

2.4 List of Publications, Presentations and Reports

(1) Publications (Apr.2003 - Mar.2004)

Subdivision of Natural Environment

- Okada, S., T. Kawamoto and M. Kamichika (June 2003): Spectral Characteristics of Paper Mulch, *J. Agric. Meteorol.*, 59, pp. 179-187
- Ito, K., T. Ezuka, K. Otsuki and M. Kamichika (June 2003): Water Shortage and Salinization Diagnosis of the Grass by Spectral Reflectance, *J. Agric. Meteorol.*, 59, pp. 199-204
- Kato, T., R. Kimura and M. Kamichika (Oct. 2003): Estimation of Evapotranspiration, Transpiration Ratio and Water Use Efficiency from a Sparse Canopy using a Compartment Model, *Agric. Water. Management*, 65, pp. 173-191
- Kimura, R., N. Takayama, M. Kamichika and N. Matsuoka (Mar. 2004): Soil Water Content and Heat Balance in the Loess Plateau- Determination of Parameters in the Three-Layered Soil Model and Experimental Result of Model Calculation-, *J. Agric. Meteorol.*, 60, pp. 55-65
- Kimura, R (Apr. 2003): An Introduction to Environmental Biophysics, 2nd Edition (a translation: Chapter 3), Morikita, 315pp.
- Kimura, R (Sep. 2003): Agricultural Meteorology of Chugoku and Shikoku (Chapter 2), Nourin Tokei Kyokai, 219pp.

Subdivision of Water Resources

- Yang, S.L., Aydin, M., Yano, T. and Li, X. (2003): Evapotranspiration of orange trees in greenhouse lysimeters. *Irrigation Sciecne*. 21 (4), pp. 145-149
- Aydin, M., Yano, T. and Kilic, S. (2004): Dependence of zeta potential and soil hydraulic conductivity on adsorbed cation and aqueous phase properties. *Soil Science Society of America Journal*. 68 (2), pp. 450-459

Subdivision of Plant Ecophysiology

- Deng, X., L. San, S. Kang, S. Inanaga and M.E.K. Ali (Jan. 2003): Improvement of wheat water use efficiency in semiarid area of China, *Agricultural Sciences in China*, 2 (1), pp. 35-44
- Wen, G., J. J. Schoenau, S. P. Mooleki, S. Inanaga, T. Yamamoto, K. Hamamura, M. Inoue and P. An (Feb. 2003): Effectiveness of an elemental sulfur fertilizer in an oilseed-cereal-legume rotation on the Canadian prairies, *J. Plant Nutr. Soil Sci.*, 166, pp. 54-60
- Yasuda, N., Y. Sugimoto, M. Kato, S. Inanaga, and K. Yoneyama (Apr. 2003): (+)-Strigol, a witchweed seed germination stimulant, from *Menispermum dauricum* root culture, *Phytochemistry*, 62, pp.1115-1119
- Lux, A., M. Luxova, J. Abe, E. Tanimoto, T. Hattori and S. Inanaga (Jun. 2003): The dynamics of silicon deposition in the sorghum root endodermis, *New Phytologist*, 158, pp. 437-441
- Hattori, T., S. Inanaga, E. Tanimoto, A. Lux, M. Luxova and Y. Sugimoto (July 2003): Silicon-induced Changes in viscoelastic properties of sorghum root cell walls, *Plant Cell Physiol.*, 44(7), pp. 743-749
- Lux, A., M. Luxova, J. Abe, S. Morita and S. Inanaga (Aug. 2003): Silicification of bamboo (*Phyllostachys heterocycia* Mitf.), *Plant and Soil*, 255, pp. 85-91
- Wen, G., R.P. Voroney, J.L. Charles and S. Inanaga (Aug. 2003): Efficiency parameters of nitrogen in hog and cattle manure in the second year following application, *J. Plant Nutri. Soil Sci.*, 166, pp.490-498
- Sugimoto, Y., A.M. Ali, S. Yabuta, H. Kinoshita, S. Inanaga and A. Itai (Sep. 2003): Germination strategy of *Striga hermonthica* involves regulation of ethylene biosynthesis, *Physiologia Plantarum*, 119, pp. 137-145
- Tsuji, W., M.E.K. Ali, S. Inanaga and Y. Sugimoto (2003): Growth and gas exchange of three sorghum cultivars under drought stress, *Biologia Plantarum*, 46(4), pp. 583-587
- Wen, G., R.P. Voroney, T.P. McGonigle, and S. Inanaga (Dec. 2003): Can ATP be measured in soil treated with industrial oily waste?, *J. Plant Nutri. Soil Sci.*, 166, pp. 1-7

- Mohamed, O.E., N.E. Ahmed, A.E. Eneji, Y. Ma, E. Ali and S. Inanaga (2003): Effect of sowing dates on the incidence of bacteria blight and yield of cotton, *Basic and Applied Ecology*, 4, pp. 433-440
- Ito, K., S. Morita, J. Abe, and S. Inanaga, (Mar. 2004): Change in growth direction of nodal roots in relation to root cap morphology in field-grown maize and sorghum, *Root Research*, 13(1), pp. 9-13 (in Japanese)

Subdivision of Revegetation and Grassland Development

- Yamamoto Makiko, Tamai shigenobu, Tokuchi Naoko and Yamanaka Norokazu (2003) Aug. Effects of fertilization on growth of cuttings In *Salix* species. *J. Jpn. Soc. Reveget. Tech.* 29 (1) : 95-100 (in Japanese with English summary)

Subdivision of Land Conservation

- Arai, M., R. Keren, T. Yamamoto and M. Inoue (April 2003) : Aggregate stability evaluation of sodic soils using ethanol-water mixtures, *Trans. of JSIDRE*, No.224, pp.65-71
- Arai, M., R. Keren, T. Yamamoto and M. Inoue (April 2003) : Effect of water quality on hydraulic properties of the Niigata smectitic and Tottori kaolinitic soils, *Trans. of JSIDRE*, No. 224, pp.11-17
- Toride, N., M. Inoue and F. Leij (June 2003) : Hydrodynamic dispersion in an unsaturated dune sand, *Soil Sci. Soc. Am. J.* 67, pp.703-712
- Fujimaki, H. and M. Inoue (June 2003) : Flux-controlled steady evaporation method for determining unsaturated hydraulic conductivities in low pressure range, *Soil Science*, 168(6), pp.1-11
- Rasiah, V., J. D. Armour, T. Yamamoto, S. Mahendrarajah and D. H. Heiner (July 2003) : Nitrate dynamics in shallow groundwater and the potential for transport to off-site water body, *Water, Air, and Soil Pollution*,147, pp.183-202
- Fujimaki, H., S. Shiozawa and M. Inoue (July 2003) : Effect of salty crust on soil albedo, *Agricultural and Forest Meteorology*, Vol. 117(3-4), pp.125-135
- Morii, T., Y. Takeshita, and M. Inoue (July 2003) : Practical determination of hydraulic conductivity of sand sediment soils, *Journal of Rainwater Catchment Systems*, 9(1), pp.1-6
- Morii, T., Y. Takeshita, and M. Inoue (July 2003) : Practical determination of soil permeability of sand sediment that includes gravel and cobbles sediment, *Proceedings of the International Conference on problematic soils*, pp.393-400
- Fujimaki H. and M. Inoue (Sep. 2003) : A transient evaporation method for determining soil hydraulic properties at low pressure, *Vadose Zone Journal*, 2, pp.400-408
- Fujimaki, H. and M. Inoue (Sep. 2003) : Reevaluation of the multistep outflow method for determining unsaturated hydraulic conductivity, *Vadose Zone Journal*, 2, pp.409-415
- Morii, T., Y. Takeshita, and M. Inoue (Nov. 2003) : In-situ measurement and evaluation of soil permeability in sand sediment, *Proceedings of the Asian Conference on unsaturated soils*, pp.107-112
- Nishimura, T. and M. Inoue (Nov. 2003) : Measurement of near saturated hydraulic conductivity in situ , *Proceedings of the Asian Conference on unsaturated soils*, pp.375-378
- Fujimaki, H. and M. Inoue (Nov. 2003) : Multi-step inflow method for determining wetting hydraulic properties , *Proceedings of the Asian Conference on unsaturated soils*, pp.379-382
- DehghaniSanij H., Yamamoto T. and Rasiah V. (Jan. 2004) : Assessment of evapotranspiration estimation models for use in semi-arid environment. *Agricultural Water Management, Journal*. Vol. 64, pp.91-106
- Inoue, M. (Feb. 2004) : Field measurement technique in agricultural engineering (7) — In-situ measurement of soil hydraulic properties — , *Journal of JSIDRE*, 72(2), pp.127-132
- Toride, N. and M. Inoue (ed.), (March 2004) : Modelling variably-saturated flow with HYDRUS-2D (Japanese Translation), by Rassam, D., J. Simunek, M. Th. van Genuchten, *Japanese Irrigation and*

Drainage Society, Soil Physics Section, Tokyo, Japan, (ISBN 0-646-43349-0), pp.270

(2) Presentations (Apr.2003 - Mar.2004)

Subdivision of Natural Environment

- Kimura, R., Kamichika, M., Takayama, N., Matsuoka, N. and Zhang, X. (Sep. 2003): Heat balance in the Loess Plateau, China, Proc. of Agricultural Meteorology 2003, pp.222 (in Japanese)
- Takayama, N., Kimura, R., Kamichika, M. and Hayakawa, S. (Sep. 2003): The feature of nocturnal cooling in a mountainous district and the estimation of cooling amount, Proc. of Agricultural Meteorology 2003, pp. 214 (in Japanese)
- Sasaki, Y., Kimura, R., Kamichika, M., Ishimine, M., Ota, M. and Takagi, K. (Sep. 2003): Heat balance in the Sugar Cane field in Miyako Islands, Proc. of Agricultural Meteorology 2003, pp. 82 (in Japanese)
- Kimura, R., Takayama, N., Kamichika, M. and Matsuoka, N. (Nov. 2003): Soil water content and heat balance in the Loess Plateau -Determination of parameters in the three-layered soil model and experimental result of model calculation-, Agricultural Meteorology of Chugoku and Shikoku 2003, pp. 50-51 (in Japanese)
- Sakamoto, Y., Kamichika, M. and Kimura, R. (Nov. 2003): Studies on the water balance in the earth-air heat exchange distillation system, Agricultural Meteorology of Chugoku and Shikoku 2003, pp. 38-41 (in Japanese)
- Takayama, N., Kimura, R. and Kamichika, M. (Nov. 2003): Rainfall properties in the Loess Plateau, China, Agricultural Meteorology of Chugoku and Shikoku 2003, pp. 74-77 (in Japanese)

Subdivision of Plant Ecophysiology

- Hattori, T., Inanaga, S., Araki, H. and Sugimoto, Y. (Apr. 2003): Effect of silicon application on draught tolerance of sorghum, Japanese Journal of Crop Science, 72 (Extra issue 1), pp. 248-249 (in Japanese)
- Hattori, T., Inanaga, S., Tanimoto, E., Lux, A., Luxova, M. and Sugimoto, Y. (Sep. 2003): Silicon-induced changes in viscoelastic properties of root cell walls in Sorghum, The 6th International Symposium on Structure and Function of Roots, Programme and Book of Abstracts, pp. 20
- Tsuji, W., Araki, H., Inanaga, S., K. El-siddig and Sugimoto, Y. (Sep. 2003): Root development, nodal root emergence and exudation rate in two sorghum cultivars differed from drought tolerance, The 6th International Symposium on Structure and Function of Roots, Programme and Book of Abstracts, pp.42
- Tsuji, W., Araki, H. and Inanaga, S. (Sep. 2003): Hydraulic resistance in two sorghum cultivars differing in drought tolerance, Japanese Journal of Crop Science, 72 (Extra issue 2), pp. 364-365 (in Japanese)
- Tsuji, W. and Inanaga, S. (Feb. 2004): Responses of root system to water stress in two sorghum cultivars differed from drought tolerance, International symposium of evaluation and monitoring of desertification-Synthetic Activities for the Contribution, pp. 46

Subdivision of Plant Production

- Han, W. and Hamamura, K. (May 2003) Characteristics of plant populations on the salt accumulated areas in arid regions. Japanese Association for Arid Land Studies, 14th meeting, Abstract 28 – 29. (Oral presentation)
- Han, W. and Hamamura, K. (May 2003) The growth and salt absorption of *Salicornia bigelovii* after salt treatment. Japanese Association for Arid Land Studies, 14th meeting, Abstract 86 – 87. (Poster presentation)
- Hamamura, K. (Sep. 2003) : Response of *Sedum oryzifolium* against salt treatment. Crop Science Society of Japan, 216th meeting, Abstract 278 – 279.

Subdivision of Revegetation and Grassland Development

Yamanaka, N., Wang, H.X., Nagayama, Y., Sano, J., Zhou, Z.Q., Zou, X.Z. and Tamai, S. (2003.9) Effects of aridity gradient on structure of oak forests In Liaoning Province, China. Abstracts of joint meeting of IUFRO working groups, Genetics of Quercus and Improvement and Silviculture of Oaks p.47

Subdivision of Land Conservation

Saito, T., H. Fujimaki, I. Abe, and M. Inoue (May 2003) : Discussion of reliability for prediction of soil surface evaporation rate by the α method using thermodynamic equilibrium approach , Proceedings of 14th annual meeting of the Japanese Association for Arid Land Studies , pp.70-71 (in Japanese)

Yamamoto T. Amu-Mensah F., Fujimaki H., DehghaniSanij H (July 2003): Water saving in Tank irrigation systems in Sahel region of Africa. ASAE Annual meeting, Las Vegas, Nevada, USA

Yamamoto T., Sakaguchi, Y. and Arai, M. (July 2003) : Improvement of crop salt stress and degraded soil in arid land, Proceedings of 2003 Annual meeting of JSIDRE, pp.68-69 (in Japanese)

Mochizuki, H., I. Sakaguchi and M. Inoue (July 2003) : Effects of water content, NaCl concentration and temperature on thermal conductivity of Tottori dune sand , Proceedings of 2003 Annual meeting of JSIDRE, pp.238-239 (in Japanese)

Cho, H. and M. Inoue (July 2003) : Hanging water model for the flow unstable wetting front , Proceedings of 2003 Annual meeting of JSIDRE, pp.304-305 (in Japanese)

Nakao, Y., K. Inosako, M. Inoue and K. Taguma (July 2003) : Water collection efficiency of a flux meter in sand , Proceedings of 2003 Annual meeting of JSIDRE, pp.334-335 (in Japanese)

Sakaguchi, Y., T. Yamamoto, M. Inoue and T. Shimizu (July 2003) : Measurement of soil water content and salt concentration in low moisture sandy soil , Proceedings of 2003 Annual meeting of JSIDRE, pp.676-677 (in Japanese)

Dehghanisanij, H., T. Yamamoto and M. Inoue (July 2003) : Assessment of water and solute movement in dune-sand under drip irrigation , Proceedings of 2003 annual meeting of JSIDRE, pp.678-679

Andry Henintsoa, Tahei Yamamoto(July 2003) : Estimation of soil loss using revised universal soil loss equation, Proceedings of 2003 annual meeting of JSIDRE , pp.838-839

Shimura, Y., T. Yamamoto, M. Inoue and M. Arai (July 2003) : Effect of polymeric flocculant on saline soil erosion , Proceedings of 2003 annual meeting of JSIDRE, pp.884-885 (in Japanese)

Inoue, M. (July 2003) :Development of dielectric soil moisture sensor , Proceedings of Japanese Society of Sand Dune Research, 50, pp.24-25 (in Japanese)

Yamamoto T (Aug. 2003): Soil degradation mechanism and its countermeasure in arid lands-Utilization of recycled materials from fly ash, the 2003 Symposium for soils, Okayama Ceramics Research Foundation

Utsunomiya J and Yamamoto T(Oct. 2003) : Clogging problems of microirrigation system in Tohoku Irrigation Project, Proc. of JSIDRE, Branch of Chugoku-Shikoku, 58, pp.27-29 (in Japanese)

Inoue, M. (Oct. 2003) : In-situ test of soil hydraulic properties using PR1 simple automatic soil moisture meter, Proc. of JSIDRE, Branch of Chugoku-Shikoku, 58, pp.57-59 (in Japanese)

Yamazaki, S. N. Higashi and M. Inoue (Oct. 2003) : Effect of solute concentration on soil moisture measurement using profile probes , Proc. of JSIDRE, Branch of Chugoku-Shikoku, 58, pp.60-61 (in Japanese)

Higashi, N. and M. Inoue (Oct. 2003) : Implementation of automated percolation soil water sampler , - Glass filter for sandy soil - , Proc. of JSIDRE, Branch of Chugoku-Shikoku, 58, pp.62-63 (in Japanese)

Azuma, T., Y. Kihara, Y. Mori and M. Inoue (Oct. 2003) : Nonuniformity distribution of salt accumulation on soil surface by evaporation , Proc. of JSIDRE, Branch of Chugoku-Shikoku, 58, pp.67-69 (in Japanese)

- Ould Ahmeh B. A., Yamamoto T. and DehghaniSanij H(Oct. 2003) : Potentialities of irrigated agriculture to combat desertification in Mauritania. Proceedings of the Japanese Society of Irrigation, Drainage and Reclamation Engineering, Okinawa, Japan, pp.666-667
- Arai, M., R. Keren, T. Yamamoto and M. Inoue (Nov. 2003) : Evaluation of sodic soil aggregate stability using ethanol-water mixtures , 2003 Annual meetings of American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Agronomy Abstracts, CD-ROM S02-135575 (Denver, CO, USA)
- Yamamoto, T., Hossein DehghaniSanij and M. Agassi (Nov. 2003): Soil Degradation Rehabilitation Techniques for Irrigated Agriculture in Arid Lands, 2003 Open Symposium, Multifunction of Agriculture in Southeast Asia, International Society for Southeast Asian Agricultural Sciences (ISSAAS), Media Hall, Tokyo University of Agriculture.
- Morii, T., M. Inoue, S. Okake, and Y. Takeshita (Nov. 2003) : In-situ experiment of unsaturated hydraulic property using profile probe, Proceedings of Kyoto branch of annual meeting of JSIDRE, 60, pp.50-51 (in Japanese)
- Dehghanisani, H., T. Yamamoto and M. Inoue (Nov. 2003) : Assessing TDR method for simultaneous monitoring of water and solute in dune sand , Symposium of Soil Science Society, 45, pp.18-19
- Tokunaga, I. N. Toride and M. Inoue (Nov. 2003) : Hydrodynamic dispersion in saturated and unsaturated Andisols , Symposium of Soil Science Society, 45, pp.32-33 (in Japanese)
- Inoue M.(Nov. 2003) : Effect of salt concentration on measurement of soil water content based on dielectric constant , Symposium of Soil Science Society, 45, pp.40-41 (in Japanese)
- Sakaguchi, I., T. Mochizuki, M. Inoue and S. Inanaga (Nov. 2003) : Latent heat transfer component of heat conduction in salt-affected nonswelling clay , Symposium of Soil Science Society, 45, pp.54-55 (in Japanese)
- Fujimaki H. and M. Inoue (Nov. 2003) : Calibration of ECH₂O soil moisture probe to different soil temperatures , Symposium of Soil Science Society, 45, pp.62-63 (in Japanese)
- Higashi, N., M. Inoue and Y. Mori (Dec. 2003) : Implementation of automated infiltration soil water sampler: Application to unsaturated soil in dune fields , 2003 Fall meeting American Geophysical Union, H32A-0518 (San Francisco, CA, USA)
- Mori, Y., A.P. Mortensen, J.W. Hopmans, G.J. Kluitenberg and M. Inoue (Dec 2003) : Water flux estimation by multi functional heat pulse probe for variably saturated sandy soil , AGU annual meeting, H32A-0516, (San Francisco, CA., USA)

(3) Reports (Apr.2003 - Mar.2004)

Subdivision of Natural Environment

- Kamichika, M., H. Yano(Mar. 2004): Sand movement and variation of topography in Tottori Sand Dune, Memoir on sight preservation of Tottori Sand Dune, pp. 18-29 (in Japanese)

Subdivision of Land Conservation

- Inoue, M. (March 2004): Evaluation and standardization of in situ measurements of soil hydraulic and solute transport properties. Research Report of 2001-2003 for a Grand from the Fund of Japan Societies for the Promotion of Science, Ministry of Education, Culture, Sport, Science and Technology for Scientific Research B (1), (Project No. 13556037), pp.1-175 (in Japanese with English)
- Inoue M. (March 2004): Assessment of water and solute transport characteristics during salt accumulation and leaching, and establishment of proper soil management for sustainable agricultural

- production in arid and semi-arid regions. Research Report of 2001-2003 for a Grand from the Fund of Japan Societies for the Promotion of Science, Ministry of Education, Culture, Sport, Science and Technology for Scientific Research B (2), (Project No. 13460104), pp.1-168 (in Japanese with English)
- Yamamoto, T., Utsunomiya, T. and Hossein, D.S. and Koiwazaki S.(Mar. 2004) : Studies on water quality of irrigation water resources in the Tohaku Irrigation Project Areas, The 2003 Annual Report of Grant-in-Arid for the Ministry of Forestry and Fisheries, pp.86-124 (in Japanese)
- Yamamoto, T., Moritani, Y., Ravolanantenaina, A., H. and Shimura Y. (March 2004): Prevention of water erosion from revegetation bed soil under sedums cultivation in green roof, The 2003 Report of Research Requisition supported by Nishimatsu Construction Co., Ltd.(in Japanese)
- Yamamoto, T., Fujiyama H., Nakaoka, D., Takahashi, H. and Satoh, A. (March 2004): Effect of artificial zeolite on high permeable soils, The 2003 Report of Research Requisition supported by Maeda Construction Co., Ltd.(in Japanese)