⁵ Radioisotope Research Center, Nagoya University
(Emeritus Professor of Nagoya University)
Furocyo, Chikusa-ku, Nagoya 464-8602, Japan

⁶ Nishina Memorial Cyclotron Center, Japan Radioisotope Association
348-58 Tomegamori, Takizawa 020-0603, Japan

⁷ Cyclotron Research Center, Iwate Medical University
348-58 Tomegamori, Takizawa 020-0603, Japan

⁸ Department of Science, Graduate school of Integrated Science and Technology
Shizuoka University
836 Ohya, Suruga-ku, Shizuoka 422-8529, Japan

Abstract

It was examined that the effect of addition of stable cesium on the transfer of radioactive cesium from paddy soil to rice. The transfer factors of radioactive cesium for the brown rice cultivated with water including stable cesium were much larger than those for cultivated with water in which nothing had been added. This implies that the cesium atoms added were replaced with radioactive cesium atoms in soil.