INTERNATIONAL SYMPOSIUM – 2003
International Symposium on Applications of Gene-based Technologies for Improving Animal Production and Health in Developing Countries

Venue: IAEA, Vienna
Tentative dates: 6 - 10 October 2003

Tentative Schedule

First notice: Jan 2001
Second notice: March 2002
Release of Announcement Letter from IAEA: September 2002
Receipt of extended synopsis and grant applications: End January 2003

Information intended to be generated through the symposium

The vision of the new gene-based technologies for developing countries

- The present status
- The problems
- The solutions
- The future
- Recommendations
- Steps to translate recommendations into practice

Synthesis of information

According to regions: Asia, Africa, Latin America, and common to all regions
According to farming systems

Target audience (need to prioritize the expected outcomes and outputs)

- Scientists from developing and developed countries
- Policy makers – Governmental and International Organizations
- Donor agencies – International/National Organizations, International/National Foundations and Trusts

<u>Basic structure of International symposium</u>

- Plenary lectures
- Theme-specific sessions: key note addresses, contributory papers and posters
- Panel discussions/Discussion forum

Plenary Lectures (two on first day only)
(40 min presentation + 20 min discussion)

1. A vision of the gene based technologies for the livestock industries in the third millennium

2. Advances, impact and future of gene-based technologies in developed and developing countries: A comparative scenario and efforts required to bridge the gap

Panel Discussions/Discussion Forum

Tuesday through Thursday (duration two hours in the evening for the first two Panel Discussions: brief statements by 4-6 invited speakers for 10 min each; followed by questions from the floor, replies by the invited speakers; comments and discussion in the house; and finally conclusions by the moderator. The Moderator is expected to submit a report on the Conclusions and Recommendations for discussion during the Fourth Round Table Discussion)

Panel Discussion 1: Which gene-based technologies and how can these technologies enhance animal productivity in developing countries?

Panel Discussion 2: Role of international organizations and funding agencies in promoting gene-based technologies in developing countries

Panel Discussion 3: Where to from here – How to translate recommendations of this symposium into action? *(Duration three hours: presentation of Conclusions and Recommendations by Chairpersons of the sessions and Moderators of the Round Table Discussions, 8-10 min each; break; discussion 60 – 90 min).* The Moderator is expected to submit a report on the Conclusions and Recommendations from this Panel Discussion

Theme-specific sessions
Format: 2-3 key-note addresses of 30 min each + 10 min discussion, short communications 4-6, 10 min talk + 5 min discussion, and posters; followed by Conclusions and Recommendations

1. Gene-based technologies applied to livestock

- Livestock genome mapping – current status and the future
- Identification of quantitative trait loci (QTLs) and other molecular markers controlling productivity traits and disease resistance, for marker-assisted selection
- Gene expression systems and proteomics
- Transgenic technologies including advanced reproductive technologies
- Development and use of transgenic animals enabling higher nutrient utilization, e.g., transgenic pigs expressing phytase in salivary gland, and for medical uses
- Conservation of indigenous genetic resources

2. Gene-based technologies applied to pathogens and host-pathogen interactions

- Vaccine development and expression systems (e.g., recombinant vectored-vaccines, DNA/marked/anti-disease vaccines)
- Host-pathogen (e.g., virokines, receptors for pathogens, antigen drift to escape host immune system or for drug resistance, disease resistance)
- Development of diagnostic tools and molecular epidemiology (e.g., recombinant antigen production for serological test development, nucleic acid amplification-based diagnostic tests, molecular epidemiology).

3. Gene-based technologies applied to plants, rumen microbes, and systems biology

- Production of improved feeds using gene-based technologies, mutation breeding and selection
- Genomics of rumen bacteria and functional genomics
- Manipulation of rumen ecology and study of microbial diversity; improving utilization of high-fibre feeds and toxin/antinutrient-containing feeds
- Production of feed additives, pre- and pro-biotics, silage inoculants, immunomodulators
- Nutrition-gene interaction: changes in gene expression through nutritional manipulations
- Vaccination as a means of increasing the productivity and efficiency of rumen fermentation

4. Gene-based technologies in environment, food safety and animal industry, and related ethical and intellectual property right issues

- Gene-based technologies for food safety and environmental benefits
- Survival, digestion, and incorporation into gut microbes or host animal DNA of transgenic DNA on feeding transgenic plants
- Impact of gene-based technologies on environment, ethical issues, social issues, intellectual property rights
- Issues, concerns and realities of GMOs

Sponsors: IAEA and FAO