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Effectiveness of cold plasma treatment during rice cultivation for growth and yield[1] HIROSHI HASHIZUME, HIDEMI KITANO, HIROKO MIZUNO, AKIKO ABE, Nagoya Univ, GENKI YUASA, SATOE TOHNO, Fujitsu Client Computing Limited, HIROMASA TANAKA, KENJI ISHIKAWA, SHOGO MATSUMOTO, HITOSHI SAKAKIBARA, Nagoya Univ, SUSUMU NIKAWA, Fujitsu Client Computing Limited, MASAYOSHI MAESHIMA, MASAAKI MIZUNO, MASARU HORI, Nagoya Univ, BASIC ANALYSIS TEAM, APPLICATION DEVELOPMENT TEAM — The applications of cold plasma in biological field, such as medicine and agriculture, have much attention. We previously showed that cancer cells were selectively killed by the direct irradiation and the indirect treatment such as plasma-activated Ringers lactate solution (PAL). On the basis of the approaches, in this study, we focused on the rice brewery cultivar and performed the plasma treatment on the plants with the direct irradiation or PAL solution twice a week during the cultivation in the University paddy field in Togo town, Aichi. After harvest, we measured the traits related to height, weight, and yield of the plants. The growth and yield from the plants with the direct irradiation were improved compared with the control ones. In the case of PAL treatment, the quality of brown rice as a trait of brewery cultivar was increased rather than the growth and yield. The results indicated that the plasma treatment in either way was effective for rice cultivation.

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Hiroshi Hashizume
Nagoya Univ

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