



「食料，エネルギーおよび産業のための持続的農業に関する国際会議(ICOSA^{*})」の 平行 シンポジウム
(主催:酪農学園大学, 共催:北海道大学サステナビリティガバナンスプロジェクト(北大SGP))



家畜ふん尿 - 汚染物質？ それとも有効資源？

開催日

7月2日(水)

G8 北海道洞爺湖サミット(7月7日~9日)直前開催のICOSA2008^{*}(7月2日~6日,

^{*}文末参照)の初日に開催する。

会場

酪農学園大学, 中央館, 学生ホール

(<http://www.rakuno.ac.jp/>)

シンポジウムのテーマ

家畜ふん尿 - 環境汚染物質？それとも, 持続的農業のための資源？

家畜ふん尿は,これまで土壌の肥沃度を維持する上で貴重な役割を果たしてきました。もちろん,これからもその役割に変化はありません。ところが,近年,畜産の集約化に伴い,家畜ふん尿が環境汚染源となることも認められるようになりました。例えば,ふん尿に由来する硝酸態窒素の溶脱による地下水汚濁,さらには,ふん尿を施与した土壌からのアンモニア揮散や強力な温室効果ガスである亜酸化窒素の放出といったことによる大気汚染などがそれに当たります。

このシンポジウムでは,中国,イギリス,オランダ,デンマークやわが国の北海道と宮崎における環境保全的な家畜ふん尿の有効利用に関する研究や事例の最新情報が提供されます。同時に,ふん尿に由来する環境汚染の実態も報告されます。このシンポジウムは,こうした各国の事情に基づきながら,家畜ふん尿が作物への有効な養分源として利用されるのか,あるいは,環境汚染源となってしまうのかを決定づける要因について論議します。

招待講演 (tentative title)

Hongmin Dong (China): Livestock Manure Management and Utilization in China



Professor of Chinese Academy of Agricultural Sciences, Agricultural Meteorology Institute, Environment Engineering Department, China

As national leading experts on Livestock environmental engineering area in China, Prof. Dong has been responsible for Chinese national “Tenth-Five-Year” key research project”- Environment technology of intensive livestock production system (2001-2006)”, “Ninth-Five-Year” key research project”- “Development and Demonstration of manure treatment technology of intensive livestock production system in China.

During the past years, Hongmin was also responsible for the GHG inventory from agricultural sector under several international cooperation projects, such as, Country Study on Climate Change supported by United States and ALGAS Project supported by GEF, in Asian Least-Cost Greenhouse Gas Abatement Strategy supported by ADB, GHG inventory from agricultural sector under UNDP/GEF PDF Project “China Initial National Communication”. Hongmin has also been involved in the study on the methodologies of CDM under the Kyoto Protocol for several years.

Hongmin has made a great deal of achievements, for instance, her research on “The Measurement and Estimation of Methane Emission from Livestock and manure management ” won the third class prize of the National Scientific and Technical Progress in 1999. She was awarded as the national outstanding women in 2000 by state Government.

Ken Smith (United Kingdom): Towards sustainable recycling of farm manures; in search of practical solutions to technical problems



Principal Research Scientist, ADAS Wolverhampton of UK, UK

Ken is a qualified soil scientist (Ph.D., University of Rakuno Gakuen, Ebetsu, Hokkaido, Japan; BSc Hons Soil Science, Newcastle University), with almost 30 years experience in the development of environmentally friendly and sustainable agricultural practices, specializing in farm waste recycling and the management of organic manures. This work has included the organization, co-ordination and management of national projects on the management, recycling and utilization of organic manures, information dissemination and technology transfer through training, seminars, demonstration, publications and the delivery of advisory services.

Ken has been involved in the delivery of policy advice to Defra (and formerly MAFF) on many aspects of waste management, its implications for agri-environmental policy, future requirements for R & D and the development of new R & D initiatives and proposals. Also giving advice on behalf of Defra to a wide range of clients on farm waste recycling and manure management, including farm surveys and pollution monitoring audits and consultation on the development of a national, nutrient management Demonstration Farms Project. Ken has in the past been involved with the preparation of advisory literature on farm waste management and in consultation with MAFF on Codes of Good Agricultural Practice (Water, Air and Soil) (MAFF, 1998). On-going involvement in the design and delivery of programs of seminars and open days for farmers and consultants under the Environmentally Sensitive Farming Project (Defra funded), in which Ken leads the Manures module. Ken was co-author of the popular “Managing Livestock Manures” Booklets series; also, the “Organic Manures” section of the MAFF “Fertiliser Recommendations” Technical Bulletin, RB209, which is the industry “standard”. Other consultations with MAFF include the Codes of Good Agricultural Practice (Water, Air and Soil) (MAFF, 1998) and, currently, the proposed revised NVZ Action Programme.

Hugo van der Meer (The Netherlands): **Manure production and utilization in The Netherlands**



Senior Scientist Grassland Research, Plant Research International, Wageningen University, The Netherlands

Hugo van der Meer is a senior scientist with the Agrosystems Research Unit of Plant Research International at Wageningen UR, The Netherlands.

Hugo has 25 years of experience in conducting and managing research on nitrogen management in grasslands and ruminant livestock farms. This includes: (1) analysis of the efficiency of N utilizations in farming systems and of opportunities for improvement; (2) analysis of factors affecting the efficiency of N utilizations on dairy farms; (3) development of low-emission slurry application techniques; (4) quantification of N flows and losses in grazed grasslands and livestock farms; (5) quantification of the contribution of legumes to the N supply of farms; (6) integration of this knowledge in farm models and in new environmentally sound farming systems; (7) participation in regional and national studies on the impact of agriculture on the environment; (8) consultancies on livestock production and the environment in USA, South Korea, Australia, Vietnam.

10 years of R&D in improvement of grassland and fodder production in different eco-regions, viz. temperate regions, tropical highlands, humid tropics and semi-arid regions in Central America, Peru, China, Pakistan.

Sven G. Sommer (Denmark): **Environmentally friendly recycling of livestock manure in Denmark**



Professor of University of Southern Denmark, Faculty of Engineering, Institute of Chemical Engineering, Biotechnology and Environmental Engineering, Denmark

Dr Sommer's main responsibilities: Teaching and research in environmental friendly animal manure management. Nutrient transformation and losses during storage and after application of manure, ammonia and greenhouse gas emission, slurry treatment, composting techniques, handling of animal manure and slurry, nutrient cycles, dissemination of findings to end users (Farmers, extension services, government institutions).

Sven has participated in a large number of international research projects, workshops and conferences, gaining a thorough knowledge of the international research concerning handling of organic waste and composting. Through his own work, Sven has made valuable contribution to international research within the subjects mentioned.

Sven has more than nineteen years experience in international research within all aspects of manure storage and composting processes. The research has been based on international collaboration through studies abroad (New Zealand and Canada) and project collaboration with colleagues from all over the world. His research has included separation technologies, ammonia emission from stored and applied animal manure and the use of manure for plant production. This includes studies of: 1) Chemical processes and microbial activity affecting gaseous losses of ammonia and greenhouse gases, 2) biogas production and techniques to mitigate greenhouse gas emission (CH₄ and N₂O) from manure during storage, and 3) development and implementation of efficient and cheap separation techniques.

Japanese invited Speakers (tentative title)

Toshiya Saigusa (Japan): Development and extension of environmentally friendly skills of manure application in dairy farming area of Hokkaido, Japan



Senior Research Scientist and Head of farm management section, Hokkaido Kosen Agricultural Experiment Station

Dr. Saigusa is Senior Researcher of soils and plant nutrition in daily farming. Toshiya has been working for more than 20 years on a research fields regarding diagnosis of grassland soil fertility and its management, good practical use of animal manures in grassland farming. Currently, he is focusing his research into environmentally friendly management of soil and grassland in Hokkaido. Toshiya involved in the following research works; a) Manure and chemical fertilizer application corresponding to soil fertility of grassland, b) Chemical fertilizer management of cattle grazing pasture based on nutrient recycling, and c) Basin management for preventing water pollution caused by unfavorable use of animal manure and fertilizers in dairy farming area.

Yasuhiro Sugimoto (Japan): Development of bio-energy production and bio-resource recycling system, with effective use of agricultural waste



Professor of Miyazaki University, Agricultural system

Prof. Sugimoto started his career as an assistant professor of Miyazaki University (Grassland Science) in 1972. Since then, his major responsibilities in the university are teaching and research in grassland science. Miyazaki is quite famous as one of the most intensive animal agriculture in Japan. This intensive situation of the animal agriculture produces a lot of animal wastes and their use is the most important issue for abating environmental pollution caused by animal wastes. Yasuhiro reported nitrate pollution in ground water in Miyazaki region and heavy application of the animal manures to agricultural land caused the pollution.

Yasuhiro's research experiences are as follows; 1) Nitrogen recycle systems of pasture and paddy field with forage production, 2) Nitrate pollution of groundwater, caused by large quantitative import of animal feed in Southern part of Japan, 3) Forest-pastoral system as one of form of agro-forestry, and 4) Development of bio-energy production and bio-resource recycling system, with effective use of agricultural waste: This project is studied for 5 years started from 2006, financially supported by Ministry of Education, Culture, Sports, Science and technology.

プログラム

08:00-	受付
09:20-09:30	開会式
09:30-10:10	講演：Hongmin Dong 氏 Livestock Manure Management and Utilization in China
10:10-10:50	講演：Ken Smith 氏 Towards sustainable recycling of farm manures; in search of Practical solutions to technical problems
10:50-11:20	休憩
11:30-12:10	講演：三枝俊哉氏 Development and extension of environmentally friendly skills of manure application in dairy farming area of Hokkaido, Japan
12:10-13:00	昼食
13:00-13:40	講演：Hugo van der Meer 氏 Manure production and utilization in The Netherlands
13:40-14:20	講演：Sven Sommer 氏 Environmentally friendly recycling of livestock manure in Denmark
14:20-15:00	講演：杉本安寛氏 Development of bio-energy production and bio-resource recycling system, with effective use of agricultural waste
15:00-15:30	休憩
15:30-16:30	討論
16:30-16:40	閉会式

報告集

報告集が「Proceedings」として、シンポジウム当日に出版されます。

A5 変型版、約 100 ページ，ハードカバー。予定価格 = 2,000 円

事前登録の参加費

一般 = 1,000 円（ただし ICSA の登録者は無料）。学生無料

シンポジウム当日，受付にて参加費をお支払い下さい。

（6 月 20 日以降に登録された人の参加費 = 1,500 円）

事前登録(6 月 20 日まで)

参加予定者の氏名

所属 を記載して，下記のメールアドレスに，6 月 20 日(金)までにメール送信して下さい。

酪農学園大学 ICSA パラレルシンポジウム

実行委員会 事務局長

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* **ICSA 2008** (The International Conference on Sustainable Agriculture for Food, Energy and Industry 2008) (<http://www.agr.hokudai.ac.jp/ICSA08/>)



「食料，エネルギーおよび産業のための持続的農業に関する国際会議（ICSA）2008」

ICSA は，情報の交換や研究の進展状況，さらには将来へ展望といったことを共有するために，持続可能な農業，すなわち，「将来の世代の要求を満たしつつ，現在の世代の要求も満足させる農業」に関わる研究者に対して，国際的なフォーラムを提供しています。

今年の7月7日から9日まで北海道の洞爺湖においてG8サミットが開催されます。このサミットの主要な話題は，持続性ということや地球温暖化や気候変動といった環境問題です。北海道大学は「洞爺湖G8サミット」の開催直前である7月2日から6日まで，持続性に関わる各種のシンポジウム，ワークショップ，そしてフォーラムなどの開催週間と設定し，ICSA の開催を決めました。ICSA の最終目標は，持続可能な生物生産性についての新しい展望を提供するということであり，その目標を公表するにはこの期間が絶好の機会であるからです。