

Joint laboratory on livestock and forage genetic resources



In 2004, the Chinese Academy of Agricultural Sciences (CAAS) and ILRI established a joint laboratory in Beijing. The laboratory is a platform to implement joint research projects of common interest in the area of livestock and forage diversity, share technical expertise, conduct joint national or international training courses, workshops and conferences and provide research facilities and technical assistance to ILRI's projects in Asia. While the core geographical scope is China and Southeast Asia, project activities have included Vietnam, Indonesia, Sri Lanka, Bangladesh, Pakistan, Papua New Guinea, Saudi Arabia and Iran.

The laboratory is managed by a Scientific Steering Committee comprised two ILRI and two CAAS scientists as well as one jointly-appointed scientist. CAAS provides and maintains the research facilities and makes available scientists and administrators for the daily operations of the laboratory. A work plan for joint research activities is developed, discussed and agreed upon by the SSC and approved by both ILRI and CAAS managements.

Funding is mainly provided by CAAS and ILRI research projects in the region. Since 2007, the laboratory is a part of the Ministry of Agriculture Key Lab and the CAAS Centre of Excellence on Animal Genetic Resources Research and Innovation.

Research

- Molecular characterization study of local poultry (chicken and duck) populations in Cambodia, Laos, Egypt and Uganda;
- Molecular characterization of local chicken genetic resources in six South Pacific countries;
- Technical support on molecular characterization to the project “development and application of decision-support tools to conserve and sustainably use genetic diversity in indigenous livestock and wild relatives” funded by UNEP-GEF and implemented in Bangladesh, Pakistan, Sri Lanka and Vietnam;
- Exchange visits for bilateral projects of China – Italy, Germany, Hungary, Peru etc.;

- Support to projects on “germplasm innovation and unlocking of key functional genes of unique animal genetic resources”, “characterization and cryopreservation of animal genetic resources in China” and “Modernization of lamb and beef production in north western China” funded by the Ministry of Science and Technology of China;
- International Chicken Diversity Consortium;
- New genomic resources to unlock the genetic basis of disease resistance/tolerance and agro-climatic adaptation of animal genetic resources.

Capacity development

- More than 30 masters and PhD students and visiting scientists from CAAS and several Chinese universities were trained;
- Around 30 visiting scientists, masters and PhD students from Papua New Guinea, Indonesia, Iran, Vietnam, Pakistan, Sri Lanka, Nepal, Mongolia and Bangladesh were trained from two weeks to three years;
- Around 20 collaborators and scientists from Italy, Germany, Hungary, Japan, Brazil, Australia, IAEA, ICIPE and ILRI headquarters visited the laboratory.

New opportunities for joint research

- Genomics for pathogen (virus and parasite) discovery and vaccine development with Lanzhou and Harbin Veterinary Research Institutes;
- Testing and improving existing and novel recombinant vaccines, e.g. PPR (Peste des Petits Ruminants) with Lanzhou and Harbin Veterinary Research Institutes; CBPP (Contagious Bovine Pleuropneumonia) with private companies (PGI-I and -II vaccine) etc.;
- Regional foot and mouth disease and African swine fever projects;
- Feed technology, e.g. rumen genomics and improved crop residue utilization with IAS- and IF-CAAS;

- Intensifying mixed crop-tree-livestock systems in the humid tropics area in southwest China;
- Diversifying pastoral production systems for economic sustainability and environmental health in drylands and highlands in northwest China.

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