German Experiences in Teaching Animal Welfare at TiHo Hannover Germany and Nanjing Agricultural University P.R. China
- Capacity building -

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Animal Production today is driven by Economic Pressures and Expectations and Demands of the society and of the consumer:

1. Supply of food of animal origin for a growing world population (Food Security).

At the same time is required:

2. Food safety, quality and diversity

3. Cost efficiency of production (economy)

4. Environmental protection

5. Animal Health and WELFARE
Introduction:
Animal Welfare is a global issue and a dynamic issue. It requires knowledge, trust and understanding.

Driving forces are
- the European Union with its laws and regulations, AUS, NZL and others
- the many NGOs which are active in this field and last but not least
- the people who want more “quality of life” for animals: as livestock, as pets, as working aids, as laboratory animals, in sports, in zoos, or in nature.

However, there are large differences in the world, socially, economically, culturally, politically, in terms of religion, etc. and we have to take that in account.

Means:
When we from Hannover went to Nanjing we came with a mission but not as missionaries.
We did not want to make people a bad conscious, we want to improve Animal Welfare on sound scientific grounds.
First Memorandum of Cooperation NAU and TiHo was signed in June 20, 1987 by Prof. Dr. Dajun Liu, University President / Prof. Dr. E. Grunert, Rector Magnificus

**Main Topics in the MEMORANDUM of COOPERATION**

Both sides express the wish to establish inter-university relations between TiHo and NAU.

**JOINT RESEARCH**

- Animal Physiology
- Chinese Traditional Medicine i.e. acupuncture
- Clinical Veterinary Medicine
- Animal Husbandry and Genetics
- Animal Anatomy
- Infectious Diseases
- Animal Pathology,
- Immunology, Endocrinology

**EXCHANGE OF SENIOR STAFF, JUNIOR STAFF AND STUDENTS**

**WRITING SCIENTIFIC PUBLICATION**
3. NAU will encourage students who, through other channels, have obtained scholarships from Chinese or German governments to apply to study in HSVM for advanced degrees. HSVM would give priority to such applicants. NAU will do the same to such students of HSVM.

Hannover, June 20, 1987

Nanjing Agricultural University

Prof. Dr. Dajun Liu
University President

Hannover School of Veterinary Medicine

Prof. Dr. Dr. h.c. E. Grunert
Rector Magnificus
中华人民共和国南京农业大学与德意志联邦共和国下萨克森州汉诺威兽医学院

合作协议书

中华人民共和国南京农业大学与德意志联邦共和国下萨克森州汉诺威兽医学院通过谈判，达成南京农业大学与下萨克森州汉诺威兽医学院的合作协议如下：

一、两校在兽医和相关科学领域进行合作；
二、两校在兽医科学方面进行合作；
三、为实现本协议德方促进科研工作的组织提供必要帮助。

在资金、学术交流和开展具体项目工作，根据与南京农业大学的协商，双方决定在合肥安徽农业大学参与此项目；

本协议经中华人民共和国农业和渔业部以及下萨克森州兽医学院评议会和下萨克森州政府批准后，两校之间的正式合作开始生效。

本协议于一九八七年六月十九日于汉诺威签订共两份，一份

应用中文，一份用德文写成，两份手续具有同等效力。

南京农业大学校长

[签名]

汉诺威兽医学院

[签名]
Since 1997 cooperation with Prof. Endong Bao started, involved also Prof. Lu and Prof. Haibin Zhang.


In 2000 research project on “HSP expression in transported pigs and heat stress in broilers”.

Regular teaching visits and longer research periods, Prof. Bao’s graduates, and PhD students in labs in Hannover. Combining teaching and research.

Renewal of Agreements of Cooperation between NAU and TiHo in 2007 and on 20th October 2012
Teaching at NAU and TiHo:

1. Regular teaching for students: Animal welfare, Introduction to Animal Protection (36 lessons). Prof. Lu and Dr. Rongmei Fei. Protection of
   - farm animals, fish,
   - pets, horses,
   - animals in zoos,
   - wild animals, stray animals,
   - working animals,
   - laboratory animals.

   Behavioural disorders, pain and legal aspects.


2. Approbation Scheme in Veterinary Medicine TiHo (5 ½ years)
   - Animal Welfare 56 lessons
   - Ethology 28
   - Animal Hygiene and Animal Husbandry 56

Nanjing Agricultural University

University of Veterinary Medicine Hannover, Foundation
Teaching topics in Animal Welfare and Behaviour

1. Legal Requirements: Laws, regulations, EU, Europe
   - animal protection law, Germany
   - legal regulations national and EU on broilers, pigs, calves, laying hens,
   - on slaughter, transport

2. Needs of Animals, Five freedoms, Welfare indicators

3. Behavioural Disorders

4. Handling of animals

5. Animal welfare and housing conditions: techno-pathologies

6. Examples of practical and technical solutions (eg. PLF)
Type and frequency of injuries of broilers caught by hand (black, 40 groups, 87,916 birds) and mechanical harvester (white, 43 groups, 108,068 birds).

![Graph showing injuries frequency](image)

-Bruises
-Back
-Wing
-Leg

Gocke 2000
List of publications:

17 Journal Publications,
5 Conference Proceeding papers
5 papers submitted, under revision or in preparation.

Recent examples:
Present projects NAU – TiHo Hannover:
1. Expression of Hsps and stress damages induced by heat in myocardial cells.
2. Role of Hsp expression in the sudden death syndrome of transported pigs.
3. Measurement and reduction of airborne transmission of dust and micro-organisms incl. zoonotic agents within and from intensive animal production.

Current and Future activities:
1. Continue capacity building by teaching for students, post-graduates and post-docs in animal hygiene, health care, animal welfare and environmental protection. PhD student Feihong in Hannover.
2. Continuation of the Sino-German Cooperation Programme in Agriculture 2013 for further joint research in animal welfare science.
The International Society for Animal Hygiene organises the 16th ISAH Congress 2013

"Animal Hygiene, Health and Welfare as Corner Stones of a Sustainable Livestock Production"

Innovations in Hygiene, Housing, Health, Housing and Nutrition for Animal, Man and Environment

05. – 09. Mai 2013

in Nanjing Agricultural University, Nanjing, China

www.isah-soc.org