

# 11<sup>th</sup> International Symposium of Integrated Field Science

## “Utilization of Resources and Environmental Protection”

Date: 1 (Thu.) – 2 (Fri.) August, 2013

Venue: Hotel Taikanso, Matsushima

10-76 Inuta, Matsushima, Matsushima-machi, Miyagi-gun, Miyagi, Japan

### **Organizer:**

Field Science Center, Graduate school of Agricultural Science, Tohoku University

Project of Integrated Compost Science, Tohoku University

Innovative Research Center for Agricultural Sciences, Tohoku University

Animal Production Environment Society Japan

### **Co-Organizer:**

Miyagi Prefectural Government, Agriculture, Forestry and Fisheries Department

### **Symposium Chair**

Prof. Yutaka Nakai (Integrated Field Science Center, Tohoku University, Japan)

### **Organizer Committee:**

Toyoaki Ito, Michiaki Oomura, Fuyumi Tojo, Waka Fukunaga, Hideomi Minoshima

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## **1 (Thu.) August**

12:00- Registration desk open

13:00-13:30 Opening ceremony

13:30-17:30 Oral Presentation

Chair Person: Yutaka Nakai (Tohoku University, Japan)

13:30-14:05 O-1. Research and development in composting and animal waste management in Taiwan

Liang Chou Hsia (National Pingtung University of Science and Technology, ROC)

14:05-14:40 O-2. Research and development in composting and animal waste management including wastewater treatment, renewable energy and so on in Korea

Myung Gyu Lee (Sangji University, Korea)

14:40-15:15 O-3. Agricultural waste management in Europe, with an emphasis on anaerobic digestion

Heribert Insam (University of Innsbruck, Austria)

15:15-15:30 ----- Tea Break -----

Chair Person: Masanori Saito (Tohoku University, Japan)

15:30-15:50 O-4. Application of airborne remote sensing to biomass estimation

Chinatsu Yonezawa (Tohoku University, Japan)

15:50-16:10 O-5. Life Cycle Impact Assessment of Compost, and Possibility of IT solution

Michiaki Oomura (Tohoku University, Japan)

16:10-16:30 O-6. Microbial community dynamics during composting process of animal manure analyzed by molecular biological methods

Nozomi Yamamoto (Tokyo Institute of Technology, Japan)

16:30-16:50 O-7. Small scale of anaerobic digestion for decentralized energy production and bioresource recycling

Chika Tada (Tohoku University, Japan)

16:50-17:10 O-8. Effect of organic matter application on soil carbon sequestration in Japanese agricultural land

Yasuhito Shirato (National Institute for Agro-Environmental Sciences, Japan)

17:10-17:30 O-9. New function of compost: Inhibitory effect of acidulocompost on weed germination and growth

Takehiko Yamamoto (Tohoku Agricultural Research Center, Japan)

18:00–20:00 Banquet (Hotel Taikanso, Matsushima)

## **2 (Fri.) August**

9:00- Registration desk open

10:00-11:45 Poster Presentation

10:00-10:50 Odd number

10:55-11:45 Even number

11:45-12:00 Closing ceremony

## Poster Session

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P-1	T. Takahashi, H. Kanno, and M. Nanzyo	Tohoku University, Japan	Factors affecting organic carbon accumulation in humus horizons of Andosols from the Tohoku University World Andosol Database
P-2	G. Saito, H. Seki, K. Uto, and Y. Kosugi	Tokyo Institute of Technology, Japan	Development of a Hyperspectral Sensor on UAV for Biomass estimation at Coastal Zone
P-3	H. Nasukawa, T. Uno, M. Saito, R. Tajima, and T. Ito	Tohoku University, Japan	Effects of bottom sediment-like tsunami deposit on soil and paddy rice growth
P-4	Masanori Saito	Tohoku University, Japan	Effect of Biochar on Crop Growth: Research in Japan
P-5	F. Takeda, K. Nakamura, and K. Nakano	Nihon University, Japan., Tohoku University, Japan	Contribution of vegetation on water purification performances in constructed wetlands
P-6	M. Nanzyo and K. Ito	Tohoku University, Japan	Phosphates in the air-dried residues of water or dilute acid extracts from compost
P-7	H. Kunishima, M. Nanzyo, H. Kanno, and T. Takahashi	Tohoku University, Japan	Improvement of P recovery rate in an uncultivated non-allophanic Andisol using fermented chicken manure pellets and P foraging root growth of Japanese radish
P-8	T. Ito <sup>1</sup> , T. Yokota <sup>1</sup> , N. Tanikawa <sup>1,2</sup> , and M. Saigusa <sup>1,3</sup>	<sup>1</sup> Tohoku University, Japan., <sup>2</sup> Aomori Prefectural Agriculture and Forestry Research Center, Japan., <sup>3</sup> Toyohashi University of Technology, Japan	Phosphate bioavailability of animal manure composts is different in upland and paddy soils
P-9	R. Tajima <sup>1</sup> , T. Yamamoto <sup>2</sup> , M. Omura <sup>1</sup> , Y. Nakai <sup>1</sup> , T. Ito <sup>1</sup> , and M. Saito <sup>1</sup>	<sup>1</sup> Tohoku University, Japan., <sup>2</sup> Tohoku Agricultural Research Center, Japan	Assessment of Greenhouse Gas emissions of the production and utilization of acidulocompost from fish meal
P-10	S. Ogura, T. Shishido, S. Tanaka, M. Tannai, S. Sato, and K. Yusa	Tohoku University, Japan	Effect of interannual application of cattle manure compost on yield and quality of herbage and soil chemical condition in a temperate grass meadow

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## Poster Session

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P-11	Mizuhiko Nishida	Tohoku Agricultural Research Center, Japan	Cattle manure compost plays a key role in keeping soil nitrogen fertility in paddy-upland rotation system
P-12	S. Ogaya <sup>1</sup> , M. Nishida <sup>2</sup> , K. Yasuda <sup>1</sup> , Y. Kaneta <sup>1</sup> , T. Sato <sup>1</sup> , and F. Takakai <sup>1</sup>	<sup>1</sup> Akita Prefectural University, Japan., <sup>2</sup> Tohoku Agricultural Research Center, Japan	Fate of nitrogen derived from organic fertilizer applied to paddy and converted upland fields
P-13	W. Cheng, Y. Okamoto, S. Sato, K. Kasahara, K. Tawaraya, and H. Yasuda	Yamagata University, Japan	Combined use of Azolla and loach suppressed weed <i>Monochoria vaginalis</i> and increased organically farmed rice yield
P-14	F. Sakurada, T. Uno, M. Saito, R. Tajima, and T. Ito	Tohoku University, Japan	Positive effects of tubificid worms on rice growth and yield in organic farming
P-15	S. Hara, T. Shimizu, T. Uno, R. Tajima, T. Ito, and M. Saito	Tohoku University, Japan	Phosphorous uptake from organic matter via AM fungi- Possible involvement of phytate-degrading bacteria -
P-16	Y. Ito <sup>1</sup> , F. Tojo <sup>1</sup> , M. Watanabe <sup>2</sup> , K. Watanabe <sup>3</sup> , S. Hayashi <sup>1</sup> , K. Seiwa <sup>1</sup> , Y. Nakai <sup>1</sup> , and C. Tada <sup>1</sup>	<sup>1</sup> Tohoku University, Japan., <sup>2</sup> National Institute for Environmental Studies, Japan., <sup>3</sup> Center for Environmental Science in Saitama, Japan	Relationship between nitrogen concentration and ammonia oxidizing microbes in the Japanese cedar forest soils under different managements
P-17	F. Tojo, Y. Ito, C. Tada, and Y. Nakai	Tohoku University, Japan	Detection of Anammox bacteria from forest soils of different thinning intensity
P-18	Y. Chiba, Y. Fukuda, C. Tada, and Y. Nakai	Tohoku University, Japan	Host immune response to gastric <i>Cryptosporidium</i>
P-19	R. Sato <sup>1</sup> , T. Takahashi <sup>2</sup> , K. Numazu <sup>2</sup> , T. Wakatsuki <sup>3</sup> , Y. Morita <sup>3</sup> , A. Komura <sup>3</sup> , C. Tada <sup>1</sup> , Y. Fukuda <sup>1</sup> , Y. Nakai <sup>1</sup>	<sup>1</sup> Tohoku University, Japan., <sup>2</sup> NOSAI Miyagi, Japan., <sup>3</sup> NOSAI Okayama, Japan	Phylogenetic analysis of <i>E. zuernii</i> and <i>E. bovis</i> with nuclear 18S rRNA and mitochondrial CO1 genes

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## Poster Session

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- P-20 S. T. Nguyen<sup>1,2,3</sup>, Y. Fukuda<sup>2</sup>, C. Tada<sup>2</sup>, V. V. Huynh<sup>1</sup>, D. T. Nguyen<sup>1</sup>, and Y. Nakai<sup>2</sup> <sup>1</sup> Central Vietnam Veterinary Institute, Vietnam., <sup>2</sup> Tohoku University, Japan., <sup>3</sup> Japan Society for the Promotion of Science, Japan Prevalence and molecular identification of *Fasciola* in cattle in central Vietnam.
- P-21 S. T. Nguyen<sup>1,2,3</sup>, Y. Fukuda<sup>2</sup>, C. Tada<sup>2</sup>, V. V. Huynh<sup>1</sup>, D. T. Nguyen<sup>1</sup>, and Y. Nakai<sup>2</sup> <sup>1</sup> Central Vietnam Veterinary Institute, Vietnam., <sup>2</sup> Tohoku University, Japan., <sup>3</sup> Japan Society for the Promotion of Science, Japan Prevalence and molecular characterization of *Cryptosporidium* in domestic animals in central Vietnam
- P-22 T. Kotogaoka, Y. Fukuda, C. Tada, and Y. Nakai Tohoku University, Japan Molecular epidemiological survey for zoonotic parasite infection in livestock in the Tuul basin in Mongolia
- P-23 C.G. Lee, Y. Baba, C. Tada, and Y. Nakai Tohoku University, Japan Investigation of microbial community analysis during the decomposition of lignocellulosic biomass using rumen fluid
- P-24 Y. Shimura, R. Asano<sup>1</sup>, W. Kawada<sup>1</sup>, Y. Hamano<sup>1</sup>, T. Ohdan<sup>1</sup>, Jun Fukushima<sup>1</sup>, Y. Baba<sup>2</sup>, C. Tada<sup>2</sup>, Y. Nakai<sup>2</sup>, and T. Inamoto<sup>1</sup> <sup>1</sup> Akita Prefectural University, Japan., <sup>2</sup> Tohoku University, Japan Comparison of bacterial flora in a methane fermentation plant in Kawatabi Field Science Center at Tohoku University and bovine rumen used as the plant bacterial source by 16S rRNA gene sequencing
- P-25 G. Yoshida, K. Kimura, and C. Tada Tohoku University, Japan Improvement of the anaerobic digestion performance for fish industry waste recycles
- P-26 T. Suzuki and C. Tada Tohoku University, Japan Effects of carrier on the performance of a methane fermentation system using feat from a hot spring
- P-27 Y. Baba, C. G. Lee, C. Tada, Y. Fukuda, and Y. Nakai Tohoku University, Japan Pretreatment of lignocellulosic rapeseed waste by rumen fluid for methane production
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