

Publications

1. Official publications

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- 1) Bulletin of National Institute for Agro-Environmental Sciences
 - 2) Miscellaneous Publication of National Institute for Agro-Environmental Sciences
 - 3) NIAES Series, No.5
Material Circulation through Agro-Ecosystems in East Asia and Assessment of its Environmental Impact
 - 4) NIAES Annual Report 2004
 - 5) Major Research Topics of Agro-Environment (Japanese) (Nogyo kankyo kenkyu seika joho), No.21
 - 6) Series of Agro-Environmental Research (Japanese) (Nogyo kankyo kenkyu sosho), No.16 Progress of Agro-environmental Sciences in Recent 20 Years (Nogyo kankyo kenkyu 20 nen no ayumi)
 - 7) Annual Report of National Institute for Agro-Environmental Sciences (Japanese) (Nogyo kankyo gijutsu kenkyusho nenpo), No.21
 - 8) NIAES News (Japanese) (No-kan-ken nyusu), No.63 - No.66
 - 9) The Forefront of Agro-Environmental Research (Japanese) (Nogyo kankyo kenkyu no saizensen)
 - 10) Reminiscence and Contemplation (a short history of NIAES) (Japanese) (Sansaku to shisaku)
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2. Research Papers published by the NIAES staff

Scientific Papers	English	127
	Japanese	39
	Others	6
Proceedings (incl. Abstracts)	English	196
	Japanese	348
Others	English	51
	Japanese	203
	Others	1

3. Research staff activities (English papers)

NIAES staff's names are boldfaced.

Department of Global Resources

- Okamoto, K., M. Yokozawa** and H. Kawashima (2004) Changes in productivity of east and south Asian countries in the 21st century: regional trends according to climate change. Global Environmental Change in the Ocean and on Land 391-399
- Tao, F. and **M. Yokozawa** (2005) Risk analysis of rice yield to seasonal climate variability in China. Jour-

- nal of Agricultural Meteorology 60: 885-887
- Yokozawa, M.**, F. Tao and **T. Sakamoto** (2004) Risk analysis of cropland suitability in China under climatic variability and change. Crop, Environment and Bioinformatics 1: 264-271
- Tao, F., **M. Yokozawa**, Z. Zhang, Y. Hayashi, H. Grassl and C. Fu (2004) Climatological and agricultural production variability in China in association with East Asia summer monsoon and El Nino southern

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- Tao, F., **M. Yokozawa**, Y. Hayashi and E. Lin (2005) A perspective of water resources in China: Interactions between climate and soil degradation. *Climatic Change* 68: 169-197
- Tao, F., **M. Yokozawa**, Z. Zhang, Y. Xu and Y. Hayashi (2005) Remote sensing of crop production in China by production efficiency models: models comparisons, estimates and uncertainties. *Ecological Modelling* 183: 385-396
- Watanabe, T., **M. Yokozawa**, S. Emori, K. Takata, A. Sumida and T. Hara (2004) Developing a multi-layered integrated numerical model of surface physics-growing plants interaction, MINoSGI. *Global Change Biology* 10: 963-982
- Shirato, Y.**, K. Paisanchoen, P. Sangtong, C. Nakviro, **M. Yokozawa** and N. Matsumoto (2005) Testing the Rothamsted Carbon Model against data from long-term experiments on upland soils in Thailand. *European Journal of Soil Science* (doi: 10.1111/j.1365-2389.2004.00659.x)
- Ishigooka, Y.**, T. Kuwagata, S. Goto, H. Ohno and H. Toritani (2005) Assessment of agricultural water resources in East Eurasia by using continental scale water dynamics model. *Journal of Agricultural Meteorology* 60: 421-424
- Sakai, H.**, H.-Y. Kim, T. Hasegawa and K. Kobayashi (2004) Rice yield enhancement by elevated CO₂ negatively correlates with hastened occurrence of heading - Results from five years chamber studies. *Proceedings for the 4th International Crop Science Congress* www.cropsscience.org.au
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- Akiyama, H.**, I. P. McTaggart, B. C. Ball and A. Scott (2004) Effect of soil water content on N₂O, NO, and NH₃ emissions from soil after the application of organic fertilizers and urea. *Water, Soil and Air Pollution* 156: 113-129
- Cheng, W.**, H. Tsuruta, G. Chen, **H. Akiyama** and **K. Yagi** (2004) N₂O and N₂ production potential in various Chinese agricultural soils by denitrification. *Soil Science and Plant Nutrition* 50: 909-915
- Cheng, W.**, H. Tsuruta, G. Chen and **K. Yagi** (2004) N₂O and NO production in various Chinese agricultural soils by nitrification. *Soil Biology and Biochemistry* 36: 953-963
- Li, Z. and **K. Yagi** (2004) Rice root-derived carbon input and its effect on decomposition of old soil carbon pool under elevated CO₂. *Soil Biology and Biochemistry* 36: 1967-1973
- Chu, H., Y. Hosen and **K. Yagi** (2004) Nitrogen oxide emissions and soil microbial activities in a Japanese Andisol as affected by N-fertilizer management. *Soil Science and Plant Nutrition* 50: 287-292
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- Li, R., H. Yang, X. Tang, C. Wu and **M. Du** (2004) Distribution of Cs-137 and organic carbon in particle size fractions in an alumi-haplic acrisol of Southern China. *Soil Science* 169: 374-384
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- Matsubara, M. and **D. Sprague** (2004) Mating tactics in response to costs incurred by mating with multiple males in wild female Japanese macaques. *International Journal of Primatology* 25: 901-917
- Zhang, T., H. Zhao, F. Li, **Y. Shirato**, **T. Ohkuro** and **I. Taniyama** (2004) Comparison of different measures for stabilising moving sand dunes in the Horqin Sandy Land of Inner Mongolia, China. *Journal of Arid Environments* 58: 202-213
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Department of Biological Safety

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- Suzuki, F., **H. Sawada**, K. Azegami and **K. Tsuchiya** (2004) Molecular characterization of the *tox* operon involved in toxoflavin biosynthesis of *Burkholderia glumae*. *Journal of General Plant Pathology* 70: 97-107
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Department of Environmental Chemistry

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4. Patents

1) Hypovirulent strain W370 of *Rosellinia necatrix*.

Patent number: 3594905 (Japan)

Date of application: 25.01.2001

Date of registration: 10.09.2004

Inventors: Naoyuki Matsumoto, Ikuko Okabe, Masao Arakawa, Hioshi Nakamura, Yukari Uetake

5. Collaborative Research

No.	Research Subject	Collaborating Organization	NIAES Partner	Duration
1	Observational Studies on effects of atmospheric aerosols and clouds on buget of radiation and water in Asian region.	Japan Science and Technology Agency	Greenhouse Gas Emission Team	April 3, 2000 ~ October 31, 2004
2	Analysis of crystal structure of LysR-type transcriptional regulator.	National Institute of Advanced Industrial Science and Technology	Applied Soil Microbiology Unit	April 3, 2002 ~ March 31, 2005
3	Agricultural monitoring systems by satellite remote sensing data	The Japan Aerospace Exploration Agency	Ecosystems Group	October 9, 2001 ~ October 31, 2004
4	Development of bioremediation techniques for removal of pesticides from agricultural drained water using industrial wastes.	Kowa Co.,Ltd.	Applied Soil Microbiology Unit	April 1, 2002 ~ March 31, 2004
5	Agro-environmental observations using spectropolarimeters	The Japan Aerospace Exploration Agency	Head of Ecosystems Group, Agro-Ecological Sensing Unit	April 1, 2002 ~ March 31, 2004
6	Development of the cleanup technology for heavy metal contaminated soils by the extraction with chemicals.	Taiheiyo Cement Corporation	Soil Chemistry Unit	May 1, 2002 ~ March 31, 2004
7	Development of analytical method of gene expression of soil bacteria by selective PCR.	Aisin Cosmos R&D Co. Ltd.	Applied Soil Microbiology Unit	September 1, 2003 ~ March 31, 2005
8	Development of screening method for effective strains to degrade dieldrin.	Tokyo Metropolitan Agricultural Experiment Station	Applied Soil Microbiology Unit	November 1, 2003 ~ March 31, 2006
9	Development of a new method to apply plant-associated microorganisms as a creature material.	Tokyo University of Agriculture, Nippon Soda Co., Ltd.	Microbial Systematics Laboratory	March 5, 2004 ~ March 31, 2006
10	Development of methods for SNP (single nucleotide polymorphism) analysis of fungicide resistance genes.	Hitachi Software Engineering Co.,Ltd.	Pesticide Mitigation Unit	March 4, 2004 ~ March 31, 2006

Appendix

No.	Research Subject	Collaborating Organization	NIAES Partner	Duration
11	Development of real-time, non-destructive ultra trace analysis by multiple gamma ray detection method and prompt gamma ray, and application to actual samples	Japan Atomic Energy Research Institute The University of Tokyo Toray Research Center Inc.	Radioisotope Analysis Laboratory	March 1, 2004 ~ March 31, 2005
12	Development of methyl bromide alternatives and soil fumigation methods for risk reduction	New Energy and Industrial Technology Development Organization (NEDO) Chiba Prefectural Agriculture Research Center	Environmental Pesticide Assessment Unit	April 1, 2004 ~ March 31, 2006
13	Behavior of radionuclides in the typical soils of Japan	Tokyo University of Agriculture and Technology	Radioisotope Analysis Laboratory	July 13, 2004 ~ March 31, 2006
14	Practical use of microorganisms inhabiting wheat and barley	Chiba University Central Glass Co.,Ltd.	Microbial Systematics Laboratory	August 16, 2004 ~ March 31, 2006
15	Agri-environmental monitoring by network-based spectral image logging systems	Toyama National College of Technology Toyama Agricultural Research Center	Agro-Ecological Sensing Unit, Remote Sensing Unit	October 7, 2004 ~ March 31, 2006
16	A consequence of flowering-plant density on the inter-line crossing rate utilizing the F1 seed production system of a brassicaceous vegetable	Tohoku Seed Co., Ltd.	Vegetation Ecology Unit	October 25, 2004 ~ March 31, 2006
17	Evaluation of allelopathic activity of <i>Cleome</i> and wild type of <i>Brassica</i>	Snow Brand Seed Co.,Ltd.	Chemical Ecology Unit	November 15, 2004 ~ March 31, 2006
18	Development of the sex attractant of <i>Euzophera batangensis</i>	Tottori Prefecture Horticultural Experiment Station Shin-Etsu Chemical Co., Ltd.	Insect Semiochemicals Unit	December 28, 2004 ~ March 31, 2005
19	Development of high throughput screening system for induced systemic disease-resistance in plants	Kaken Pharmaceutical Co.,Ltd.	Pesticide Mitigation Unit	January 14, 2005 ~ March 31, 2006
20	Exposure and risk assessment on the persistent organic pollutants	National Institute of Agricultural Science & Technology, Korea	Environmental Chemicals Analysis Laboratory	March 14, 2005 ~ March 31, 2008