NATIONAL GENETIC RESOURCES NETWORK - RENARGEN -

Since the beginning of the 1970s, there has been a growing concern worldwide with the need to preserve the genetic resources essential for food and agriculture. At that time, FAO stimulated the establishment of a world-wide network of Centers for Conservation of Genetic Resources, located in the regions of greatest genetic variability. In 1974 the Brazilian Government created within the Brazilian Agricultural Research Corporation - EMBRAPA a research unit whose basic mission was to coordinate the appropriate means of management of the genetic resources of interest for the country. This unit was called the National Center of Genetic Resources (CENARGEN). In 1984, this unit also incorporated research activities using biotechnology aimed at the conservation and use of genetic resources, becoming the Genetic Resources and Biotechnology Center of the EMBRAPA Network.

With the creation of the Genetic Resources and Biotechnology Center and the consolidation of the National System of Agriculture Research in Brazil, an environment was established for the development of a National Network of Genetic Resources - RENARGEN. This helped to organize and increase the efficiency of activities of collection, exchange and quarantine, characterization, evaluation, documentation, and most importantly, conservation and utilization of germplasm in the country.

During more than three decades of Embrapa's existence, there have been hundreds of collecting expeditions in all of the Brazilian regions and they have resulted in the description of new botanical species and the enrichment of the germoplasm collections. The program of genetic resources exchange developed within the RENARGEN has been responsible for the introduction, between 1976 and 2005, of around 350,000 samples of plant germoplasm from widely differing regions of the world. This system supplies over 187 Active Germoplasm Banks linked to the Network, lending support to hundreds of public and private genetic improvement programs developed in all regions of Brazil. Embrapa can further count on a stock of 96,000 germoplasm samples stored in the long-term collections maintained by RENARGEN.

MAJOR ACTIVITIES OF RENARGEN

Enrichment: Germplasm collection, introduction and exchange.

Conservation: *In situ* (either in nature or on farm) and *ex situ* (seed in cold storage, explants *in vitro*). Microorganism cultures, Cryopreservation of semen and ovules.

Characterization: Field, laboratory.

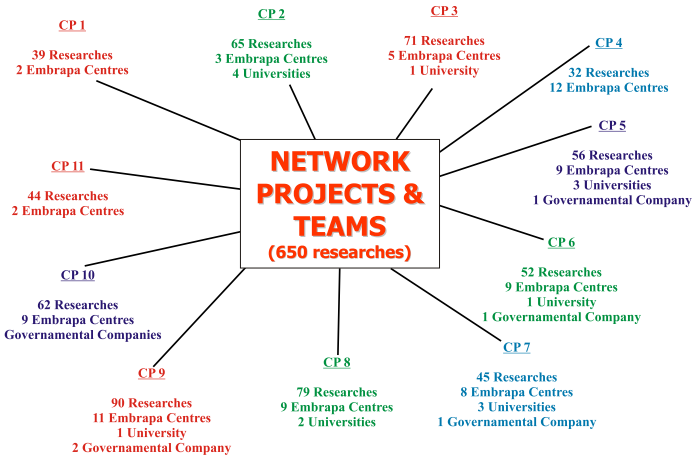
Information: The Network maintains a Curatorship System and a documentation platform known as SIBRARGEN - Brazilian System of Information in Genetic Resources.

MAJOR COMPONENTS OF RENARGEN

1. Enrichment and documentation of genetic variability;
2. Collection, characterization and ***ex-situ*** conservation of cereal genetic resources;
3. Collection, characterization and ***ex-situ*** conservation of legume, oil and fiber plants;
4. Collection, characterization and ***ex-situ*** conservation of fruit tree germplasm;
5. Collection, characterization and ***ex-situ*** conservation of plant forage germplasm;
6. Collection, characterization and ***ex-situ*** conservation of vegetable, root, tuber and spice germplasm;
7. Collection, characterization and ***ex-situ*** conservation of forest and palm genetic resources;
8. Collection, characterization and ***ex-situ*** conservation of industrial, medicinal, aromatic and ornamental plant germplasm;
9. Collection, characterization and ***ex-situ*** conservation of genetic resources of microorganisms;
10. Collection, characterization and ***ex-situ*** conservation of domestic animal germplasm;
11. Curatorship system and long term ***ex situ*** conservation of seeds, tissues, embryos and semen.

MEMBERS OF RENARGEN

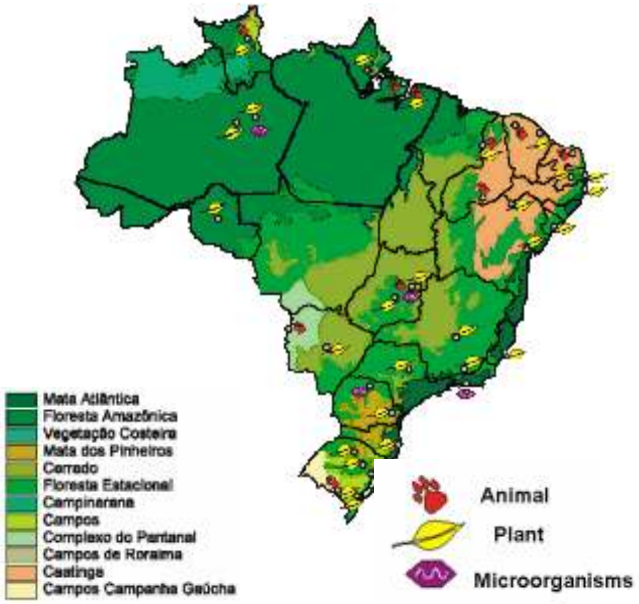
The Network involves 635 scientists of 105 partner organizations integrating research centers of EMBRAPA, Federal and State Universities and other research organizations throughout Brazil.



IMPACTS OF THE NATIONAL NETWORK OF GENETIC RESOURCES

The National Network of Genetic Resources has provided key support to the tremendous technological advances obtained by the Brazilian agriculture over the last three decades. It alloved the R&D system to incorporate and utilize genetic resources for development of plant cultivars, breeds of animals and strains of micro-organisms of importance to the agroindustry and agrifood sectors in the country. Also, the Network has made significant efforts to raise the awareness of the Brazilian society in regard to the strategic importance of genetic resources and biodiversity for the country's future. Considerable efforts have been made to conserve and to promote the sustainable use of native plants of economic interest as well as to consolidate ***in situ*** and ***on farm*** conservation strategies, creating the basis for increasing income, food sufficiency and the aggregation of environmental and social values to traditional communities dependent on biodiversity.

Distribution of the germoplasm banks linked to RENARGEN



NATIONAL GENETIC RESOURCES NETWORK

RENARGEN

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