Embrapa

Brazilian Agricultural Research Corporation

Ministry of Agriculture, Livestock and Food Supply

BRASIL

BRAZILIAN GOVERNMENT

There are the brave, there are the triumphant. They who produce, transform this generous land.

Tropical Agriculture: Brazil building the future.

Embrapa

BUILDING A NEW TROPICAL AGRICULTURE

During the last three decades, Brazil – that is, its scientists and their teams, its specialists in public policies and institutional development, its producers and consumers – has been dedicated to build and consolidate the modern tropical agriculture.

This is a multiple, plural, and complex movement, to understand Brazilian reality, the potential of its natural resources and, specifically, its human resources. This movement is about transforming this reality, which is full of historically deposited contrasts, in order to promote social and economic growth and well-being for all Brazilians people.

Thirty years ago, the challenge of building the tropical agriculture required enabling the stable production of food, fibers and other raw-material considering the diversity of Brazilian regions. This production needed to be done to ensure domestic supply, support the growth of the agribusiness, hold back inflation and provide exportable surplus (necessary to generate foreign exchange for paying foreign debt and financing Brazilian development).

Each harvest attained significant numbers: 120 million tons of grains, 16 million tons of vegetables, 18 million tons of meats, 38 million tons of fruit, 3.7 million tons of cotton, 2.1 million tons of coffee beans, 470 million tons of sugarcane (25 million tons of sugar and 16 billion liters of alcohol), 120 million cubic meters of wood from native and cultivated forests and 22 billion liters of milk.

In addition, tropical agriculture is part of realities so different as family-based agriculture, quilombola communities (ethnic rural communities), indigenous nations, specialized agriculture/livestock companies, transformation industries, logistics and exporting companies. Thus, this agriculture must develop mankind in order to build its sustainability towards the future. It has to integrate various interests, as economic competitiveness, environmental balance, social equity/justice, reduction of regional inequity and its worldwide insertion.

During 2005-2006 considering the sustainability of Brazilian Tropical Agriculture and the knowledge generation it demands, the Brazilian Agricultural Research Corporation (Embrapa) devoted itself to help Brazil make the necessary adjustments, in order to attain its goals.

This task was extremely facilitated by the decisive support of the Brazil's President Mr. Luiz Inácio Lula da Silva, the Ministers Roberto Rodrigues and his successor, Luis Carlos Guedes Pinto, of the Ministry of Agriculture (MAPA), the Presidential Chief of Staff, the Ministers of Finances, Planning, Science and Technology, Foreign Affairs, Agrarian Development, Social Development, the Environment, National Integration, Mining and Energy, and, internally, by the support of Embrapa Board Members, its Executive Directory and employees. This publication presents some of the highlights of this effort.

Silvio Crestana

Executive Director-President Embrapa

INNOVATION STRATEGIC MANAGEMENT

Brazil must continuouslly invest in strategic areas to get transit on knowledge frontiers and new technologies generation. This is the way to properly respond to demands of the tropical agriculture growth, facing the international competition. Considering the last years limitations in public investments in Science and Technology (S&T) a re-vitalizing process became necessary in several levels as in institutional architecture, physical infrastructure, human capital and financial resources in order to put Embrapa and the Brazilian System of Agricultural Research (SNPA) able to face the new times.

Embrapa has hard worked (last two years) to be fit on the new institutional framework created by the Innovation Law (Lei de Inovação). It seeks to increase not only the creation of knowledge, but also the chance to transfer its to potential users in all tropical regions, (in Brazil or abroad).

The effort is worth it. Embrapa's Financial Statements have shown that for each R$ 1.00 invested in research in 2005, R$ 14.00 returned as benefits for society. Such positive return is observed all over the world. These numbers rigorously translate the generation of income and labor. However, Embrapa's results go beyond that: they provide forests, fibers, energy and food with the best quality and lowest prices, help the Country to be competitive in the world market and keep it in the avant-garde of expertise on tropical agriculture.

INSTITUTIONAL REVITALIZATION

Thus, Embrapa has invested in creating new research units, new international cooperation initiatives, unprecedented projects for transferring technology, and re-vitalization of state-owned research organizations. This effort seeks to its institutional architecture to achieve more agility/flexibility for better interacting to public and private Brazilian innovation networks, and proper respond to new demands.

Embrapa Agri-energy

Seventeen years after the last encompassing review which consolidated its institutional architecture, Embrapa created (2006) a new research center (Embrapa Agri-energy), complying to a Federal Government (motivated by the National Agri-energy Plan). The fact shows the importance of Agri-energy in the future of tropical agriculture for Brazil and abroad.

Embrapa Agri-energy center will have the challenge to organize the knowledge and technology for developing the Agri-energy productive in Brazil. The main goals are: make the change of the national energetic matrix viable (based on renewable energy sources); encourage the domestic, regional, social and economic development; contribute towards the expansion of labor and income; contribute for reduction of greenhouse gas emission, reduction of oil imports and increase exports of biofuel.

Embrapa Agri-energy is headquartered in Brasília (Federal District) uses an innovative structure and it will operate will operate through a network with other Embrapa research centers, universities, state-owned and private organizations on similar topics and products. It will be connected with at least five regional public-private centers, responsible for driving innovation on Agri-energy in the five large Brazilian physiographical regions. It will be part of the Agri-energy National Consortium, as set forth in the National Plan, launched in 2005.

This project received was approved by Sectorial Fund for Agribusiness (Fundo Setorial do Agronegócio), from the Ministry of Science and Technology (MCT), implemented by the Projects and Studies Financing Agency (Financiadora de Estudos e Projetos - FINEP) and was granted with a budget of R$ 10 million for its installation. Embrapa has already hired 20 researchers specifically trained on Agri-energy, who will be assigned to the research centers that address topics and products of the interest to the program.

Labex Europa: Wageningen

Embrapa rendered its institutional architecture even more flexible and has established a new office for Labex Europa in Wageningen, Holland, to expand the effort on international cooperation. A senior researcher has already been assigned to that office.

This decision carries a large scientific ambition, since the Dutch university rivals Montpellier as outstanding center in developing technology for tropical and subtropical regions. Researches in advanced and genome biology, environmental sustainability and natural resource management are the focus of this new branch of Embrapa abroad.

Embrapa Africa

The Embrapa Business Office in Africa, established in the city of Accra, in Ghana, opens a new phase in the Company's tradition of knowledge and technology transfer, for Africa. It's decisive to respond the demands from African countries in tropical technology (60% of the international demands received by Embrapa).

There, Brazilian scientists will work in developing programs and projects to effectively contribute towards social-economic stability, food safety, poverty reduction, production of food, fibers and energy in that continent, expanding a technical cooperation action that already takes place in nine African countries.

Embrapa Africa's work platform is already defined: Agri-energy, tropical fruit culture, manioc and vegetables (production and processing), fruits and vegetables post-harvest, animal meat/milk production (bovine, caprine, swine and poultry) and forests.

Expert researchers in planning and managing agricultural projects are already working to articulate the interests of African producers, governments, rural development companies and raw materials and technology suppliers to organize the productive chains. This effort is necessary for the growth of tropical agriculture in Africa, and opens great business perspectives for Brazilian raw materials, processing and logistics industries.

Special Purpose Companies (SPC)

In the last two years Embrapa has been engaged in establishing special purpose companies (SPC) in Agri-energy and other productive sectors. Until now, the greatest challenge has been to define a legal framework which is able to unite the opening created by the Innovation Law with the far-reaching legislation that limits the Government's corporate enterprises. The effort seeks to update its relationship norms with private entities to satisfy the aspects proposed by the Innovation Law.

The SPCs were created by the Innovation Law as a means to enable state-owned S&T institutions to associate as minority shareholders with private organizations. The measure permits to public organizations obtain operational agility and flexibility typically found in the private sector, to explore technological innovation, and, consequently, expand the Country's investment in innovation, which is essential to international competition. This public investiment is stagnant/slightly more than 1% of GDP (Gross Domestic Product).

The projections are promising. On the government side, the project has aroused the interest of several large state-owned companies, such as Petrobras (Brazilian Petroleum Company), Itaipu Binacional (Hidreletric Plant Company), Banco Nacional de Desenvolvimento Econômico e Social (National Bank for Economic and Social Development) and Banco do Brasil (Bank of Brazil), to constitute, with Embrapa, up to 49% of the capital. On the private side, which will provide the remaining capital, there are several demonstrations of interest. Most recently, FIESP's (Industry Federation of São Paulo State) Superior Council of Agribusiness (Conselho Superior do Agronegócio) requested that Embrapa submit, in 2007, a formal proposal to create a SPC focused in agri-energy.

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OEPAs and RIPA

The strengthening of local and regional technology development networks is critical for the efficiency and sustainability purposes of agriculture, reason why Embrapa has been trying different approaches to put forward the revitalization of state-owned research organizations.

One of the initiatives is the Agribusiness Technological Innovation and Prospecting Network (Rede de Inovação e Prospecção Tecnológica para o Agronegócio - RIPA), supported by the Sectorial Fund for Agribusiness (Fundo Setorial do Agronegócio), from the Ministry of Science and Technology (MCT). RIPA has already mobilized more than 600 state-owned and private institutions to map regional competences and technological bottlenecks. During the second phase, recently started, RIPA has already defined technology development platforms, which the strengthening of state-owned research organizations is essential.

Thus, the strengthening of the State Organizations for Agricultural and Livestock Research (Organizações Estaduais de Pesquisa Agropecuária - OEPAs) and of the Brazilian System for Agricultural and Livestock Research (Sistema Nacional de Pesquisa Agropecuária - SNPA) has been the object of a comprehensive project headed by the Center of Strategic Management and Studies (Centro de Gestão e Estudos Estratégicos - CGEE), from the MCT, by Embrapa and by the Council of the State Organizations for Agricultural and Livestock Research (Conselho das Organizações Estaduais de Pesquisa Agropecuária - Consepa), supported by MCT and MAPA (Ministry of Agriculture). The aim of this work is to analyze the current situation of state-owned institutions and pointing out public policy mechanisms that enable a new Federation Pact (Pacto Federativo) for Science and Technology directed to domestic agribusiness. It is essential that the country relies on other strong institutions, in addition to Embrapa, in order to continue to head production and scientific application in agriculture and livestock activities for tropical environments.

Pursuant to such initiatives, in 2006 Embrapa succeeded in dealing with the National Congress to approve amendments to the Union General Budget, in a total of R$ 11.5 million, to finance Advanced Biology researches carried out by state-owned organizations.

Ethics and Knowledge Management

Tropical Agriculture, immersed in the knowledge economy, requires deep adjustments on the knowledge management mechanisms carried out by the institutions which produces innovation.

In 2005-2006, considering the Infrastructure Plan, Embrapa expanded in the processing capacity of its servers' network. It has enabled its integration to high-speed networks, as the Community Teaching and Research Networks (REDECOMEPs), and prepared the technologic modernization of EmbrapaSat system, which deploys data, voice, and image transmission (videoconferences, telephony, etc.), to be implemented in 2007.

In the methodological and regulatory plan, we are working to prepare the Company for the cooperation between free and proprietary software systems. In addition, Embrapa updated

its information security standards and procedures, reviewed and expanded its guidelines of ethical conduct for dealing information and public policy, by creating an Ethics Committee.

In 2006, Embrapa also created the Strategic Management Committee (CGE) and implemented the Strategic Decision System (SIDE), which integrates the management of strategic plans for the research centers (it includes other corporate management programs as the management of research and technology transfer and its monitoring by results and impacts management system).

Alliance in Congress

In 2006, the amount of congress budget amendments added to supplement funding of innovation activities, both in family-based agriculture and corporate agriculture reached the record amount of R$ 49 million. It was allocated not only to the Ministry of Agriculture (MAPA) or Embrapa, but also to the Ministry of Science and Technology (MDA), and the Ministry of Agrarian Development; and to fund not only Embrapa but also State agriculture research organizations. For the second year, under the budgetary guidelines law (LDO), these funds cannot be subject to contingencies.

This is the result of the great alliance created within National Congress among institutions interested in the technological modernization of Tropical Agriculture, which received the support from ruralist and agrarian congressmen, from the Agriculture Committee (R$ 19.5 million for Advanced Biology and R$ 3 million for innovation to support Family-based Agriculture, by MDA) from Congress Committee for Science and Technology (R$ 4.5 million, for the agricultural shale), from the Senate Committee for Agriculture and Agrarian Reform (R$ 10.5 million to Agri-energy) and from individual amendments filed by congressmen.

The process to build this alliance in Congress, by early 2005, is a milestone for the new understanding on the importance of funding agricultural innovation: in the past, the record amount of amendments reached R$ 17 million and there were years in which amendments reached less than R$ 2 million.

REVIVAL OF HUMAN CAPITAL

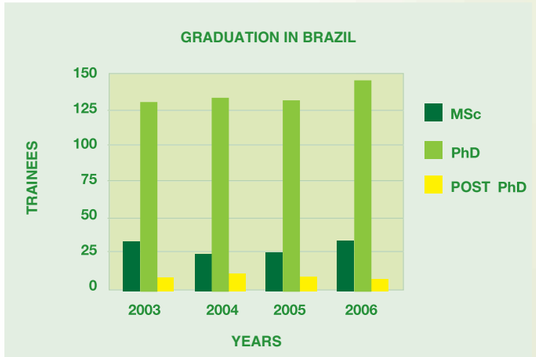
An important strategic objective for Embrapa is increase the creative capacity of the Company. Thus, its revival program is based on the recognition of human resources. The expected movement is to include well trained professionals in new knowledge areas to replace employees that leave the company for retirement or other reasons.

Therefore Embrapa linked a voluntary severance plan (with benefits) with holding public competitive examinations for hiring new professionals. The severance plan was designed to be gradually deployed, over four years, avoiding increase to Embrapa's costs on payroll.

In 2006, we held two competitive examinations to fill higher level positions. The competitive examination offered 271 positions for researchers in 14 areas of knowledge and 179 positions for analysts aimed at 10 operational areas. We estimate that we will hire 450 new professionals for these careers, quite a significant staff renewal, since both careers represent 3,350 of the 8,300 professionals working at Embrapa. In 2007, we will hold a competitive examination for the Assistant career which employs professionals on elementary and secondary education, to support research operations.

Training

At Embrapa, we have a continuous, strategic training effort to meet the Company's requirements. Thus, training comprises all professionals. Since 2005, Embrapa has been investing in creating and maintaining elementary education classes in the company units by the approval of 29 education level enhancement projects. Currently, 477 employees from 24 units are attending courses.



Since 2004, every six months Embrapa holds selection processes for applicants to Lato Sensu graduation courses. Currently, 56 employees attend Lato Sensu graduation courses in several areas, sponsored by Embrapa. Regarding Strictu Sensu (Master's and doctoral degrees) graduation, in the last four years, 43 employees have attended courses abroad and 170 in Brazil.

On the other hand, since 2004, Embrapa has funded collective technical training actions in the research centers. In 2006, 71 projects for collective advanced training programs were approved, at an average annual investment of R$ 950 thousand in the last two years.

Considering the challenge for increasing training opportunities, by Embrapa's Career Plan, web-based Education (EAD) were adopted as the main method for strategic training. In the last two years, 14 courses were offered, totaling 81 classes. Approximately 1,682 students completed their on-line courses.

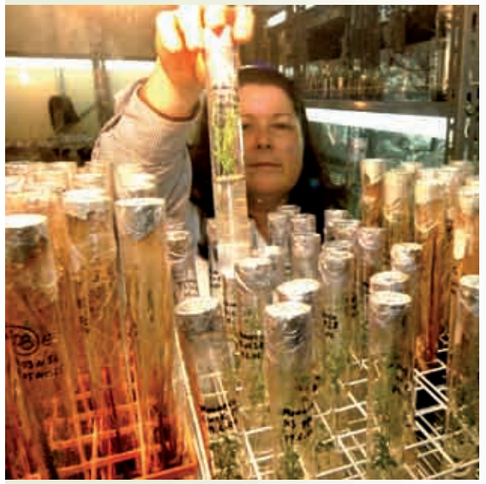
Thus, 2005-2006 means a milestone concerning in training actions for Company managers. Since 2005, Embrapa has been implementing manager training actions. One hundred thirty five Embrapa units managers and its assistants have

already been trained in modern management techniques, (program supervised by Fundação Dom Cabral, a national reference institution in management).

In the last two years, Embrapa has been active in youth educational, providing 550 internships for high school students and for nearly 2,500 college students. In addition, in 2006, company offered 328 scholarship for students of the Institutional Scientific Initiation Scholarship Program. Finally, in order to keep its employees motivated, the company reviewed the standards of the research units (SAU) and the performance of employees (SAAD) assessment systems, in order to simplify it, strengthen teamwork and foster cooperation among the teams and research centers.

PCE

Embrapa's new Career Plan (PCE), seeks to increase attraction and maintaining the new talents. It was approved and implemented in the first half of 2006 by the support of the Presidency of the Republic, the Ministry of Agriculture, the Ministry of Planning, and the National Congress. This Plan offers better progress possibilities for employees, encourages acknowledges training efforts, and creates the role of Internal Consultant and Expert (It values professionals, their knowledge and experience).



FlexCeres (New supplementary pension plan)

In 2006, the State-Owned Companies Control Department (DEST) and the Supplementary Pension Service approved the Embrapa's new retirement plan (FlexCeres), which initially will benefit 2,600 employees not yet entitled to supplementary pensions.

FlexCeres is a defined contribution variable benefit plan, which enables inclusion more employees, since they can link their retirement pension to their monthly contribution capabilities. FlexCeres added to the others Embrapa affirmative actions, forms a set of benefits that increases Embrapa's ability to attract new talents for the task of modernizing agriculture technology.

INFRASTRUCTURE REVIVAL

Embrapa's lab infrastructure encompasses 215,500 m^2 in labs, 33,000 m^2 in canvas covered facilities and 35,000 m^2 of greenhouses, (built in the last 30 years). In 2005-2006, in order to improve facilities, Embrapa invested almost R$ 21 million to build, recover, and up to date its laboratories. Considering all kinds of research center facilities, equipment tractors and vehicles reforms, the investment reached R$ 90 million. We highlight below some of these investments:

Headquarter of the Satellite Monitoring Center

The final Headquarter of Embrapa's Satellite Monitoring (created in 1989), is being built in an area of 20,000 m^2 assigned by the Brazilian Army, in Campinas, state of São Paulo (built area of 5,400 m^2).

This Unit operates in territorial management systems research and development for agriculture. The labs, researchers and technicians work in geographic information systems, electronic networks, acquisition and processing of remote sensoring images and field data.

Embrapa Livestock

During the three decades since its creation, Embrapa Livestock has operated under limitations (just facilities of a adapted farm).

At the end of 2006, it was completed the renovation of its facilities to give it the features of an S&T organization for proper responding the technology demands of the meat chain, focused on product quality improvement, nutritional demands, health and taste characteristics.

The new strucutre provides a good research and technology transfer environment as a multimedia auditorium (equipped for technology transfer and training events for the meat chain, and Agroescola (Agri-School), a space for training young professionals in several skills in production of quality meet).

Enology Lab

In 2006, the Company opened one of the most modern wine research labs in Brazil, installed at Embrapa Semi-Arid Region, in Petrolina, state of Pernambuco. To complete the project, the Studies and Projects Financing (FINEP), of the Ministry of Science and Technology, invested approximately R$1 million and Embrapa invested approximately R$ 400,000. The Enology Lab will be essential to attest quality wine production in the Northeastern Semi-Arid Region.

Although the São Francisco Wine Valley has working for just 25 years, the wine industry there shows significant growth. Wine production in the state of Pernambuco, in the mid nineties, was 648,000 liters, it reached two million liters in 1999, and 7.5 million liters in 2005. The forecast for wine and sparkling wine production by 2010 is 25 million liters.

National Nanotechnology Lab

The construction of the National Agribusiness Nanotechnology Lab (LNNA), the only nanotechnology lab in the world exclusively created for agriculture, has already begun and R$ 4 million will be invested, especially for equipment acquisition.

The main research lines have already been defined to include the development of sensors and biosensors, applied to food quality control, certification, and traceability; qualification and synthesis of new materials, such as polymers and nanostructured materials with specific properties; thin films and surfaces to manufacture smart packages, edibles and active surfaces.

It will also research nanoparticles, composites, and fibers for developing reinforced materials, using natural products such sisal, jute, coconut, and other fibers used for industrial purposes; organic and inorganic nanoparticles for the controlled release of nutrients and pesticides in the soil and plants, and pharmaceuticals for veterinary use.

It will also conduct nanobiotechnology studies to qualify genetic material and gene nanomanipulation; qualification of materials of interest to agriculture to obtain original information on soil particles, plants, bacteria, and pathogens of agricultural interest. In addition to the research activities, the lab will operate as a facility for scientific cooperation and the provision of services to public and private institutions.

Aquaculture Lab

Inaugurated in 2006, by Embrapa Western Region Agriculture, Dourados (MS), this lab integrates the Mato Grosso do Sul Aquaculture Research Center (NUPAQ-MS) and with the participation of 28 public and private institutions.

The lab with 247 m², including 12 experimental tanks, microbiology, water analysis, and microscopy resources. It will serve the Integrated Aquaculture Research Program, which prioritizes water quality, nutrition, fish feeding and health.

Germplasm Bank

Six new walk-in freezers, inaugurated at the end of 2006 are now part of the Germplasm Bank of Embrapa Genetic Resources & Biotechnology, increasing its storage and preservation capacity to 240 thousand seed samples from 120 thousand.

In November, Embrapa completed the deposit of 100 thousand seed samples in its walk-in freezers and became the seventh largest gene bank in the world, equal to Canada and just behind the United States, China, Germany, Japan, India, and Korea.

The gene bank prioritizes soy bean, rice, beans, wheat, and corn, which are the major sources of food in Brazil, but also includes medicinal, fruit, and tree species, among others, that have enrichened agriculture and helped to recover the culture of indigenous people, such as the Krahos, Guaranis, and other tribes form Xingu.

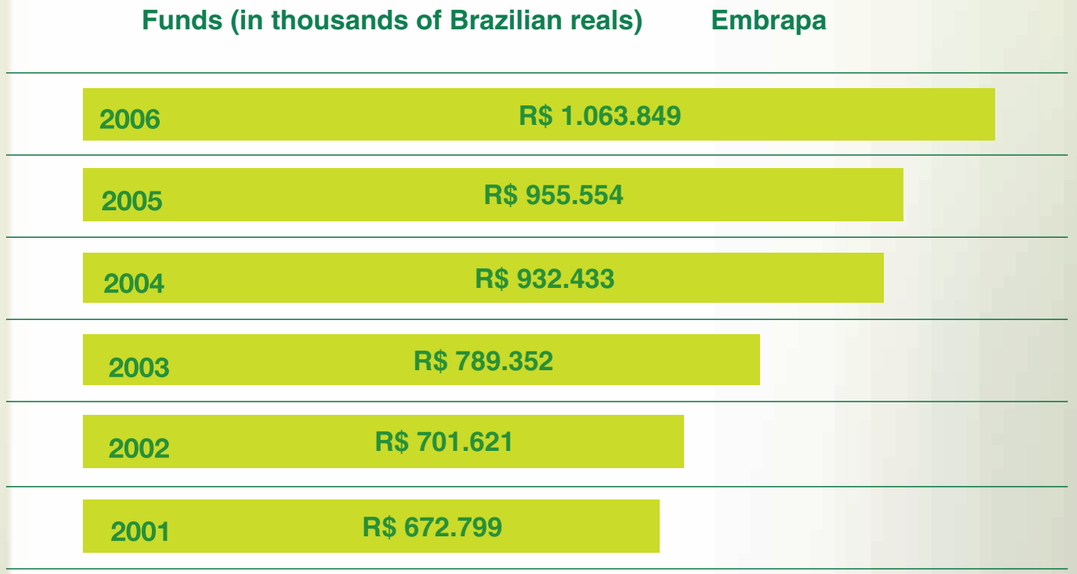
Tradeshow and Exhibition Pavilion

In 2006 the final facilities for the event “Science for Life” were inaugurated, a covered pavilion with an area of 3,600 m², annex to Embrapa’s Sports and Cultural Center. These buildings will not only reduce the cost of future editions of this event but will also host all Tropical Agriculture institutional and technology development events, in particular those of the organizations that look after its innovation.

FINANCIAL REVIVAL

In the last two years, Embrapa has managed to raise Brazilian society’s awareness on the need to regain a minimum level of investment in agricultural research. As a result of this effort, just last year Embrapa’s budget increased by R$ 100 million in investments, which significantly contributed towards maintaining research and technology transfer activities in Brazil.

The graph below shows the gradual recovery of Embrapa’s budget, which is a result of the understanding currently shared by the National Congress and the Federal Government – notably the Ministry of Agriculture and Supply; the Ministry of Finance; the Ministry of Planning; the Ministry of Science and Technology; the Ministry of Agrarian Development; the Ministry of Social Development, the Ministry of Environment, the Ministry of Integration; and the Ministry of Mines and Energy – regarding the need imposed by the technology race to foresee issues and make the required investments.



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THE NEW RESEARCH AGENDA

The future of tropical agriculture needs undertaking of a new research agenda, admitting new problems, new ways to handle them and, therefore, thinking about new solutions.

In the last two years, knowledge and technology generation management was redirected to focus on systems, teamwork, and transdisciplinary projects. This process enabled the use of financial, human, and infrastructure resources to be streamlined, to focusing on strategic issues, for solutions aimed at agriculture and society as a whole.

The management system started with 53 projects, consolidating with 463 projects in the portfolio in 2005, and currently, it has 482 projects funded by the Treasury, which corresponds to an amount of approximately R$ 40,191,000.00 for 2006. Annually, there was an average increase of 23 percent in funds allocated to direct program costs in the 2002-2006 period.

Strategic Projects

Embrapa has invested strongly in Brazil strategic in order to enhance know how in different areas, however without overlooking the Brazilian farming industry competitiveness sustaining areas, investing in priorities defined by the current government, such as support for family-based agriculture development, and sustainability of rural areas, agri-energy, health protection, agroecology, biotechnology, and environmental impact.

They are allocated into six macroprograms: MP1 – Great National Challenges; MP2 – Industry Competitiveness and Sustainability; MP3 – Agribusiness Incremental Technology Development; MP4 – Technology Transfer and Corporate Communication; MP5 – Institutional Development; and MP6 – Support to Development of Family-Based Agriculture and Rural Area Sustainability.

It is worth noting that the convergence of efforts of the entire Government, while from a total of 881 projects in course, 339 are fully funded by the Ministry of Science and Technology, the Ministry of Agrarian Development; the Ministry of Social Development; the Ministry of Integration; the Ministry of Environment, and the Ministry of Mines and Energy and other institutions, such as the National Scientific Development and Technology Council (CNPq), the Study and Project Funding Department (FINEP), the São Paulo State Research Support Foundation (Fapesp), the Minas Gerais State Research Support Foundation (Fapemig), the Banco do Brasil Foundation, Petrobras, Banco do Nordeste do Brasil, Banco da Amazônia, etc.

Articulation Actions

Other important focus of research and development actions in the past two years was the articulation process. From June 2005 to November 2006, Embrapa negotiated 36 strategic projects, totaling almost R$108 million, 59 percent of which came from tenders not carried out by Embrapa. Of all the projects proposed by the company, 53 percent were approved, 20 percent are under assessment, and 20 percent are being negotiated.

This approved program comprises over R$ 25million for research in strategic issues such as: Agri-energy; Sustainable Use of Natural Resources; Adding Value to Biodiversity; Crop-Livestock Integration; Quality Assurance and Food Protection System (REDE MAPA); Aquaculture; Agroecology; Competitiveness of Production Chains; Biocomputing and Advanced Biology, etc.

Highlights of the Research Agenda

The vision on the future and the focus on the society's needs, drive Embrapa's research program, in addition, the research program also responds to the Company's strategic objectives, which efficiently attend to Government demands, implementing projects related to safety and maintenance of çthe sustainability of all dimensions in tropical agriculture:

Advanced Biology

The onset of new areas of knowledge, such as Genetically Modified Organism (GMO) studies and nanotechnology, which are related to each other and to traditional scientific fields, are a new scientific frontier dubbed Advanced Biology, to which Embrapa has dedicated especial attention, both in the organization of the research program and the mobilization of required resources.

A more widely known part of this effort is to produce genetically modified plants resistant to plagues and diseases. Some of the results already attained are the resistance to bean golden mosaic virus, potatoes resistant to the leaf curl virus, and papaya resistant to the ringspot virus. In this line, we are also trying to produce geminivirus resistant tomatoes, lettuce resistant to funguses and beans resistant to borers, which interests small farmers. Genetically modified soy beans resistant to draught, cotton varieties resistant to herbicides, insects, and fungus and bacteria-borne diseases are also some works conducted in our labs.

Considerating the GMOs in a innovative manner, company has worked to produce a lettuce plant vaccine , capable of interrupting diarrhea; soy bean varieties capable of sythesizing growth hormone and antibodies for types of cancer (in particular breast cancer). We are also trying to raise bioreactor animals, capable of producing growth hormone in their milk, and also genetically modified animals and plants capable of producing the IX Factor, essential for blood coagulation, which would facilitate the treatment of hemophiliac patients.

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Transforming plants by interfering with their RNA, where no alien proteins are introduced, which eliminates the need to conduct toxicology and allergenicity tests are also been studied. Works in nanobiotechnology resulted in synthetic silk threads in genetically modified bacteria, the genes of which can be introduced in plants to obtain highly-resistant threads.

Presence and Sustainability in Biomes

Considering the environmental sustainability priority, in the two-year period 2005-2006, Embrapa was submitted to a fine-tuning process in its research program to ensure effective presence in the six great Brazilian biomes – Amazonia, Caatinga, Cerrados, Atlantic Forest, Pampa, and Pantanal – with an effective troubleshooting capacity. Using the multiple views obtained by the coordinated action of research centers dedicated to these topics, the ecoregions and the producers; the actions of Embrapa and its state, private, and international partners in the biomes is enhanced through three great lines of research and development: Territorial Planning, Monitoring and Management; Biome Management and Enhancement; and Sustainable Agricultural, Livestock and Forestry Production in tampered areas and under alternative use.

Agroecology

By integrating the effort of governmental and non-governmental bodies that are establishing the basis for Brazilian agroecology, Embrapa intensified its strategy to institutionalize the agroecologic approach by realizing its affirmative agenda, including meetings, presentations to managers, training, building a Research & Development Platform, and publication of the Agroecology Referential Milestone in October 2006.

Etnosciences

Embrapa has been extending its activities to indigenous and traditional populations. In 2006, actions took place in twenty indigenous groups of people from ten brazilian states, representing all country physiographical regions and 69 representative groups of traditional people, of which 24 are river-bank dwellers. The actions mainly include the conservation of genetic resources, food safety, land use planning, production systems and agroindustrial products use.

Climate Changes

Embrapa researchers will conduct a specific project focused on biotechnology, vegetation physiology, biochemistry and plant and animal improvement, as well as production system development, aimed at higher temperatures and accentuated hydric stress environments. Some actions are in progress, especially concerning soy bean crops, corn in Semi-arid areas, cowpea beans and manioc. It is necessary, however, to extend our concern with climate changes, and particularly with global warming, to agronomic and livestock research in all domestic ecosystems.

Nanotechnology

Among the areas where nanotechnology can have a positive impact on tropical agriculture are the development of new biotechnology tools and gene and biologic material manipulation; the development of more efficient catalyzers for biodiesel; and the use of vegetable oil and other raw materials of an agricultural origin for the production of plastics, paints and new products.

A highlight in this area is the development of coatings and edible protective films applied directly to food, which guarantee the quality and appearance, allowing immediate consumption without any need for treatment or subsequent cleaning.

The research program is sponsored by Professor Alan MacDiarmid, Nobel Chemistry Prize winner in 2000, who not only participates in some of the research projects in Labex USA, but also maintains an association with Embrapa in the city of São Carlos (state of São Paulo), the Alan MacDiarmid Innovation and Business Institute, like the ones he created in the United States, New Zealand and China.

Bird flu

As a quick answer to a potential global epidemic and in line with the programs of the MAPA Secretariat of Agriculture and Livestock Defense, Embrapa placed all its knowledge at the service of the society awareness program on bird flu. We are also cooperating in the creation of a contingency plan to avoid the disease come to Brazil and in the establishment of procedures to control outbreaks of the disease, in the event it reaches the Brazilian poultry farming sector.

Pursuant to this contingency plan, research began into the development of precise and quick techniques to diagnose the disease, based on mass spectrometry bird flu virus detection, and installed a reference laboratory to analyze samples collected during monitoring of poultry flocks.

Foot and Mouth Disease (FMD)

At the request of the Department of Agriculture and Livestock Defense (SDA), of the Ministry of Agriculture, Livestock and Supply, Embrapa developed a prototype of a Territorial Management System for the Borders of Brazil with Paraguay, Bolivia and Peru. The system, that is currently being structured, will support the actions of the Ministry in prevention, control and vegetable and animal sanitary risk monitoring, with emphasis on foot and mouth disease.

During the first phase of development of the system, Embrapa acquired satellite images of Brazil's border zones, with a resolution of 10 meters that will permit to initiate the structuring and introduction of the territorial management system on a regional scale.

The system will be totally computerized and based on satellite images, digital cartography (GIS) and information technology, and will allow monitoring and

management of Agriculture and Livestock Defense actions at local – farms that are of interest – municipal and regional levels.

Agricultural and Livestock Good Practices

Embrapa's program to support the establishment of agricultural and livestock good practices in the production sector is essential to building tracking systems that will guarantee the production of safe, healthy and better quality foods in sustainable production systems.

The program follows two guidelines: 1) the implementation through technology transfer efforts, of the already existing best practices; 2) after the Hazard Analysis and Critical Control Point on production processes, the definition of new standards from the development of new tropical technological procedures that better meet the market's quality and safety requirements is worked.

Such concern is present in all of Embrapa's technology development programs, and is highly advanced in integrated fruit and vegetables production programs and in quality meat production.

The concern to improve agricultural production practices inspired the initiative to improve the production practices of the following technologies: Embrapa is introducing a Laboratory Good Practices (LGP) standard, seeking to organize the processes and conditions under which studies and research are planned, executed, monitored, registered and reported.

Agri-energy

Since the creation of the ProAlcool (ProAlcohol) program in the 70s, when there was a National Program for Energy Research, including the fuel oils segment, Embrapa has maintained research activities comprising oil-bearing plants with energy potential, such as castor bean and American oil palm.

Thus, the company was able to immediately respond to the Brazilian Agri-energy Program, in its small producer inclusion chapter, making new castor bean varieties available. The company's germplasm banks have approximately 300 different castor bean accesses and over 700 accesses of American oil palm, collected from such different locations as the Amazon, Latin America and 15 african regions.

One of Embrapa's contributions to guarantee supply for three of Petrobras' units – being installed in the cities of Quixadá - state of Ceará, Candeias – state of Bahia and Montes Claros – state of Minas Gerais is the production of a greater volume of basic castor bean seeds at the Paraguaçú and Nordestina varieties. It will permit to develop a capacity to process 50 thousand tons of vegetable oil.

Highlighted Technologies

Between 2005 and 2006, the plurality and scope of its work program drives Embrapa to launch several important technologies to many different segments of tropical agriculture. Some examples are shown below. Such technologies are under the concern that leads this new growth cycle in the Tropical Agriculture.

New Varieties

- BRS Seridó Cotton, of average size, a perennial, for family-based agriculture in the Semi-arid zone.
- BRS Safira and BRS Rubi colored Cotton, reddish-brown color, annual cycle, more productive (1,900 kg/ha under drought conditions).
- BRS Querência Rice, with a high industrial yield, early-developing, long and fine grains, resistant to environmental stress and reduced need for pesticides.
- Esplanada Carrots that allow mini-carrot production feasible all year round and a higher level of total carotenoids (precursor of Vitamin A).
- BRS Milênio and BRS Urubuquara cowpea beans, 25% more productive than the regional average in the state of Pará, facilitate mechanization process and have better quality and appearance.
- Pitanga "purple" beans, resistant to rust, bean common mosaic virus (BCMV) and the four types of fungus that cause anthracnose. Productivity of 1,540kg/ha (dry conditions) to 2,280kg/ha (irrigated). Partnership work with the Rural Agency of Goiás State and the Rio Verde University.
- BRS 188 Paraguaçu and BRS 149 Nordestina Castor Bean, for the Semi-arid zone, average yield of 1,200 Kg/ha, cycle of over 250 days, 47% average oil level.
- BRS Gema de Ovo (Egg Yolk) and BRS Dourada (Golden) bio-strengthened manioc, with high concentrations of beta-carotene (precursor of Vitamin A), for the production of fine yellow meal (copioba meal), no artificial colorants, quick cooking-time properties, a sweet flavor and fiberless.
- Catingueiro corn, early variety, for the Semi-arid zone, can be harvested 95 days after planting. Productivity of approximately 3.5 t/ha, reducing climate risks and stronger harvest chances. It allowed the support from PRONAF financing and Agriculture Insurance for producers in the region. Catingueiro corn is now an option for commercial cultivation for over two million families in rural Semi-arid zone forms.
- BRS Violet Grapes, for juice or table wine. High concentration levels of sugars and color, high productivity, early harvest, good performance to fungal diseases and stem rot and well adapted to hot weather regions.

Animal Clones

- "Branca" ("White") and "Neve" ("Snow"), the first female colts obtained from embryo division/splitting and gestation in separate uteruses, in Brazil.
- "Porã" and "Potira", Junqueira cattle clones such animals are in a critical extinction level. There are less than one hundred from these animals in Brazil.

Environmental Pesticides

- Bt-horus, biological insecticide to control the mosquito that transmits dengue disease (Aedes aegypty) and blackfly (Simulium spp), in partnership with Bthek Biotecnologia.

Machinery and equipment

- Cashew nut extractor, yield up to 200 nuts per minute or two tons per day, 10 to 20% better than current models.
- Mobile and portable saw. It allows processing planted forestrywood in the site of production.
- Coconut processor. It grinds the shell remaining after coconut water extraction, separating the fiber powder what allows its reuse for producing fiber plant pots and agricultural substrate. In addition to the economic gain, it reduces a serious environmental problem, especially in seaside cities.

INTERNATIONAL COOPERATION

The tropical agriculture knowledge reinvigorated arid lands in productive areas and brought it to the regularity needed for the stability of complex production chains. So, Embrapa's international cooperation agenda clearly moved along two equally relevant paths: 1) The traditional dialogue between researchers from developed and developing countries which leads to new technologies on the knowledge edge, 2) Recently, the cooperation between tropical countries. An interaction between producers and technicians to transfer knowledge and solutions created for other tropical countries producers.

Therefore, the role of Science and Technology gains relevance as an instrument of the Federal Government's foreign policies, many in the strengthening of the South-south dialogue. Thus, great opportunities for a North-South-South triangle is opened; that is, developed countries in the North could to finance the technology transfering between two South countries.

As a result of the articulations increase in international cooperation during 2005 and 2006, Embrapa trained almost 300 foreign technicians, carried out 15 technical consulting missions, received over 120 missions from 85 countries at its research centers and carried out 30 technology transfer missions to other countries.

US$ 1 = R$ 2,12

Nowadays, Embrapa's efforts for technical cooperation involve agreements with 14 Latin America and the Caribbean countries, six Asian countries (including South Korea) and eight European countries restarted in 2005.

Some from the both path actions are shown bellow:

AgroFuturo

In 2006, Embrapa signed an agreement with Inter-American Development Bank (IDB) to finance part of the Technological Innovation and New Management Approaches in Agricultural and Livestock Research Program (Agrofuturo). For five years the program will be supported by the IDB (US$ 33 million) and the Federal Government will put up US$ 27 million.

The funds will be applied on natural resource and genetics, biotechnology and biosafety projects, lab and field good pratices, impact and efficiency assessment, intellectual property, information and communication systems, and for technologies for improving competitiveness, efficiency and equity of the Brazilian Agriculture and Livestock sector – related to agrifood sanitation and quality, the preservation and use of biodiversity, organic agriculture, hydropony, plasticulture and family-based agriculture.

IWTAD

The International Workshop for Tropical Agriculture Development (IWTAD), sponsored by Embrapa, by the Consultative Group for International Agriculture Research (CGIAR) and by the World Bank, had the purpose of redeeming the historical process and analyses the factors that determine success in building tropical agriculture, in Brazil and other important tropical regions such as China and India.

The event brought together historical characters, such as former ministers Alysson Paolinelli and João Paulo dos Reis Velloso and approximately 200 specialists in different crop and livestock breeding areas from the SNPA and from international agriculture research centers. They analyzed the important events on this process, in three strands: The generation of technological knowledge, the institutional development (in public sector and production chains) and the drafting of the necessary public policies. Embrapa and CGIAR are editing a reference work in Tropical Agriculture, based on the Workshop.

Labex USA

Established in the United States since 1998, through a partnership with the Agricultural Research Service (ARS) from the United States Department of Agriculture (USDA), the first Embrapa lab abroad has been working to strengthen and increase scientific and technological cooperation between Brazil and the United States.

Some technologies developed are the satellite image processing techniques to estimate soil humidity, low-cost nitrogen removal techniques from pig manure, molecular markers for animals resistant to ticks, worms and other parasites, and new nanomaterials, agricultural product composites such as chitosan, for producing more resistant edible films.

Labex Europe

In the last two years (2005-2006), Labex Europe's great effort was to integrate Brazilian and European agricultural research networks, and from that the following results can be seen: the University of Avignon (France) Agreement, that placed a researcher from Labex Europe in its labs, and the three-year program for cooperative research in genomes, sustainability and natural resources.

Embrapa, in partnership with the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) and other institutions, by Labex Europa created a research consortium that obtained the second largest financing for project in the Challenge Program Generation and the approval from the European Union for financing a group of research projects. The work issues are micotoxins control in grains; value added to native fruits, such as assai palm and peach palm; guava genome mapping; participative management of forestry resources, as well as financing from Alcue-Food, a research platform on food quality and safety that seeks to facilitate the creation of European and Latin American institutional research networks.

Prodetab

In 2005, Embrapa (The Brazilian Agricultural Research Corporation) completed the execution of the Agriculture and Livestock Technology Development Support Project for Brazil that, with the support of the World Bank, invested 120 million in qualitative improvement of technological production, by introducing competitive funds and multi-sensorial research networks, including the creation of Labex USA and Labex Europe, to monitor international scientific development.

Prodetab involved 496 public and private organizations, including companies, cooperatives, state and federal bodies, national and international universities, to develop and implement 139 research projects. It financed the education of 118 master graduates, 255 doctorates (PhD) and 55 Post-Doctorates, as well as the publication of 36 books and 1,300 other publications. Its legacy includes, among other technologies, two vaccines, six diagnostic kits, 14 varieties, 8 hybrid vegetables, two chicken lines, 15 equipment prototypes and 15 software programs.

MAKING INNOVATION A REALITY

The environment created in Brazil by the Tropical Agricultural Knowledge involves new demands for agricultural development, a new sustainability level and, therefore, need of innovation. Thus, based on such scenery, Embrapa scientific, institutional and management agenda has been adjusted as well as its knowledge and technology transfer program for different society sectors.

The program also expresses the multiplicity of actors, situations and other sustainability dimensions to be attended by the Embrapa's innovation efforts. Some actions stand out:

Intellectual Property

Experience has shown that the safety and protection provided by intellectual property contributes towards technological progress. Embrapa is a worldwide leader in the development of new technologies applied to tropical climate agriculture and represents an international point of reference in the context of intellectual property protection created by developing countries.

Currently, the Company has 190 patent deposits in Brazil, 93 deposits of patents abroad, 191 for brands and software and 276 for plant varieties, holding, in the latter, around 30% of all varieties protected in Brazil. In 2006, 14 new patents, 12 new brands and 44 new varieties were deposited.

Safe Food Program

From the field to the table – Food goes a long path until reaching the consumer's home, when food safety is essential, affecting consumer health and the agricultural competitiveness. This program was created by a consortium between Embrapa, Senai (The National Industrial Training Service) and Sebrae (Brazilian Micro and Small Business Support Service). Eighteen technical manuals, 12 booklets, training of 60 national and 215 state instructors, as well as the implemented program on 175 farms are some of the great results obtained by this partnership. The future is promising; we forecast the participation of 4 thousand farms in the program for 2007 and 2008 and the actions of around a thousand state instructors.

Seeds

Seed is one of the most important factors which allows producers reaching their technological independence. The seed and seedling production program (especially cotton, irrigated and dryland rice, beans, corn, soy bean and wheat) developed by Embrapa – Brazilian Seed Industry partnership had a licensed production of 471 tons in 2006, enough for planting 10 million hectares, from 1,972 partner agreements. The company is forecasting to reach R$ 20 million per year from licensing and seed sales. From 699 varieties protected by MAPA's National Service for Plant Variety Protection, 219 are varieties released by Embrapa. It is a important indication of this company's role in transferring technology to the private sector and also in the social inclusion of small producers.

Planting Citizenship and Solidarity

In addition to its intrinsic production qualities, improved seed induces technological modernization, once it requires the use of other technologies, such as fertilization, soil correction, pest control, among others.

Thus, the National Seed Program for Family Farmers is being presented to seven states in the Brazilian Northeast, for important crops such as rice, cowpea beans, corn, cotton and caster bean. The forecast is that 70 thousand families will join the cowpea bean seeds program. To support the family inclusion on biodiesel program, Embrapa can supply castor bean seeds enough for 150 thousand hectares.

COEP (Entities Committee for Eradicating Starvation and for Life)

The Embrapa research centers have carried out a great number of supporting actions to serve the COEP agenda. The actions seeks eradicate starvation, the poverty and reduce child mortality. One of the projects is for making information available to poor communities. An important part of it is the COEP TV Video Library, sponsored by Embrapa – COEP partnership. This technology transfer program displays 15 videos available for presenting informative actions, technical education and citizenship. Distance-learning courses are available, as well as other information products, for poor urban and rural communities.

Backyard Enrichment Program

The knowledge exchange, valuing of local knowledge and the respect for culture are the guideline to this education process, which seeks to unite tradition and innovation. Embrapa contributes towards food safety for two thousand Krahô Indians (state of Tocantins) by the backyard enrichment programs for fruit trees and biodiverse crop systems. Sixteen thousand fruit tree seedlings were already implemented in 18 villages, as well as training in agri-forestry systems.

Crop-Livestock-Forest Integration

This program is a pool which allows the degraded area recovery. It is associated to crop rotation and provides sustainability to non-tillage crop. In addition, it diminishes the natural vegetation removal.

Over the next three years the program will have R$ 4.5 million financial support. This effort seeks to transfer technologies for nearly 40 million hectares in Brazil. Eighteen research centers have been involved in a project for domestic demand which harmonizes the interests of the production and environmental sectors interests. In 2006, the program included 20 lectures for technicians, specialists and producers, two field teaching days and several media events.

Technology Showcase

This work uses art associated with technology transfer process as a manner of showing the Embrapa research results. Each year the Company chooses a subject presented in a 30 thousand square meters urban area in Brasília -Federal District, where around 400 plant & animal technologies are presented. The success of this model reached the states of Mato Grosso, Pará, Minas Gerais and Pernambuco.

AVAILABLE INFORMATION TO SOCIETY

The Embrapa knowledge transfer program uses printed publications, radio and TV shows, Internet and covers various editorial lines. In the last two years 147 thousand products in these media were produced and reached great public acceptance.

Publications

In 2005-2006, Embrapa published 101 new titles related to relevant issues for family farmers, business agriculture and for agricultural science students.

Embrapa also published 24 editions of the Brazilian Agriculture and Livestock Research Magazine and four editions of the Science & Technology Book, available in printed and online versions, driven to technicians and researchers. For the production sector, Embrapa produced nine Family Agribusiness collection titles, 23 new titles of the collection "500 Questions, 500 Answers", also available online. In addition, the ABC of Family Farming collection was created, containing subjects as crop-growing, pest control, livestock, agribusiness, among others.

Reference workings and art books were also produced, as the novelties: "Tropical Flowers" (species, growing, commercialization and post-harvest care); and "Manioc, the Bread of Brazil" (a technological, cultural, historical and sentimental look at this Brazilian plant).

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Embrapa also made available the second volume of the “Brazilian Tree Species” collection (it presents over sixty native trees species, nomenclature, reproductive biology, ecological aspects, seedling production, climate and soil, main diseases and genetic resource conservation etc); and the second book edition (revised and extended) of “Animals from the Discovery Period”. The children’s book “The Seeds Journey” had also a Braille edition, properly produced for special communities.

Radio

Embrapa implemented the “Prosa Rural” (radio rural talking show), a weekly variety radio show, including interviews, surveys, stories, music, cultural tips, recipes and news. The show uses colloquial language, bringing scientific information mainly for family farmers.

The show can be heard even in the most far Brazilian places, allowing free access to information on technologies driven to small rural producers. It is shared (free of charge) for 538 radio stations, mainly to community radio stations in the North, Northeast, Midwest and Vale do Jequitinhonha (North of Minas Gerais state, included the Drought Polygon). In 2007, “Prosa Rural” will be also heard in radio stations in the Southeast Region.

Television

The show “A Day in the Field on TV” presents weekly a technology created or adapted by Embrapa and partner institutions. It is broadcast direct from Embrapa studios to parabolic antennas of cooperatives, unions, city halls, farmer associations and even to farms, allowing the access to various audience sectors.

Since 2005, 86 novelty shows were broadcast by Embrapa and The Rural Channel. In 2006, under an Radiobras (Brazilian National Radio Network) agreement, this show began to be retransmitted on Sundays by NBR and National TV station, increasing its audience, which is estimated in 34 million viewers.

Embrapa Website

Embrapa’s homepage (www.embrapa.br) is an important way of accessing the knowledge produced on institution.

The 30 linked websites may be acessed by a large number of users, as producers, technicians, instructors, consumers, etc.

On web site the farmer can access recorded “Prosa Rural” (Radio Rural Talking Show) and “Day in the Field on TV”, finding various basic information related to Embrapa, its research units and services . Some highlights:

Embrapa Web Library – Embrapa’s books are distributed to 149 technology specialized bookstores, research centers and universities. Faster purchase on-line facilities are offered by Embrapa Web Library (www.sct.embrapa.br), displaying books and videos that can be searched by titles, authors or keywords. This service has links, sales, general catalogue, working summaries, publications available for purchase, delivery information, payment terms, etc.

Embrapa Information Agency (www.agencia.cnptia.embrapa.br) – It is a technical, scientific, social and economic database created by Embrapa on agricultural issues, available for society. It provides information and knowledge transfer to promote competitiveness in agriculture and livestock production.

Agriweather (Agritempo) System – This agrometeorologic monitoring system maintained by MAPA (Ministry of Agriculture), National Meteorology Institute, Embrapa and by a scientific partnership with Unicamp (University of Campinas), is supplied by information from over a thousand meteorological stations, generating 860 maps, graphs and meteorological bulletins, showing variables as droughts, rainy days, evapotranspirations and soil humidity. It offers daily weather reports to farmers of up to five days ahead. The forecasts are being increased to up to 15 days ahead. This service is also essential for farmers, rural technicians, and others.

Services and Products Catalogue – This is the most recent service available on Embrapa Website. It supplies information on products, technological processes, patented or protected products, services and Embrapa’s social technology. In addition, there are information related to cultures (seeds and seedlings), equipments, softwares, recipes and specific methods developed for agriculture and livestock, forestry or agri-industrial production. This service helps the Embrapa - citizens interaction, showing its institutional actions as the courses, day in the field programs, problems solutions for agriculture/ livestock or technology training services.

Embrapa Small-Libraries

Embrapa in partnership to “Starvation Zero - Government Program” and the support of the Ministry of Social (MDS), created small-libraries in schools in the Northeast Semi-arid region, in the Vale do Jequitinhonha region and in the state of Maranhão. The collection is made up of 108 printed publication titles, 37 videos and 40 “Rural Talking Radio Show”, on issues as home vegetable gardens, fish culture, ovine, caprine and cattle raising, native fruits and environmental awareness, among others.

Four hundred and forty cities from 10 Brazilian states were covered by the program (350 in the Semi-arid, 50 in the Vale do Jequitinhonha and 40 in the state of Maranhão). Over 50 thousand families have access to information.

Media exposure

Nowadays, Brazilian society knows the essential role played by science in creating jobs, improving income, reducing inequalities, promoting social inclusion, training people and transforming realities. This awareness is helped by concentrated efforts in information on available technological solutions applied to nutritional wealth, quality and sanitation of new food, fibers, forestry and energy products. Science and technology can also bring some tools to mediate conflicts of development.

In the 2005-2006 two year period Embrapa’s efforts to create such solutions produced 18,532 press events.

Participation in Events

Embrapa promotes, supports and participates in tradeshows and exhibitions for generating technology transfer. Events may be an effective opportunity to reach general population or specific audiences for showing the available benefits of technological development for solving society’s problems. In the last two years, the company was present in more than 380 events.

Embrapa usually is present in major Brazilian tradeshows as Expointer, in Esteio (state of Rio Grande do Sul), maintaining a structure called “Technology House”; in AgriShow, in Ribeirão Preto (state of São Paulo) and in Amazontech (state of Amazon).

As a result of the partnership Embrapa – Machinery and Equipment Association (ABIMAQ), in 2006, the “Semi-Arid Agrishow” was created (an event focused on small farmers). The company was also present in the “I Agri-Innovation Tradeshow” in Campo Grande (state of Mato Grosso do Sul).

Science for Life – This event take place every two years, in Brasília (Federal District), involving a great cooperation among Embrapa, universities, public agencies, private companies, state representations, international research organizations, and others. This tradeshow format is driven for technology showing and transferring, making use of expositions, lectures, technical stands, cultural events, culinary, contacts for new technologies business, etc. Its 5th edition (2006) gathered nearly 60 thousand visitors, 135 expositors and 49 new technologies.

Embrapa & School

This work is focused on elementary and middle school students. Several issues as “Where the food came from”, environment awareness, agri-energy, among others are presented as a ludic experience (that is, games, acting on stage, drawings, tradeshows in other cities, and others). During the program, in 2006, 35,5 thousand students visited the “Science for Life” tradeshow and nearly 92 thousand students visited the “National Science & Technology Week (3rd edition) on the heart site of Federal Government, in Brasilia (Federal District). This program also promoted over 17 thousand lectures in more than 9 thousand public and private schools during its 9 years of existance.

ACKNOWLEDGEMENTS

Brazilian society and the global scientific community have been very attentive in acknowledging Embrapa's contribution towards the success of Tropical Agriculture. These acknowledgements usually is driven to restricted work groups. Embrapa wants to share all its laurels to all the people who work hard to keep Brazilian agriculture up to date. This principle guides the "Embrapa Memorial Project".

Embrapa's Business Memorial Project – This work includes the book "O Sol da Manhã" ("The Morning Sun", a Company's founder and first president testimony), written by former president Irineu Cabral and the exhibition and the historical Embrapa exposition (Embrapa Memorial Portal) on hall of Embrapa Central Office Building (Brasília, Federal District). This exhibition includes photos of employees and leaders, publications and awarded prizes. The Memorial Portal gathers information as the Company history, bibliography, photography collection and the Regional Museum Network.

National Medal for Brazilian Scientific Merit – An honor that was previously granted only to the Brazilian Academy of Sciences and to the Brazilian Society of Science Progress. Embrapa was awarded with the medal in April 2005.

Rio Branco Order – The highest honor granted by the Itamaraty (Brazilian Diplomacy) acknowledges services rendered for promoting Brazil abroad. Embrapa was granted by the Rio Branco Order Insignia in April 2006 and the award was handed over by the President of the Republic and Grand Master of the Order, Mr. Luiz Inácio Lula da Silva.

World Food Prize – Alysson Paolinelli (former Minister of Agriculture) and Edson Lobato (retired company researcher) helped establishing Embrapa and strongly contributed for transforming an unproductive land (Cerrado region or Brazilian Savannah) into a great agricultural region. They were awarded by the World Food Prize, the "Nobel" prize for food, which is annually awarded since 1987, for those who stand out in the world food production sector.

2006 Finep (Studies & Projects Financing Agency) Prize – Two Embrapa research centers were awarded in two different categories: Embrapa Cotton, as a S&T Institution; and Embrapa Corn and Sorghum, for Social Innovation (Barraginhas project).

2006 Mr. Luiz Beltrão Communication Sciences Prize – Awarded to Embrapa as a "paradigmatic institution" in developing communication projects.

AWARDED PRODUCTS AND MEDIA

Prosa Rural (radio rural talking show)

10° Public Federal Management Innovation Contest (2006), granted by the National Public Administration School (Enap).

2005 Social Technology Bank of Brazil Foundation Prize, Social Technology Certificate granted by Banco do Brasil Foundation, Petrobras and Unesco.

Embrapa Website

2006 iBest Award, Agribusiness category, chosen by Brazilian iBest Academy and Popular Jury.

TodospontoCom (All dot Com) – Embrapa weekly electronic newsletter

2006 Aberje Midwest/East, granted by the Brazilian Business Communication Association (Medias area, Digital Newsletter category).

Agriculture the brazilian way

Deva Rodrigues

There are the brave, there are the triumphant,
They who produce, transform, this generous Land,
our, Brazilian, land.
From North, from South.
Scientists and farmers,
who produce grains,
fruit, flowers, fibers
meat, power.

Creating jobs.

In the field, forests, and labs,
these are the people who develop this agriculture,
who supply our cities,
who produce our nation's riches,
who conquer foreign markets,
who redefine our agricultural map.

What agriculture develops new hues of cotton,
produces white grapes,
sweet mangos and olives,
in the middle of the semi-arid region?

Soy beans in the South,
and Midwest too,
crops and livestock,
cupuasu and banana and, no less, assai plantations.
flowers into fuel, fiber into garments.
Production without boundaries, technology, sovereign

This agriculture redeems cultures,
values knowledge,
unites peoples,
respects nature.

This is the tropical Brazilian agriculture,
developed by this capable nation,
which disseminates good agricultural practices
innovates agribusiness,
puts its money in bio-technology,
invests in agroenergy.
This is the tropical Brazilian agriculture, which knows what is to come
learns new sciences
monitors the weather, space and the fields

This is the tropical Brazilian agriculture,
based on manioc, genome project,
based on the sustainable forests,
based on biodiversity,
the family agriculture, the Pantanal production
of the bountiful table.

This is the tropical Brazilian agriculture, without boundaries
Which just arrived in Africa,
which is acknowledged in the Americas,
which is welcomed in wise Europe.

This is the tropical Brazilian agriculture,
responsible,
Which develops the future.

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