

Tropentag 2005

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Poster presentations

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### **Sustainable Biomass Energy Farming System in China**

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Sustainable Farming and Biomass Energy Farming are two strings of future agriculture, which take increasing attention in all over the world. Multi-functional and social, ecological and economical sustainable farming is the reason for this attention. In China the ecological impact of the intensive agriculture (high input — high output) is enormous and endangers the natural resources and last but not least the national food safety and security in the future. On the other hand, the fast growing economy and particularly the industry have increasing demand for energy. Energy Farming is considered as an option to take part of the economic growth. That these several demands and expectations for future farming are not a contradiction the scientific challenge is to develop sustainable energy farming systems, which can fulfil national food security, food safety and considerable renewable energy production without harm the environment, is economic and socially accepted. Cultured and covered energy plant in the ecological deteriorated zone to recovered ecology is considered as one option. The other is yield biogas in large or medium scale livestock farming. Biogas production in sustainable farming systems is considered as an option to merge environmentally sound food and energy production. The general advantages of biogas are that the farmers could use their farm own stable manure or slurry and also other residual products such as clover grass, straw, organic material of intercropping ...) for biogas production. This paper defines the concept of Sustainable Biomass Energy Farming System on scaled livestock farms, which differs from large or medium scale biogas plants widely developed in China at previous time. Driven by pressure from environmental and ecological sector, demand for non-polluted agricultural products and renewable energy, it stresses that the integration of farm residual treatment with its utilisation, the integration of livestock & poultry breeding with planting and energy yield. The paper states that anaerobic digestion, as the key technology in the system is significant for effluent control of livestock farms. Barriers to widely extend this technology are analysed in its commercial development. Finally a case of feasibility study on swine farms in Beijing man country is presented in retailed.

**Keywords:** Biogas, livestock farm, sustainable biomass energy farming system

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# Tropentag 2005

International Research on Food Security, Natural  
Resource Management and Rural Development

## **The Global Food & Product Chain – Dynamics, Innovations, Conflicts, Strategies**

### Book of Abstracts

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## Preface

The Tropentag is the International Conference on Research for Development in Agriculture and Forestry, Food and Natural Resource Management - an annual event alternately organised by the Universities of Berlin (Humboldt), Bonn, Göttingen, Kassel (Witzenhausen) and Hohenheim in co-operation with the Council for Tropical and Subtropical Agricultural Research (ATSAR), the GTZ Advisory Service on Agricultural Research for Development (BEAF) and the German Forum on Research for Development (DFOR).

The Tropentag 2005 is the seventh annual meeting providing a forum for scientists, experts and students involved in research for development. The Tropentag 2005 conference theme is The Global Food & Product Chain - Dynamics, Innovations, Conflicts, Strategies.

Sustainable use and conservation of natural resources are priorities of the international community. Land, freshwater, energy, and biodiversity in natural and agricultural ecosystems are resources increasingly at stake. With view to the growing world population, the supply with agricultural commodities and food, food security, -quality and -safety must be achieved through an ever more efficient use of resources rather than through extending resource use. Achieving the United Nations Millennium Goals requires a considerable rise in overall food production, in which many international stakeholders take an interest. This leads to a global use of local resources, with global actors increasingly dominating the competition for access to these resources. The globalisation of food markets and the regulation of production through certification as means of consumer and market protection favours food industries rather than smallholder agriculture. With increasing globalisation, local food chains are articulated into a global food web, in which large scale agriculture serves the world market whereas smallholder agriculture rather serves domestic demands. In this context, not only industrialised agricultural production but also post harvest and food processing industries gain importance. A multitude of new issues arise in the field of resource definition, allocation, and use.

The Tropentag 2005 addresses the dynamics of the above processes, conflicts arising there from, strategies to overcome these conflicts and contribute to attaining food security and food safety and innovations that could form part of these strategies.