

Global partners *committed to family farming*

EMBRAPA (Brazil), INTA (Argentina) and the CGIAR Consortium—three Montpellier-based foreign or international research institutions that are addressing family farming issues in close partnership with the Agropolis scientific community.

Family farming addressed by EMBRAPA's Labex-Europe (Brazil)

Brazil is a huge megadiverse^{*} country with a range of soil-climate conditions, high ethnic, cultural and economic diversity resulting from the country's history and the large-scale migrations that have impacted it. These migrations had a marked influence on Brazilian agriculture via the adaptation of technologies coming from Europe and Asia, and through knowledge on uses of wild plants and animals passed on by native Indians and Africans. Because of this complexity, different types of small-scale agriculture using this knowledge and these technologies have significantly contributed to the national production of foods, goods and services.

The mission of *Empresa Brasileira de Pesquisa Agropecuária* (EMBRAPA), a Brazilian agricultural research corporation, is to 'provide technological solutions for sustainable agricultural development in Brazil to the benefit of Brazilian society'. EMBRAPA has a network of 47 research centres spread throughout Brazil and covering all of the country's biomes.

Technology transfer to developing countries (South-South cooperation) is conducted via projects in Africa (EMBRAPA-Africa—Ghana, Benin, Mali, Mozambique, Angola), South America and the West Indies (EMBRAPA-Americas—Panama). EMBRAPA is thus able to disseminate tropical agriculture technologies and innovations that it develops, and to better fulfil the demands of these countries through its participation in their agricultural development.

EMBRAPA's international cooperation initiatives are mainly conducted under a programme devoted to knowledge exchange, i.e. its 'virtual laboratories abroad' (Labex, *see below*), which are currently located in the United States, Europe (France), Korea and China. Labex-Europe, hosted by Agropolis International, enables EMBRAPA to establish privileged partnerships with French (CIRAD, IRD, INRA, French National Centre for Scientific Research [CNRS], Montpellier SupAgro, universities), European and international (CGIAR) institutions. UMR TETIS, AGAP and IATE** have hosted researchers under the Labex programme.

After 12 years of Labex operation, substantial knowledge has been gained in the fields of ecological intensification and smallholder farming, such as the breeding of new tropical disease-tolerant fruit varieties by the International Advanced Biology Consortium (CIBA), along with the development of molecular tools used for the selection and genetic improvement of family agroforestry systems. Another example is the development of tools devoted to remote sensing and environmental impact assessments for land-use planning and zoning in the Amazon region. Other specific research programmes conducted in collaboration with Labex-Europe partners have led to the development of technologies and systems that sustainably enhance family farming efficiency, income and smallholders' wellbeing. ●●●

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^{*} Brazil belongs to a group of countries that harbour the majority of the Earth's species and are therefore considered to have the highest levels of biodiversity worldwide.

^{**} Agropolymer Engineering and Emerging Technologies (UMR IATE, INRA/CIRAD/UMR/Montpellier SupAgro)

EMBRAPA's Labex 'laboratories abroad'

Labex is a unique model of international scientific cooperation that was developed by EMBRAPA in the late 1990s. As it is a 'laboratory without walls' or 'virtual laboratory', the infrastructure and administrative costs are low, while being flexible and focused on fulfilling EMBRAPA's strategic objectives.

Senior researchers are posted for a few years in research laboratories abroad in exchange for their research experience and knowledge of networks in Brazil and worldwide. These scientists have a dual research mission—to carry out studies as part of a top-notch research team, and surveying/monitoring, i.e. informing

EMBRAPA on new research methods or agricultural technologies, and new avenues for cooperation.

Since 2002, Labex-Europe has been hosted by Agropolis International, which provides technical, scientific and logistic support while also facilitating exchanges with the regional, national and European scientific community.

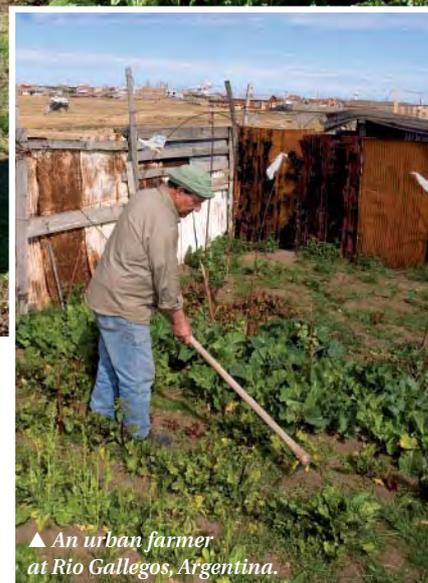
For further information: www.agropolis.org/project-management/labex-europe-external-laboratory-embrapa-brazil.php





▲ A horticulture farmer at Rosario, Argentina.

P. Oliveri © INTA



▲ An urban farmer at Río Gallegos, Argentina.

P. Oliveri © INTA

Family farming—a core theme of LabIntex (Argentina)

Family farms account for 75% of all farms in Argentina, but only 17% of the productive area. However, they correspond to around 27% of the gross production value and generate 67% of employment in the agricultural sector. Family farms are also a key factor in sustainable territorial development and food security as they have a pivotal role in domestic market supply.

In this setting, family farming is one of the priority themes of the *Instituto Nacional de Tecnología Agropecuaria* (INTA, the Argentinian agricultural research institute). INTA's 350 technical support units active throughout the country underpin projects in which family farmers are the main stakeholders. Research carried out by these units is supported by a network of 50 research stations and five regional institutes specialized in the technological development of family farming—an overarching theme of INTA's 'external laboratory without walls' (LabIntex) and of all current research projects aimed at promoting its development.

Moreover, LabIntex will actively participate in scientific events and publications regarding this theme in 2014—the International Year of Family Farming.

The integration of an Argentinian researcher in UMR Innovation has already enabled LabIntex to collaborate in family farming research activities with CIRAD (Environment and Societies department) and INRA (Science for Action and Development department). INTA is therefore sharing its family farming development programmes with the Agropolis scientific community, especially regarding food security*. A research project is under way on territorial dynamics observatories, in which family farms play a major role. It will analyse the role of scientific knowledge production initiatives concerning territories in innovation and development processes, while also conducting a comparative analysis of four situations in France in connection with territorial dynamics observatories that are being set up in Argentina. ...

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* <http://umr-moisa.cirad.fr/en/seminaires/securite-alimentaire/programme-2013>



Ministerio de Agricultura, Ganadería y Pesca
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LabIntex—an innovative partnership

In 2012, INTA set up a 'European laboratory without walls' in Montpellier in partnership with Agropolis International, which provides scientific, technical and logistic support. Senior Argentinian researchers are posted for 2-4 years in top-notch European teams to collaborate in projects of joint interest.

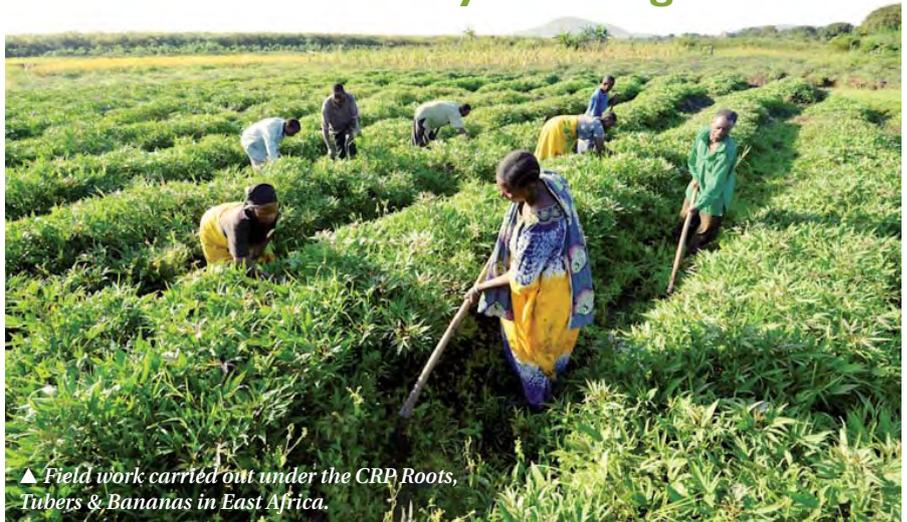
The objectives of this partnership are:

- to carry out advanced research with the aim of developing innovations
- to identify and develop scientific cooperations by forming innovation networks between organizations in Argentina, France and other European countries
- to enhance the competitiveness and sustainability of Argentinian agricultural production.

CGIAR and the International Year of Family Farming

Family farmers in developing countries cultivate over 80% of all arable land, in turn producing most food consumed worldwide—therefore an important focus for CGIAR research.

CGIAR Research Programs (CRPs) are designed to generate results that benefit small family farmers. Crop, livestock and fish improvement programs offer innovative solutions to enhance and diversify smallholders' activities. New improved varieties and breeds are mainstreamed in so-called 'systems' CRPs, which promote large-scale adoption of these varieties using more sustainable natural resource management methods and practices. Farmers' adoption of technology and innovations resulting from CGIAR research is facilitated by an improved understanding of the market and policy environment as a result of the CGIAR program on Policy, Institutions & Markets. System CRPs such as Humidtropics, which is focused on humid ecosystems, tackles the issue of improving the livelihood of small family farmers through increased and stable returns from crops, agroforestry, livestock and fish farms by diversifying crops and farm activities and enhancing market access. In other CRPs, family farmers participate in upstream research activities, as is the case in the CRP Roots, Tubers & Bananas, which promotes the propagation of inexpensive high quality plants for the benefit of family farmers. Food quality and health benefits are also a priority for CGIAR and addressed by research focused on the production



▲ Field work carried out under the CRP Roots, Tubers & Bananas in East Africa.

N. Palmer © CIAT

and adoption of biofortified foods (cassava, sweet potato, sorghum, potato) with high vitamin A, iron and zinc contents (CRP Agriculture for Nutrition and Health) and research programs designed to reduce health risks from unsafe or contaminated food and other agriculture related contagious human diseases.

While recognizing the key role that women play on family farms and the extent of their responsibility (field work, herd management, post-harvest activities, farm cooperative management, etc.), the 16 CRPs are designed to specifically address the needs of women. The CRPs include a gender component at every level of their programs, foster women's involvement in all activities, and require gender-disaggregated reporting of results as well as clearly indicated research objectives and an associated budget to be able to meet these objectives.

All 16 CRPs had an approved gender strategy by the end of 2013.

The CRPs are designed to have a greater impact on smallholders by creating synergies through ambitious research partnerships with other advanced agricultural research institutes (CIRAD, IRD, INRA, EMBRAPA, USDA*, etc.), national research agencies in developing countries, and with development partners (international and national development agencies, NGOs and private partners) who can help connect the research outputs to the actual impact.

CGIAR—working with a diverse range of partners, in a multidisciplinary approach on activities to generate innovative solutions—is a major global stakeholder in ensuring the development and welfare of family farms. ■

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* United States Department of Agriculture

CGIAR, a global research partnership for a food secure future

CGIAR is striving to reduce rural poverty, enhance food security, human health and nutrition, and promote sustainable natural resource management.

The 15 member centers of the CGIAR Consortium conduct research in close collaboration with hundreds of partner organizations, including national and regional research institutes, civil society organizations, universities and the private sector. These centers generate and disseminate knowledge, technologies and policies for agricultural development through CGIAR Research Programs (CRPs) involving international multidisciplinary and multipartnership research.

The CGIAR Consortium Office based in Montpellier enjoys a privileged relationship with the Agropolis scientific community, and with other French and European partners.

The CGIAR multi-donor trust fund finances research carried out by the centers via its CRPs. It provides reliable and predictable multi-year funding.

With almost 10 000 scientists and staff, CGIAR is an unparalleled research infrastructure with dynamic networks worldwide.

For further information: www.cgiar.org



Consortium