

List of scientific papers in 2008 published by field science group in Graduate School of Agricultural Science, Tohoku University

The Forest – Andisols Group

- Hayatsu, M., K. Tago and M. Saito (2008) Various players in the nitrogen cycle: diversity and functions of microorganisms involved in nitrification and denitrification. *Soil Science and Plant Nutrition*, 54: 33-45.
- Ito, M., Y. Suyama, T. A. Ohsawa, Y. Watano (2008) Airborne-pollen pool and mating pattern in a hybrid zone between *Pinus pumila* and *P. parviflora* var. *pentaphylla*. *Molecular Ecology*, 17 (23): 5092–5103.
- Kanno, H. (2008) Uptake Process and Recovery of *co-situs* Applied Polyolefin-Coated Urea as Affected by Release Pattern on Corn (*Zea mays* L.) under Humid Climate in Northeastern Japan. *Tohoku Journal of Agricultural Research*, 58: 65-75.
- Kobayashi, N., M. Morioka, T. Komiyama, T. Ito and M. Saigusa (2008) Silicon content in livestock manure compost and a simple estimation method for it. *Journal of the Japan Society of Waste Management Experts*, 19: 150-154.
- Kuga, Y., K. Saito, K. Nayuki, R. L. Peterson and M. Saito (2008) Ultrastructure of rapidly frozen and freeze-substituted germ tubes of an arbuscular mycorrhizal fungus and localization of polyphosphate. *New Phytologist*, 178: 189-200.
- Matsuo, A., Y. Suyama, Y. Sangetsu, S. Fuji and A. Makita (2008) A large genet of *Sasa kurilensis* revealed by DNA analysis. *Bamboo Journal*, 25: 64-73 (in Japanese with English summary).
- Mizuno, N., Y. Amano, T. Mizuno and M. Nanzyo (2008) Changes in the heavy minerals content and element concentration of Tarumae-a tephra with distance from the source volcano. *Soil Science and Plant Nutrition*, 54: 839-845.
- Nanzyo, M., T. Ito, T. Takahashi and H. Kanno (2008) Metal complexation of humus and horizon differentiation in Andisols and Spodosols. *Journal of Integrated Field Science*, 5: 41-50.
- Nanzyo, M., T. Kato, K. Tamura, T. Higashi, K. Ito and H. Kanno (2008) White patchy materials formed in a scoriaceous road-cut profile on Miyake Island. *Tohoku Journal of Agricultural Research*, 58: 53-63.
- Ohtomo, R., Y. Sekiguchi, T. Kojima and M. Saito (2008) Different chain length specificity among three polyphosphate quantification methods. *Analytical Biochemistry*, 383: 210-216.
- Saito, M. (2008) Function and ecology of mycorrhizal symbiosis. *Japanese Journal of Soil Science and Plant Nutrition*, 79: 433-436.
- Saito, M. (2008) Environmental issues on food in terms of sustainability. *Journal of Life Cycle Assessment*, 4: 111.
- Saito, M. (2008) Lifecycle assessment and carbon footprint in agriculture. Report submitted to special committee on global environment issues, Ministry of Agriculture, Forestry and Fisheries, Japan. <http://www.maff.go.jp/j/council/seisaku/kikaku/goudou/04/pdf/data6.pdf>
- Saito, M. (2008) Current trends in carbon footprint of foods. Report submitted to special committee on global environment issues, Ministry of Agriculture, Forestry and Fisheries, Japan. <http://www.maff.go.jp/j/council/seisaku/kikaku/goudou/05/pdf/data1.pdf>
- Sano, O., T. Ito, T. Ando, M. Nanzyo, G. Saito and M. Saigusa (2008) Clay mineralogical composition of representative paddy soils in northern part of northeastern Japan. *Pedologist*, 52: 10-18.
- Seiwa, K., M. Tozawa, N. Ueno, M. Kimura, M. Yamazaki and K. Maruyama (2008) Roles of cotony hairs in directed seed dispersal in riparian willows. *Plant Ecology*, 198: 27-35.
- Seiwa, K., Y. Miwa, N. Sahashi, H. Kanno, M. Tomita, N. Ueno and M. Yamazaki (2008) Pathogen attack and spatial patterns of juvenile mortality and growth in a temperate tree, *Prunus grayana*. *Canadian Journal of Forest Research*, 38(9): 2445-2454.
- Suyama, Y., U. Gunnarsson and L. Parducci (2008) Analysis of short DNA fragments from Holocene peatmoss samples. *The Holocene*, 18 (6): 1003-1006.
- Takahashi, T., A. Mitamura, T. Ito, K. Ito, M. Nanzyo and M. Saigusa (2008) Aluminum solubility of strongly acidified allophanic Andosols from Kagoshima Prefecture, Southern Japan. *Soil Science and Plant Nutrition*, 54: 362-368.

Tomita, M., H. Saito and Y. Suyama (2008) Effect of local stand density on reproductive processes of the sub-boreal conifer *Picea jezoensis* Carr. (Pinaceae). *Forest Ecology and Management*, 256 (6): 1350-1355.

The Ruminant Production Group

Aoyama, M., Y. Natsume, S. Sugita, S. Ninomiya and S. Sato (2008) Approach-Preventing Stimuli in Sika Deer: Especially in Predator-Related Stimuli. *Bulletin of Integrated Field Science Center*, 24 (in press) (in Japanese).

Astrid, A., T. Hirayama, Y. Suda, K. Suzuki, K. Chikuni, Y. Obara and K. Katoh (2008) Effects of GH gene polymorphism on carcass traits and hormone levels in Japanese black cattle. 59th EAAP (Lithuania), 22.

Haga, S., S. Fujimoto, T. Yonezawa, K. Yoshioka, H. Shingu, Y. Kobayashi, T. Takahashi, Y. Otani, K. Katoh and Y. Obara (2008) Changes in hepatic key enzymes of dairy calves in early weaning production systems. *Journal of dairy science*, 91: 3156-3164.

Hayashi, S., M. Miyake, K. Watanabe, H. Aso, S. Hayashi, S. Ohwada and T. Yamaguchi (2008) Myostatin preferentially down-regulates the expression of fast 2x myosin heavy chain in cattle. *Proceedings of the Japan Academy, Series B* 84(8): 354-362.

Hirata, M., N. Hasegawa, T. Takahashi, R. Chowdappa, S. Ogura, K. Nogami and T. Sonoda (2008) Grazing behavior, diet selection and feed intake of cattle in a young tree plantation in southern Kyushu, Japan. *Tropical Grasslands*, 42: 170-180.

Hirata, M., N. Hasegawa, T. Takahashi, R. Chowdappa, S. Ogura, K. Nogami and T. Sonoda (2008) Relationship between liveweight change of cattle and forage supply in a young tree plantation in southern Kyushu, Japan. *Grassland Science*, 54: 203-210.

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Hoque, M. -A., H. Kadowaki, T. Shibata and K. Suzuki (2008) Maternal and direct genetic parameters for production traits and maternal genetic correlations among growth and feed efficiency traits in

Duroc pigs. *Asian-Australian Journal of Animal Science*, 21: 961-966.

Hoque, M. -A., K. Suzuki and T. Oikawa (2008) Maternal and direct genetic effects on variance components estimation for economic traits in Japanese black cattle. *Tohoku Journal of Agricultural Research*, Vol. 58, No. 3-4: 77-88. March.

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Kanaya, T., K. Miyazawa, I. Takakura, W. Itani, K. Watanabe, S. Ohwada, H. Kitazawa, M.-T. Rose, H.-R. McConochie, H. Okano, T. Yamaguchi and H. Aso (2008) Differentiation of a murine intestinal epithelial cell line (MIE) towards the M cell lineage. *American Journal of Physiology - Gastrointestinal and Liver Physiology*, 295(2): 273-284.

Kanaya, T., K. Miyazawa, I. Takakura, W. Itani, H. Watanabe, T. Hondo, K. Watanabe, S. Ohwada, T. Yamaguchi and H. Aso (2008) Establishment of in vitro model for murine intestinal M cell differentiation. 48th Annual Meeting, The American Society for Cell Biology.

Katoh, K., S. Kouno, A. Okazaki, K. Suzuki and Y. Obara (2008) Interaction of GH polymorphism with body weight and endocrine functions in Japanese black calves. *Domestic Animal Endocrinology*, 34: 25-30.

Katoh, K. (2008) Metabolic and endocrine aspects in lactation. *Nougyou Gijutsu Taikei*, 140: 4-28 (in Japanese).

Kobashikawa, H., Y. Kamata, A. Astrid, I. Uehara, T. Hirayama, M. Hirakawa, H. Tamaki, K. Suzuki and K. Katoh (2008) Influence of biomass feed to meat quality on Japanese black cattle. 13th AAAP, 400.

Kobayashi, Y., Y. Obara and K. Katoh (2008) Secretory mechanisms and roles of CCK in young goats. *Proceedings of Japanese Society for Animal Nutrition and Metabolism*, 52: 11-17 (in Japanese).

Kohari, D., Y. Matsumoto, K.-I. Yayou and S. Sato (2008) Behaviour and welfare of growing pigs in a "Bio-bed" group housing system. *Proceedings of the 42nd Congress of the ISAE*, 122.

Kushibiki, S., H. Shingu, R. Kawasaki, T. Komatsu, F. Itoh, A. Watababe, A. Touno, A. Oshibe, K. Katoh, Y. Obara and K. Hodate (2008) Effect of

- bovine lactoferrin feeding on lipopolysaccharide-induced metabolic and hormonal disturbances in preruminant calves. *Animal Science Journal*, 79: 375-381.
- Miyake, M., S. Iwasaki, Y. Imai, H. Abe, K. Watanabe, S. Ohwada, H. Aso and T. Yamaguchi (2008) Effect of myostatin on IL-6 expression in skeletal muscle. The 13th AAAP Animal Science Congress 2008.
- Miyatake, S., K. Satoh, T. Takahashi, Y. Kobayashi and K. Katoh (2008) Effects of endogenous and exogenous ghrelin on GH and ACTH release in goats. 6th ICFAE.
- Miyazawa, K., T. Kanaya, N. Nishida, T. Yamaguchi, S. Katamine and H. Aso (2008) The Evaluation of Transepithelial BSE Agent Transport by In Vitro Bovine M Cell Model. 48th Annual Meeting, The American Society for Cell Biology.
- Moue, M., M. Tohno, T. Shimazu, T. Kido, H. Aso, T. Saito and H. Kitazawa (2008) Toll-like receptor 4 and cytokine expression involved in functional immune response in an originally established porcine intestinal epitheliocyte cell line. *Biochimica et Biophysica Acta*, 1780: 134-144.
- Nagai, Y., H. Aso, H. Ogasawara, S. Tanaka, Y. Taketa, K. Watanabe, S. Ohwada, M. -T. Rose, H. Kitazawa and T. Yamaguchi (2008) Anterior pituitary progenitor cells express costimulatory molecule 4Ig-B7-H3. *Journal of Immunology*, 181(9): 6073-6081.
- Nagai Y., H. Ogasawara, Y. Taketa, H. Aso, K. Watanabe, S. Ohwada, Y. Muneta and T. Yamaguchi (2008) Expression of inflammatory related factors in porcine anterior pituitary derived cell line. *Veterinary Immunology and Immunopathology*, 124: 201-208.
- Nakai, Y., O. Kitazume, R. Asano, K. Otawa, C. Kohda and H. Sasaki (2008) Microbial ammonia removal from animal wastewater in the lagoon. In: *Nogyogijustutaikei*, Vol. 8, Suppl; Animal Production. Rural Culture Associatio, Tokyo, 2008 (in press) (in Japanese).
- Ninomiya, S. (2008) How to measure animal's motivation. *Animal Behaviour and Management*, 44(1): 1-6 (in Japanese).
- Ninomiya, S., N. Kaneda, N. Abe and S. Sato (2008) The aversive effect of wolf's faeces on Sika deer (*Cervus nippon*). *Animal Behaviour and Management*, 44(3): 215-219.
- Ninomiya, S., R. Kusunose, Y. Obara and S. Sato (2008) Effect of an open window and conspecifics within view on the welfare of stabled horses, estimated on the basis of positive and negative behavioural indicators. *Animal Welfare*, 17: 351-354.
- Ninomiya, S. (2008) Horse management satisfying their behavioural needs. *Chikusan-no-Kenkyu*, 62(1): 99-102 (in Japanese).
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- Obara, M., S. Ogura, T. Shishido and K. Sugawara (2008) Role of grazing cattle on seed dispersal of plants in a hill pasture 2. Effects of ruminal digestion on seed germinability of five plant species. *Proceedings of the 21st International Grassland and Rangeland Congress*, 1: 467.
- Ogasawara, H., S. Ohwada, Y. Nagai, Y. Taketa, M. Matsuzaki, S. Tanaka, K. Watanabe, H. Aso and T. Yamaguchi (2008) Localization of leptin and leptin receptor in the bovine adenohypophysis. *Domestic Animal Endocrinology*, 35(1): 8-15.
- Ogasawara, H., H. Aso, Y. Nagai, K. Matsumoto, H. Okamura, S. Tanaka, K. Watanabe, S. Ohwada and T. Yamaguchi (2008) Presence of neuropeptide Y in somatotrophs of cattle. *Domestic Animal Endocrinology*, 35: 274-280.
- Ogura, S., S. Sato, S. Tanaka, H. Sugawara, S. Matsumoto, K. Abe, T. Shimizu and A. Koderu (2008) Grazing use of wasted mulberry plantation in Minamisanriku Town, Miyagi Prefecture – Forage availability and chemical composition of mulberry (*Morus* sp.) leaves, and behavior and healthiness of beef cattle. *Japanese Journal of Grassland Science*, 54: 153-159 (in Japanese).
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- Ohishi, R., K. Hirooka, K. Otawa and Y. Nakai (2008) The effect of the influent ammonia concentration on the formation of ammonia oxidizer community. 12th International Symposium on Microbial Ecology (ISME12), 32.
- Ohmura, M., S. Ogura, M. Hori, T. Nakano, K. Nakagawa, S. Kawashima, M. Yuki, N. Sato, T. Ono, H. Suzuki, S. Tanaka, H. Chubachi, K. Yusa, H. Karino, R. Yusa and F. Yusa (2008) Establishment and of experimental mulberry field by transplantation of matured trees and the growth of the mulberry trees. Bulletin of Integrated Field Science Center, 24 (in press) (in Japanese).
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- Onodera, W., T. Kachi, Y. Shimizu, J. Yoshino, J. Kobayashi, Y. Suda and K. Suzuki (2008) Effects of dietary β -glucan and seaweed on growth performance and immune traits in weaning pigs. Nihon Chikusan Gakkaiho, 79: 377-383 (in Japanese).
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- Sanosaka, M., T. Minashima, K. Suzuki, K. Watanabe, S. Ohwada, A. Hagino, M. -T. Rose, T. Yamaguchi and H. Aso (2008) A combination of octanoate and oleate promotes in vitro differentiation of porcine intramuscular adipocytes. Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology, 149: 285-292.
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- Sato, S. (2008) How to love the animal in captivity. Animal Behaviour and Management, 44:185-187 (in Japanese).
- Sato, S. (2008) The way of thinking and the development of the rearing system in animal welfare movement. (1) New wind from Oxford. Chikusan-Gijyutsu, 640: 25-28 (in Japanese).
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- Shishido, T. and S. Ogura (2008) Effect of application of cattle manure compost on the quality of grass silage. *Bulletin of Integrated Field Science Center*, 24 (in press) (in Japanese).
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The Rice production Group

Ito, T. (2008) Paddy rice farming with high biodiversity. *Norinkeizai*, 9971: 2-6, 9973: 2-6.

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Marine Bio-Production Groups

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Integrated Field Control Group

Fukuo, A., T. Akiyama, W. Mo, K. Kawamura, Z. Chen and G. Saito (2008) Spectral detection of grazing degradation in the Xilingol Steppe, Inner Mongolia. *Journal of Integrated Field Science*, 5: 39-50.

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