

TAJIMA Ryosuke, Ph.D

- Agronomist | Modeler | Root scientist

Academic Degrees

- BSc 2001 Faculty of Agriculture, Hokkaido University
- MSc 2003 Graduate School of Agriculture, Hokkaido University
- Ph.D 2006 Graduate School of Agricultural and Life Sciences, the University of Tokyo

Professional Experience

- April 2006 - October 2007:
Post doctoral Fellow, Field Production Science Center, Graduate School of Agricultural and Life Sciences, the University of Tokyo
- November 2007 - April 2008:
Post doctoral Fellow, National Agricultural Research Center for Hokkaido Region on loan from Hokkaido Intellect Tank
- May 2008 - September 2022:
Assistant Professor, Field Science Center, Graduate School of Agriculture Science, Tohoku University
- October 2022 - current:
Associate Professor, Field Science Center, Graduate School of Agriculture Science, Tohoku University

Publications

- Jung, H., Tajima, R., Ye, R., Hashimoto, N., Yang, Y., Yamamoto, S., Homma, K. 2023. Utilization of UAV Remote Sensing in Plant-Based Field Experiments: A Case Study of the Evaluation of LAI in a Small-Scale Sweetcorn Experiment. *Agriculture*. 13: 561.
- Nasukawa H., Tajima, R., Maria Clarinda Filomena Pereira, Nakamura S., Fukuda M., Naruo, K., Egami, T., Oya T. and Ito, T. Comparative verification of Mehlich 3 soil analysis methods in Northern Mozambique using microwave plasma–atomic emission spectrometry, *Soil Science and Plant Nutrition*, 69:5-6, 327-336.
- Ye, Rongling, Ryosuke Tajima, Ayumi Sadaike, Daiki Saito, Momoko Ogawa, Issei Kawamura, Shun Ishimori, Takayuki Nakajima, Toru Uno, Kenichi Kano, Toyoaki Ito, Yoshihisa Suyama, Shin Kato, Akio Kikuchi, Koki Homma. 2023. Mixed cropping of determinate and indeterminate soybean lines enhances productivity. *Field Crops Research*. 291: 108785.
- Akamatsu Y, Tajima R, Uno T, Ito T, Nishida M and Saito M. 2022. Characterization of root traits for phosphorus deficiency tolerance using chromosome segment substitution lines. *Plant Root* 16: 21-30.

- Matsuoka-Uno, C., Uno, T., Tajima, R., Ito, T. and Saito, M. 2022. Liming and Phosphate Application Influence Soil Carbon and Nitrogen Mineralization Differently in Response to Temperature Regimes in Allophanic Andosols. *Agriculture*. 12: 142.
- Susilawati, P. N., Tajima, R., Giamerti, Y., Yang, Y., Yufdy, M. P., Lubis, I. and Homma, K. 2022. Application of consecutive polyethylene glycol treatments for modeling the seminal root growth of rice under water stress. *Scientific Reports*. 12: 2096.
- Suzuki, T., Uno, T., Tajima, R., Ito, T. and Saito, M. 2021. Optimum range of soil phosphorus fertility needed for effective arbuscular mycorrhizal inoculation of Welsh onions in a non-allophanic Andosol. *Soil Science and Plant Nutrition* 67(5): 540-544.
- Tajima, R. 2021. Importance of individual root traits to understand crop root system in agronomic and environmental contexts. *Breeding Science* 71(1). 13-19.
- Fujii, H., Mori, S., Matsumoto, Y., Sasaki, Y., Ito, C., Nakagawa, S., Takahashi, T., Matsuyama, N., Nishida, M., Kaneta, Y., Fujisawa, H., Tanikawa, N., Ando, T., Shiono, H., Shima, T., Aoyama, M., Morioka, M., Ando, T., Tawaraya, K., Sato, T., Takakai, F., Sato, T., Takahashi, T., Ito, M., Cheng, W., Nakajima, M., Ito, T., Nasukawa, H., Uno, T., Tajima, R., Abe, T., Shinano, T., Saito, T., Wakabayashi, S., Fujimura, S., Matsunami, H., Hirayama, T., Kubo, K., Ota, T., Saito, M., Katagiri, T., Ando, K. (2021) Tohoku Region. In *The Soils of Japan*, edited by Hatano, R., Shinjo, H., Takata. Springer Nature Singapore Pte Ltd., Singapore, pp. 185-244.
- Uno, T., R. Tajima, K. Suzuki, M. Nishida, T. Ito, M. Saito. 2021. Rice yields and the effect of weed management in an organic production system with winter flooding. *Plant Production Science*. 24(4): 405-417.
- Moritsuka, N., Saito, H., Tajima, R., Takahashi Y., Hirai, H. 2019. Farm-Scale Estimation of Total Nitrogen Content in Surface Paddy Soils by Extraction with Commercially Available Hydrogen Peroxide, *Agronomy* 10: 40.
- Nasukawa, H., R. Tajima, B. I. J. Muacha, M. C. F. Pereira, K. Naruo, S. Nakamura, M. Fukuda, T. Ito, K. Homma. 2019. Analyzing soil-available phosphorus by the Mehlich-3 extraction method to recommend a phosphorus fertilizer application rate for maize production in northern Mozambique *Plant Production Science*. 22: 211-214.
- Yamane, K., R. C. Mabesa-Telosa, R. Tajima, N. P. M. C. Banayo, Y. Kato. 2019. A simple, low-cost technique for in situ measurement of leaf P concentration in field-grown rice. *Journal of Plant Nutrition and Soil Science*. 182(1): 28-30.

- Ito, T., H. Nasukawa, T. Uno, R. Tajima, M. Saito. 2018. Recovery of Tsunami-Affected Paddy Soil Using Calcium Materials for Sustainable Agriculture. *Journal of Integrated Field Science*. 15. 55-58.
- Tajima R. 2018. Root Phenotyping with Root Modeling- Towards Sustainable Rice Production. *Journal of Integrated Field Science*. 15. 48-50.
- Seto, R., N. Moritsuka, K. Fujisao, A. Toriumi, - K. Homma, R. Tajima, Y. Kato, J. Yamagishi, P. Mekwatanakarn, B. Jongdee. 2018. Mild drying of sandy soil can physically limit the uptake of phosphorus by rainfed lowland rice in northeast Thailand. *Soil Science and Plant Nutrition*. 64. 677-685.
- Kato, Y., R. Tajima, A. Toriumi, K. Homma, N. Moritsuka, T. Shiraiwa, J. Yamagishi, P. Mekwatanakarn, V. Chamarek, B. Jongdee. 2016. Grain yield and phosphorus uptake of rainfed lowland rice under unsubmerged soil stress. *Field Crops Research*. 190: 54-59.
- Tajima, R., T. Suzuki and C. Tada. 2013. Environmental Impacts of Methane Fermentation System Using Hot Springs. *Journal of Integrated Field Science*. 10. 7-15.
- Kato, Y., R. Tajima, K. Homma, A. Toriumi, J. Yamagishi, T. Shiraiwa, P. Mekwatanakarn and B. Jongdee. 2013. Root growth response of rainfed lowland rice to aerobic conditions in northeastern Thailand. *Plant Soil*. 368. 557-567.
- Tajima, R. and Y. Kato 2013. A Quick Method to Estimate Root Length Distribution in Diameter Classes by Using Freeware ImageJ. *Plant Production Science*. 16. 9-11.
- Tajima, R. and Y. Kato 2011. Comparison of threshold algorithms for automatic image processing of rice roots using freeware ImageJ. *Field Crops Research*. 121. 460-463.
- Koga, N. and R. Tajima. 2011. Assessing energy efficiencies and greenhouse gas emissions under bioethanol-oriented paddy rice production in northern Japan. *Journal of Environmental Management*. 92. 967-973.
- Kato, Y., M. Okami, R. Tajima, D. Fujita, and N. Kobayashi 2010. Root response to aerobic conditions in rice, estimated by Comair root length scanner and scanner-based image analysis. *Field Crops Research*. 118. 194-198.
- Changdee, T., S. Morita, J. Abe, K Ito, R. Tajima and A Polthanee. 2008. Root anatomical responses to waterlogging at seedling stage of three cordage fiber crops. *Plant Production Science*. 11. 232-237.

- Tajima, R., J. Abe, ON. Lee, S. Morita and A. Lux. 2008. Developmental changes in peanut root structure during root growth and root structure modification by nodulation. *Annals of Botany*. 101. 491-499.
- Tajima, R., ON. Lee, J. Abe, A. Lux and S. Morita. 2007. Nitrogen-fixing activity of root nodules in relation to their size in peanut (*Arachis hypogaea* L.). *Plant Production Science*. 10. 423-429.
- Tajima, R., S. Morita and J. Abe. 2006. Distribution Pattern of Root Nodules in Relation to Root Architecture in Two Leading Cultivars of Peanut (*Arachis hypogaea* L.) in Japan. *Plant Production Science*. 9. 249-255.
- Kimura, S. D., K. Schmidtke, R. Tajima, K. Yoshida, H. Nakashima and R. Rauber. 2004. Seasonal N uptake and N₂ fixation by common and adzuki bean at various spacings. *Plant and Soil*. 258. 91-101.

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