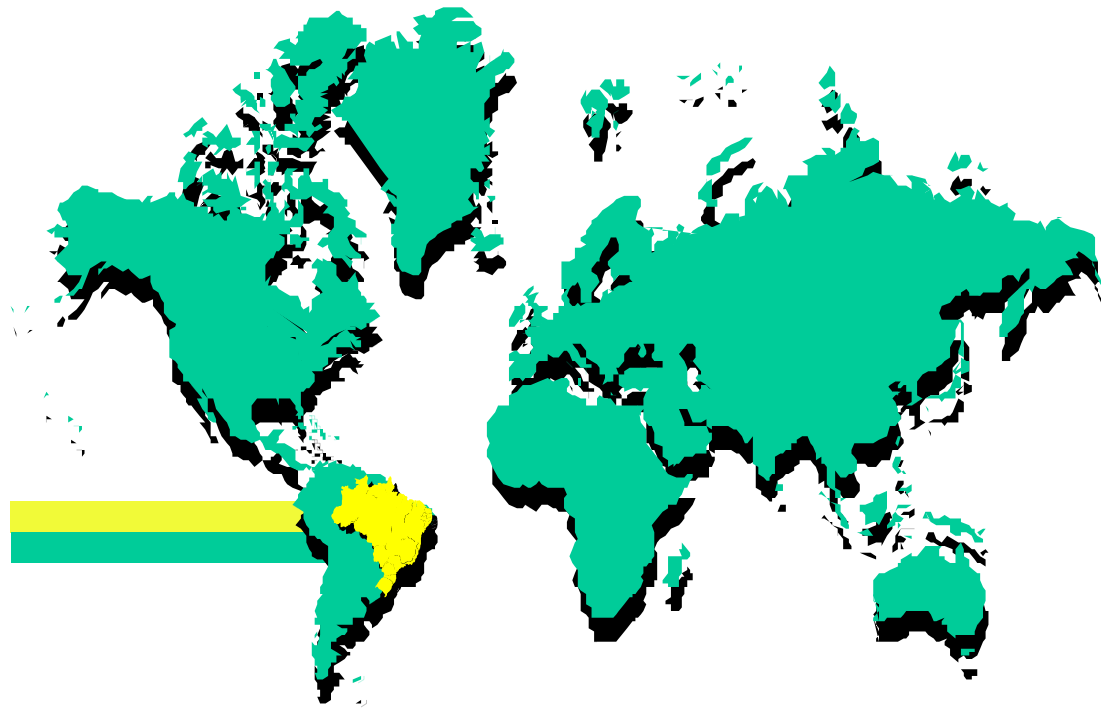


# Agricultural Innovation and Challenges in Promotion of Knowledge and Information Flows in Agrifood Systems in Brazil

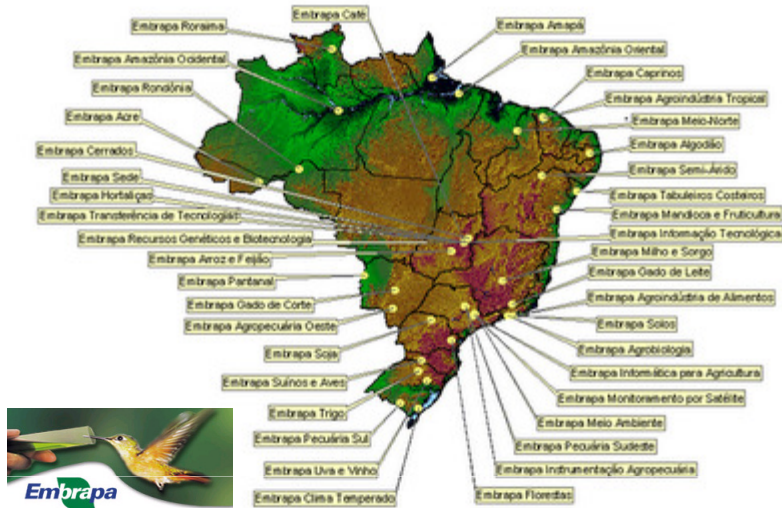


Mauricio Antonio Lopes, PhD  
Embrapa Labex Korea  
Rural Development Administration - ITCC  
Suwon, Republic of Korea



Visit to the Extension Empowerment Division of the Rural Development Administration - RDA  
Suwon, Republic of Korea – May 7th, 2010

# Introduction



Korea-Brazil Summit (11.2008)



Inauguration of Labex Korea (12.2009)

# Agricultural Innovation and Challenges in Promotion of Knowledge and Information Flows in Agrifood Systems in Brazil

## Summary

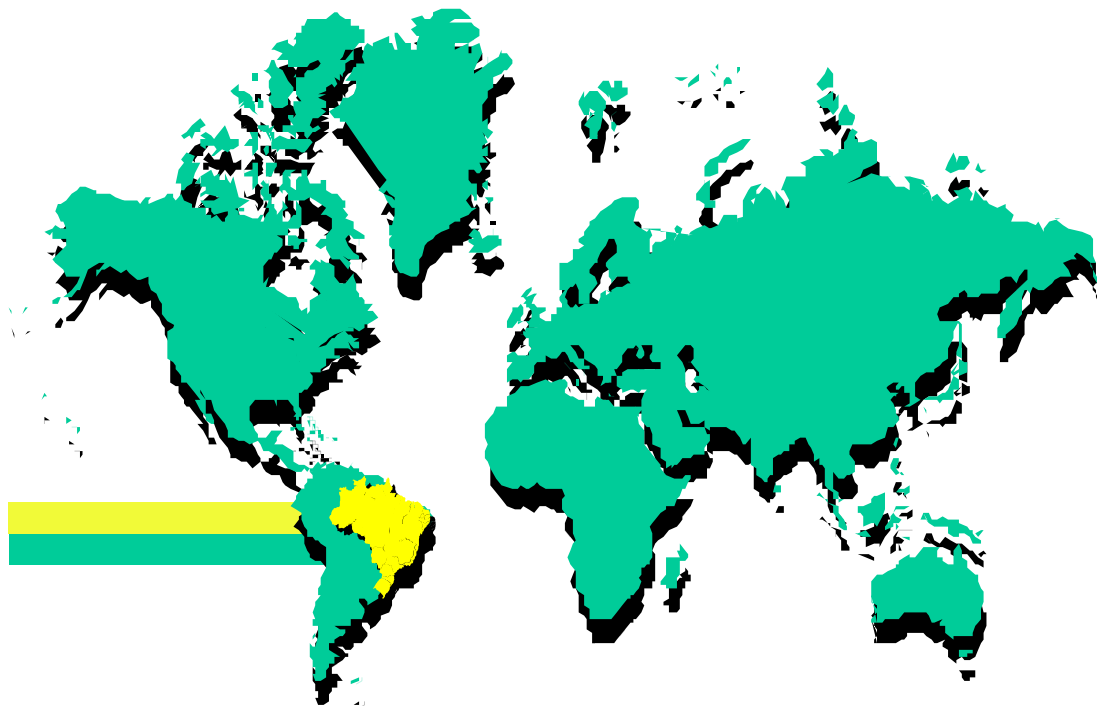
Agriculture in Brazil

Research and Extension System

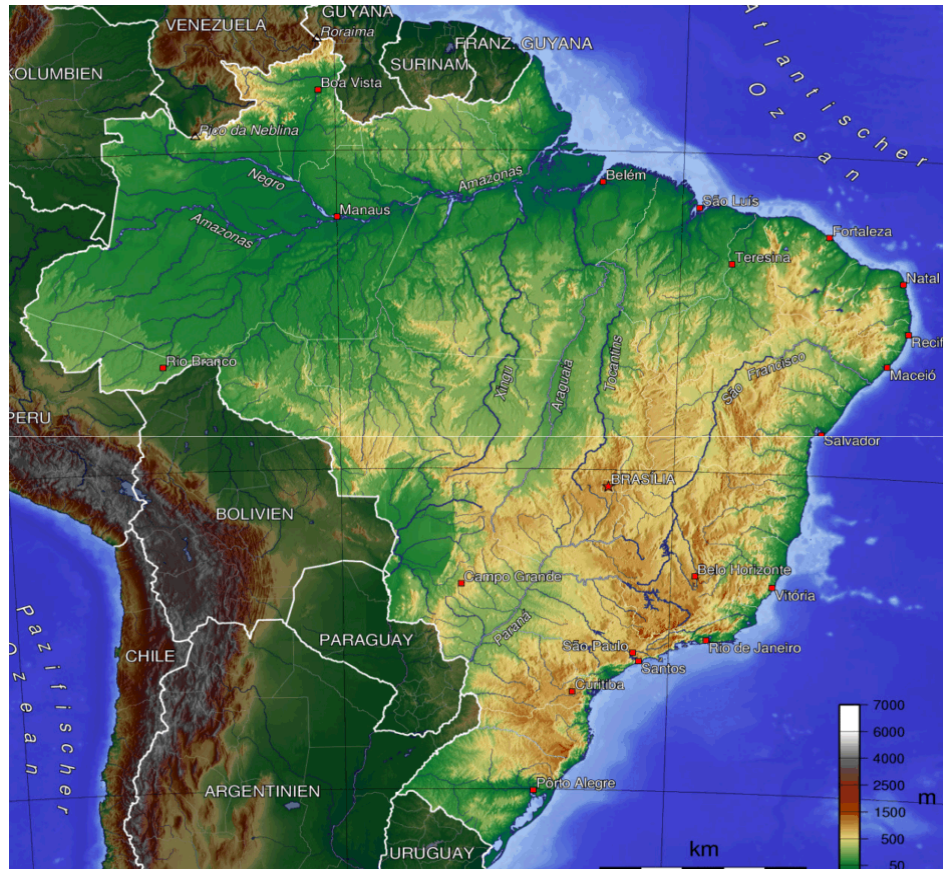
Government Programs

Experiences of Embrapa

Conclusions



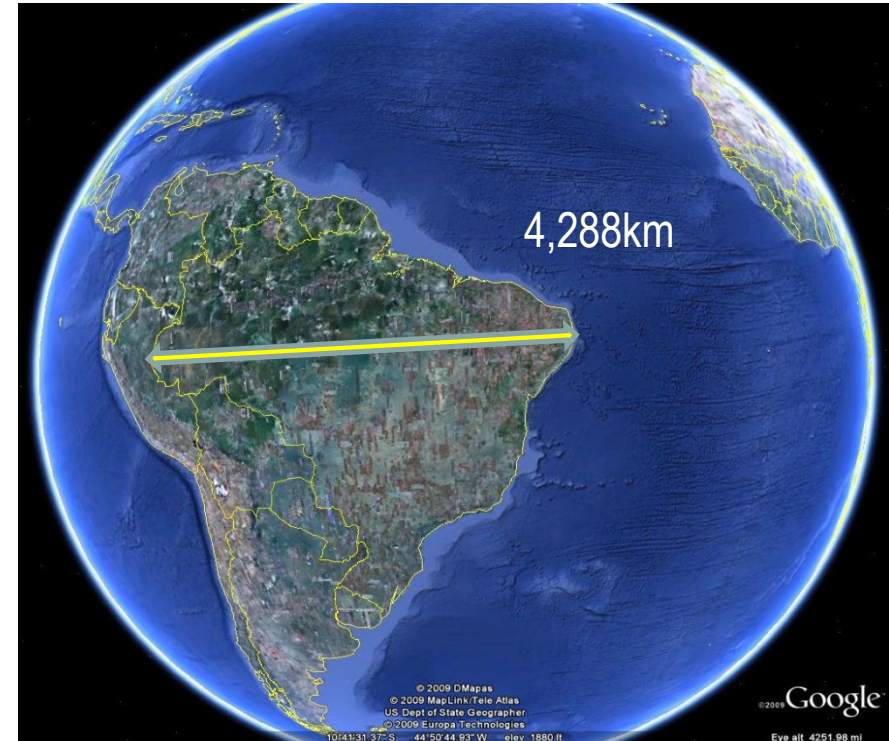
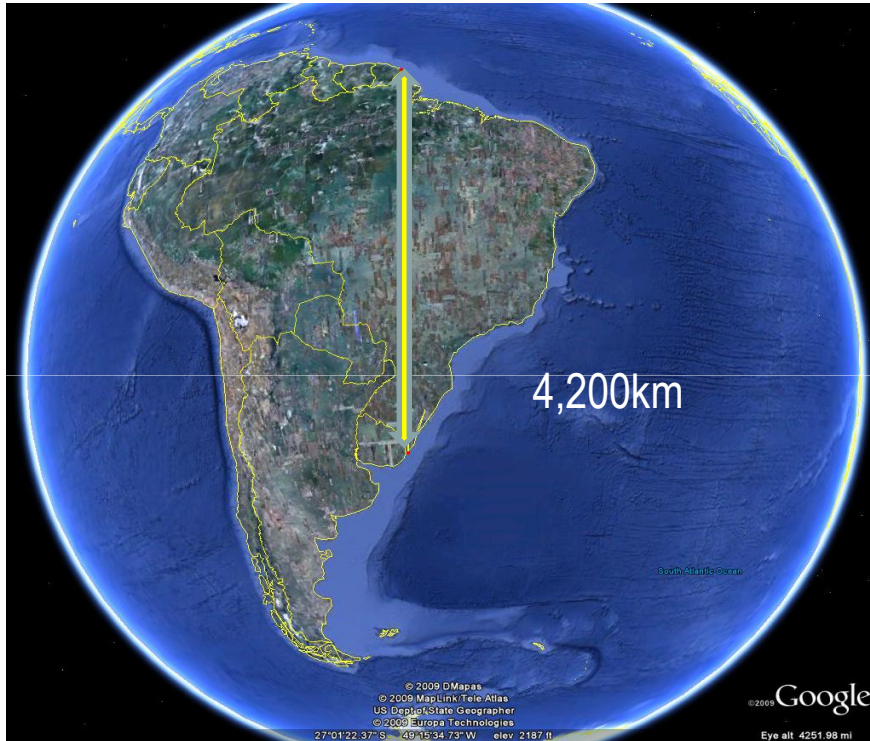
# About Brazil...



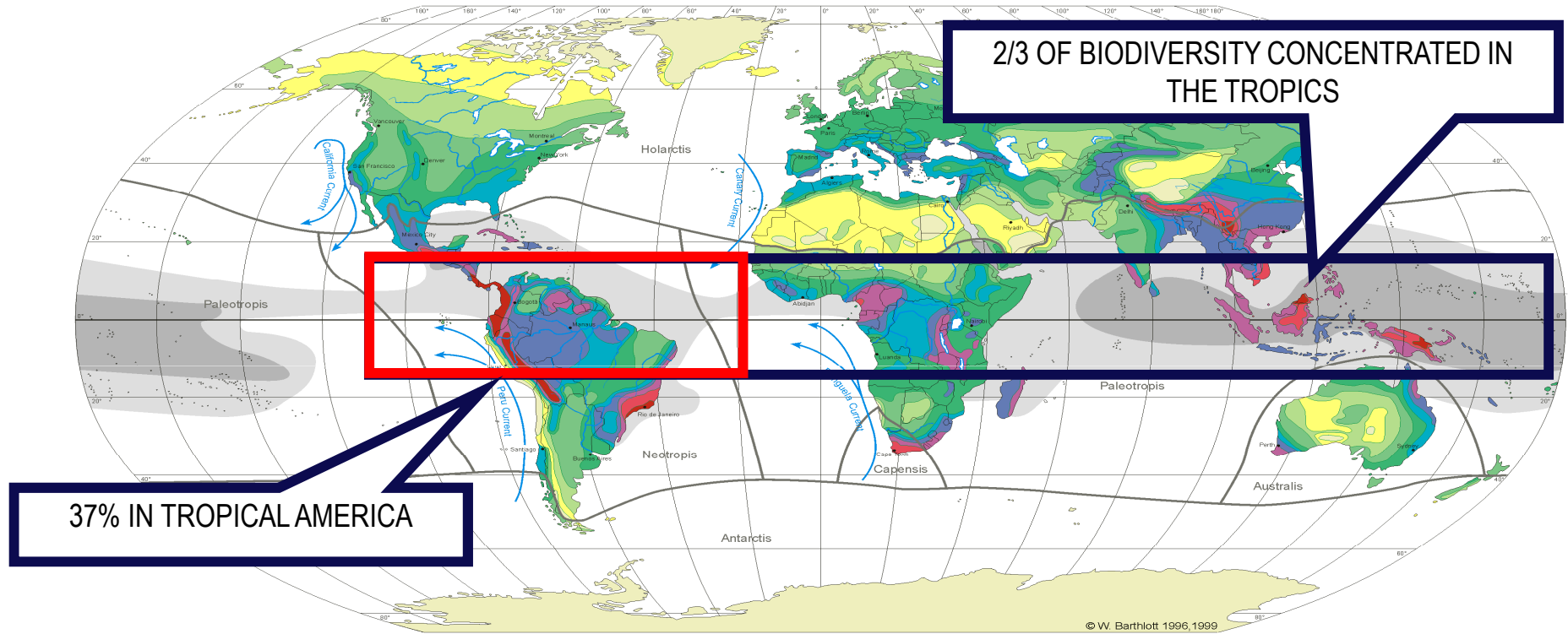
- The largest economy in South America and the 10th largest economy in the world;
- 5th largest country in the world in area;
- 192 million inhabitants (5th after China, India, USA and Indonesia);
- Brazil has since 1985 a stable democratic government;
- 10,000 Ph.D. graduate every year;
- Rank 13th in scientific publications...



# About Brazil...



# About Brazil...



Robinson Projection  
Standard Parallels 38°N und 38°S

Diversity Zones (DZ): Number of species per 10 000km<sup>2</sup>

|                   |                    |                    |
|-------------------|--------------------|--------------------|
| DZ 1 (<100)       | DZ 5 (1000 - 1500) | DZ 9 (4000 - 5000) |
| DZ 2 (100 - 200)  | DZ 6 (1500 - 2000) | DZ 10 (≥ 5000)     |
| DZ 3 (200 - 500)  | DZ 7 (2000 - 3000) |                    |
| DZ 4 (500 - 1000) | DZ 8 (3000 - 4000) |                    |

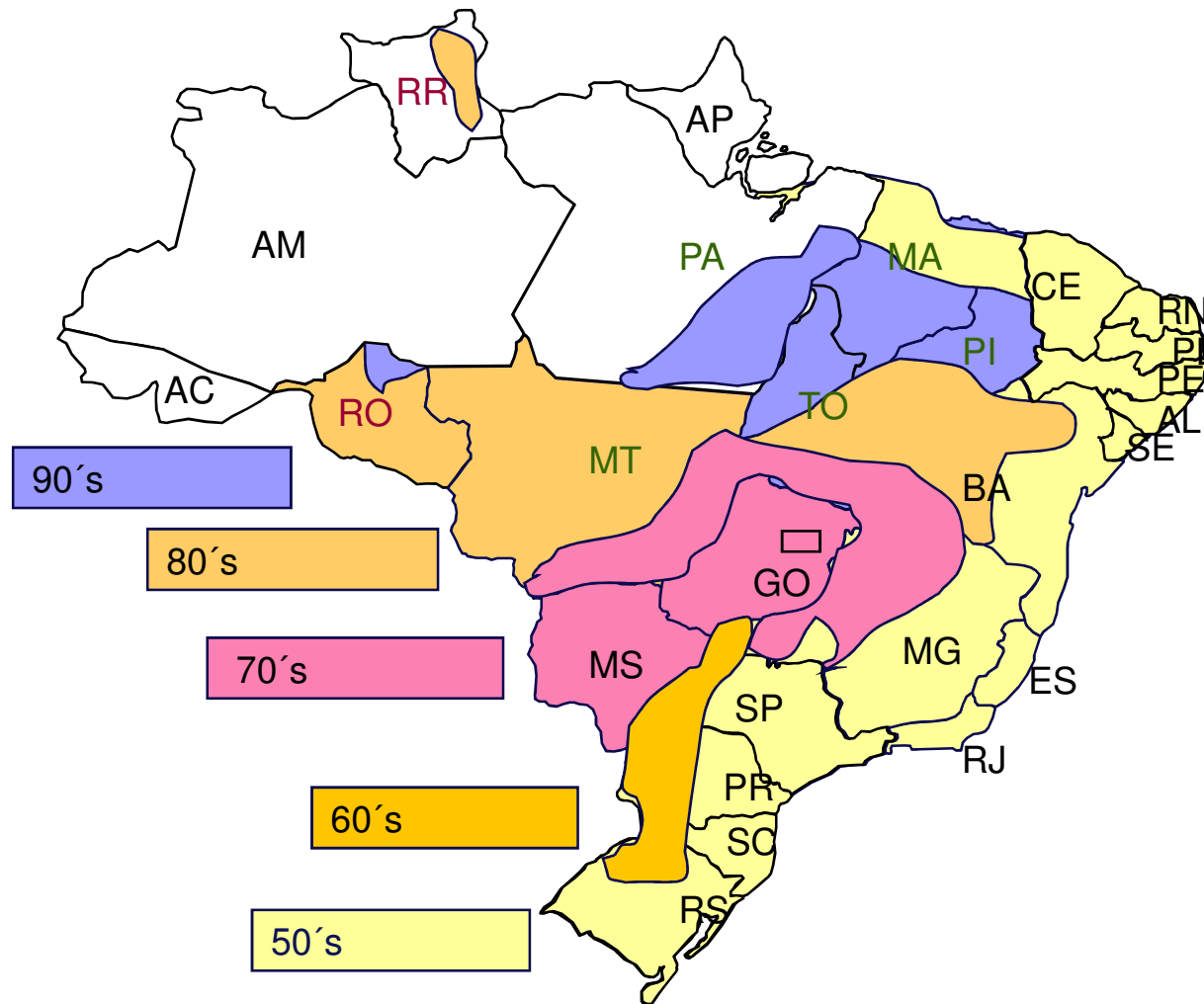
sea surface temperature  
 >29°C  
 >27°C  
 cold currents

W. Barthlott, N. Biedinger, G. Braun, F. Feig, G. Kier, W. Lauer & J. Mutke 1999 modified after W. Barthlott, W. Lauer & A. Placke 1996 Department of Botany and Geography University of Bonn German Aerospace Research Establishment, Cologne Cartography: M. Gref Department of Geography University of Bonn

Barthlott, W., Biedinger, N., Braun, G., Feig, F., Kier, G. & J. Mutke (1999): Terminological and methodological aspects of the mapping and analysis of global biodiversity. In: Acta Botanica Fennica 162: 103-110.

# Evolution of Agriculture in Brazil

## Brazilian Agriculture From the 50's to the 90's

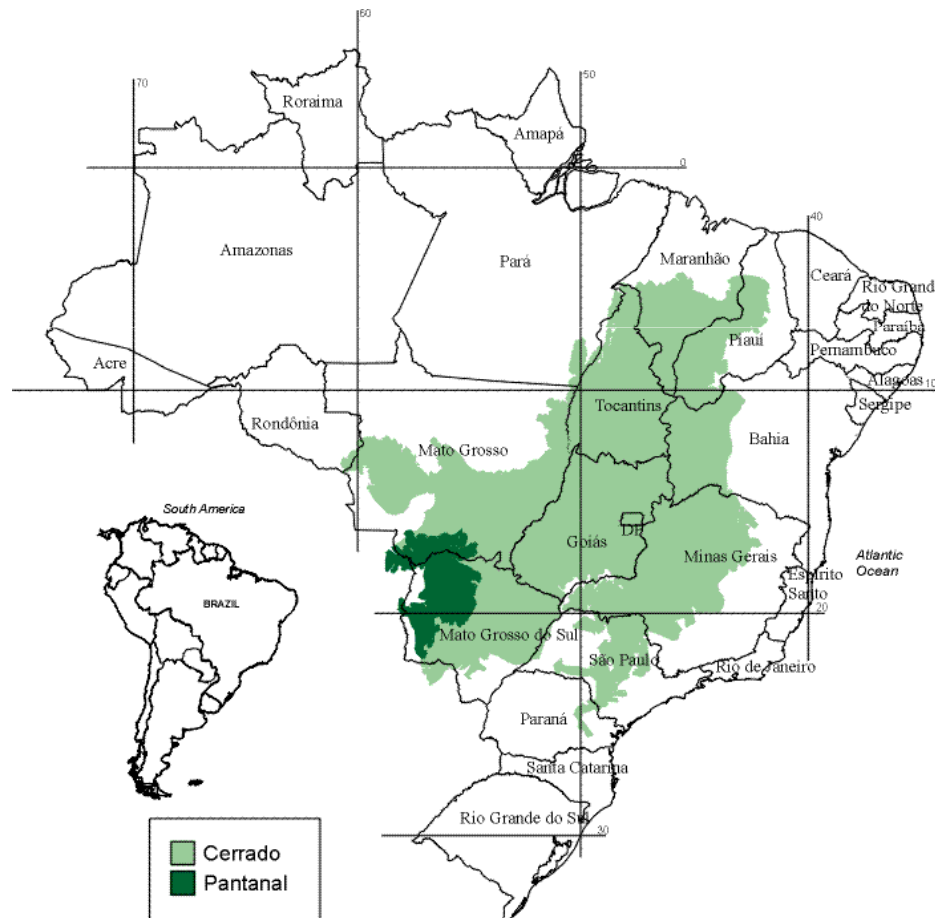


# Evolution of Agriculture in Brazil

## - Technologies for Tropical Agriculture -

### - Savannah Ecosystem - “Cerrado”

Approximately the Combined areas  
of Spain, France, Italy and Britain  
23% of the Brazilian Territory





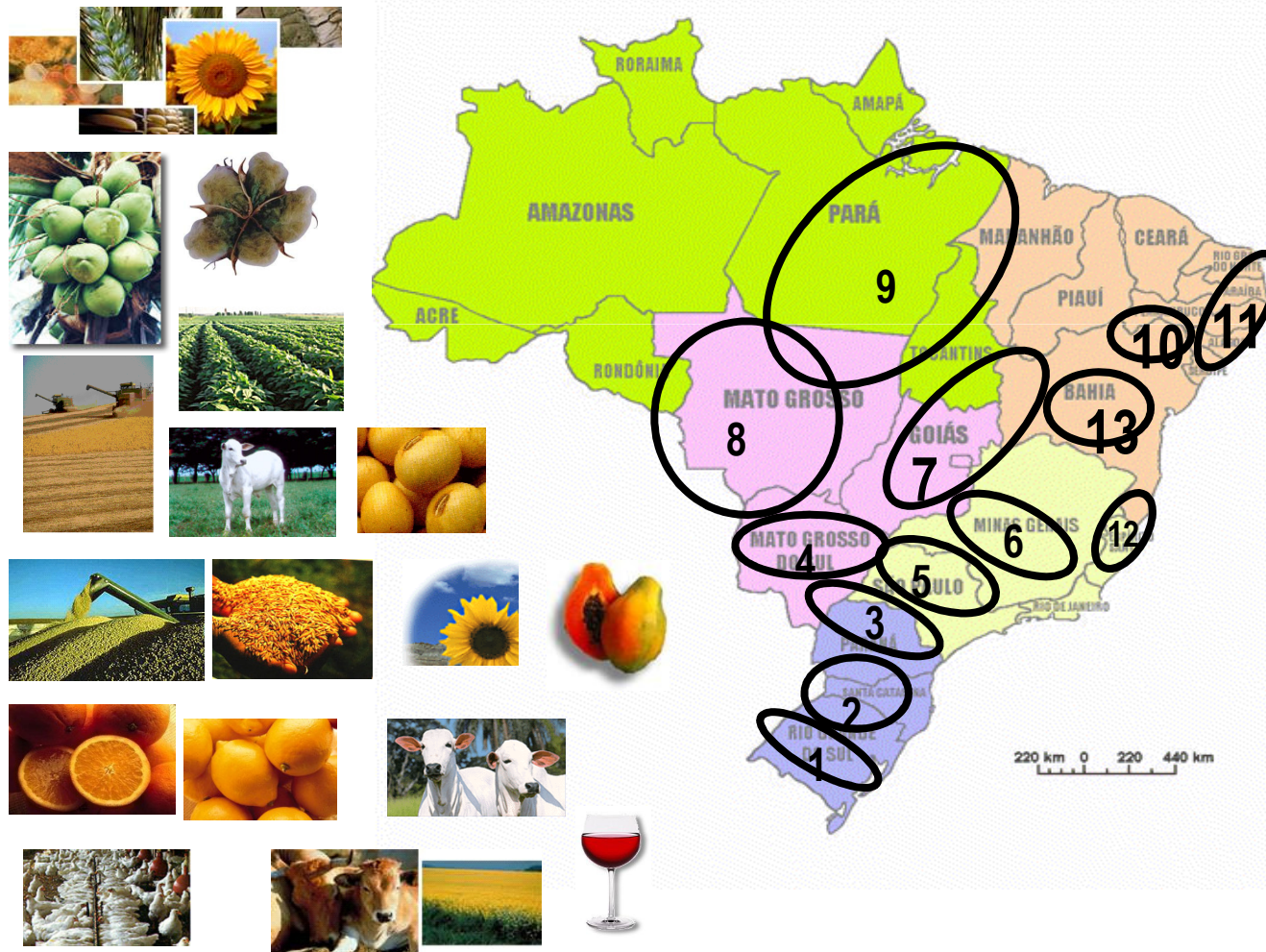
# Evolution of Agriculture in Brazil

## The “Green Revolution” Phase

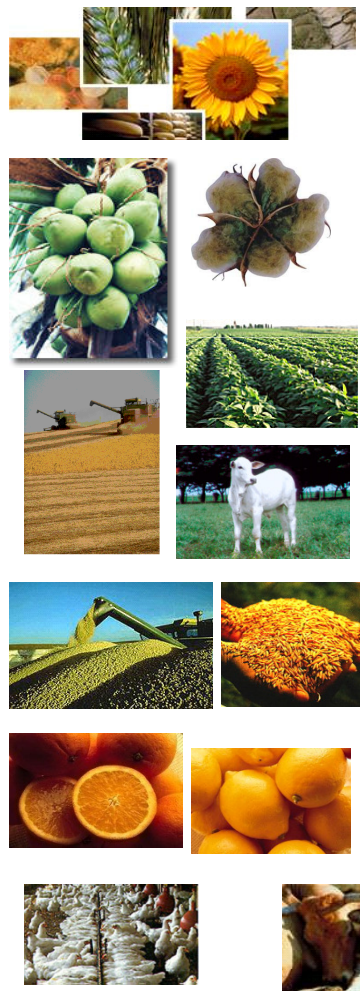
The agricultural production model adopted in Brazil from the 1960's was implemented through a joint effort in the areas of education, research and extension.

Universities, research institutes and agricultural extension were responsible for the development and introduction of technological packages geared to the intensive use of inputs, such as improved seeds, fertilizers and machinery, with the goal of increasing productivity.

# Evolution of Agriculture in Brazil



| AREA/ MAIN CROPS                                    | MM HA                                |
|---|--------------------------------------|
| 1- FLOODED RICE                                     | 0.95                                 |
| 2- SOYBEAN<br>CORN<br>WHEAT                         | 3.30<br>1.30<br>0.60                 |
| 3- SOYBEAN<br>CORN<br>WHEAT                         | 3.20<br>2.40<br>0.90                 |
| 4- SOYBEAN<br>PASTURE                               | 1.20<br>11.00                        |
| 5- SUGARCANE<br>COFFEE<br>CITRUS                    | 2.50<br>0.30<br>0.70                 |
| 6- COFFEE   | 1.00                                 |
| 7- SOYBEAN<br>CORN<br>COTTON<br>DRYBEANS<br>PASTURE | 1.80<br>0.80<br>0.10<br>0.20<br>9.00 |
| 8- SOYBEAN<br>COTTON<br>CORN<br>PASTURE             | 3.30<br>0.50<br>0.40<br>12.00        |
| 9- PASTURE  | 10.00                                |
| 10- TROPICAL FRUITS                                 | 0.07                                 |
| 11- SUGARCANE                                       | 0.90                                 |
| 12- COFFEE  | 0.60                                 |
| 13- DRYBEANS<br>SOYBEAN                             | 0.70<br>0.90                         |



# Evolution of Agriculture in Brazil

## Contributions of Research and Extension

These advances were possible due to a great expansion of agricultural research and rural extension services in the country.

In 1960 only 10% of the municipalities in Brazil relied on rural extension and in 1980 it reached 77.7%.

## Evolution of Agriculture in Brazil



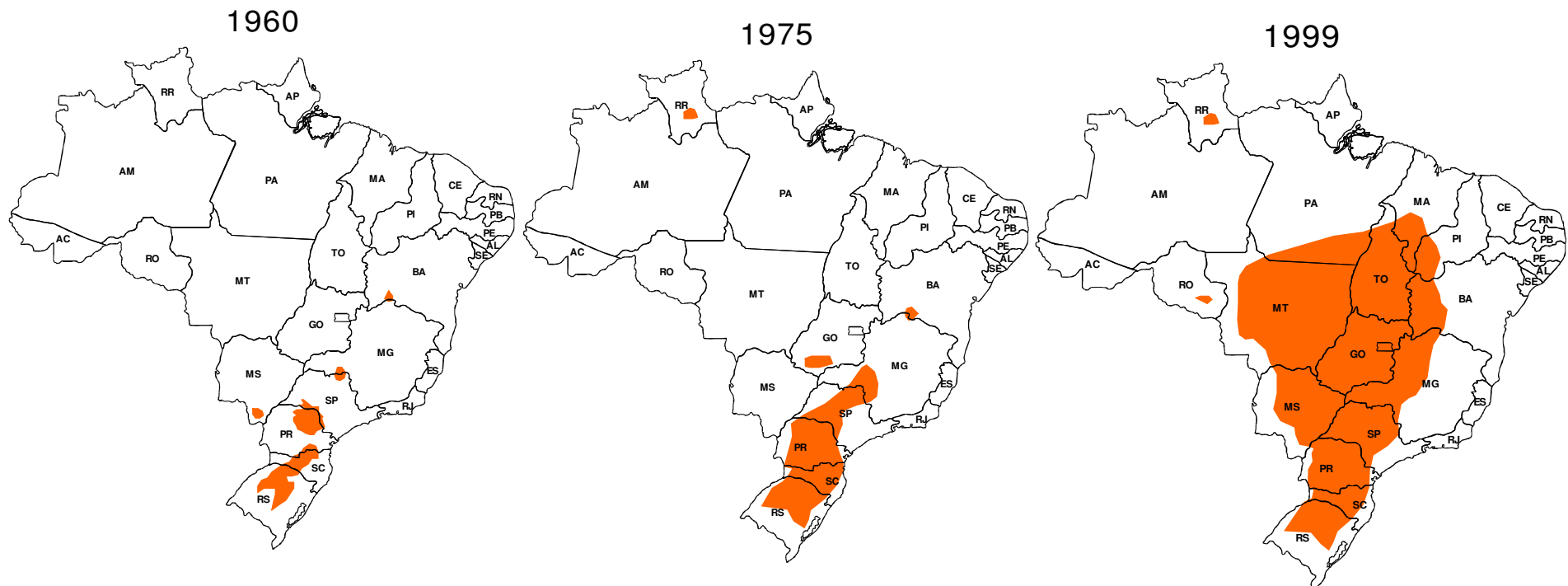
**Cerrado - Brazilian Savannah**



# Evolution of Agriculture in Brazil

## Tropical soybeans

Technological evolution and crop expansion in Brazil



Adapted varieties

Biological fixation of nitrogen

Minimum tillage - mechanization

# Evolution of Agriculture in Brazil

## Exports

In 2008 Brazil exported more than 1500 types of agricultural products to foreign markets

## Commercial partners

Around 79% of the Brazilian food production is consumed domestically and 21% is shipped to over 212 foreign markets

| Product      | Production      | Exports         |
|--------------|-----------------|-----------------|
| Sugar        | 1 <sup>st</sup> | 1 <sup>st</sup> |
| Orange juice | 1 <sup>st</sup> | 1 <sup>st</sup> |
| Coffee       | 1 <sup>st</sup> | 1 <sup>st</sup> |
| Beef         | 2 <sup>nd</sup> | 1 <sup>st</sup> |
| Soybean      | 2 <sup>nd</sup> | 1 <sup>st</sup> |
| Tobacco      | 3 <sup>rd</sup> | 1 <sup>st</sup> |
| Broiler      | 3 <sup>rd</sup> | 2 <sup>nd</sup> |
| Corn         | 3 <sup>rd</sup> | 4 <sup>th</sup> |

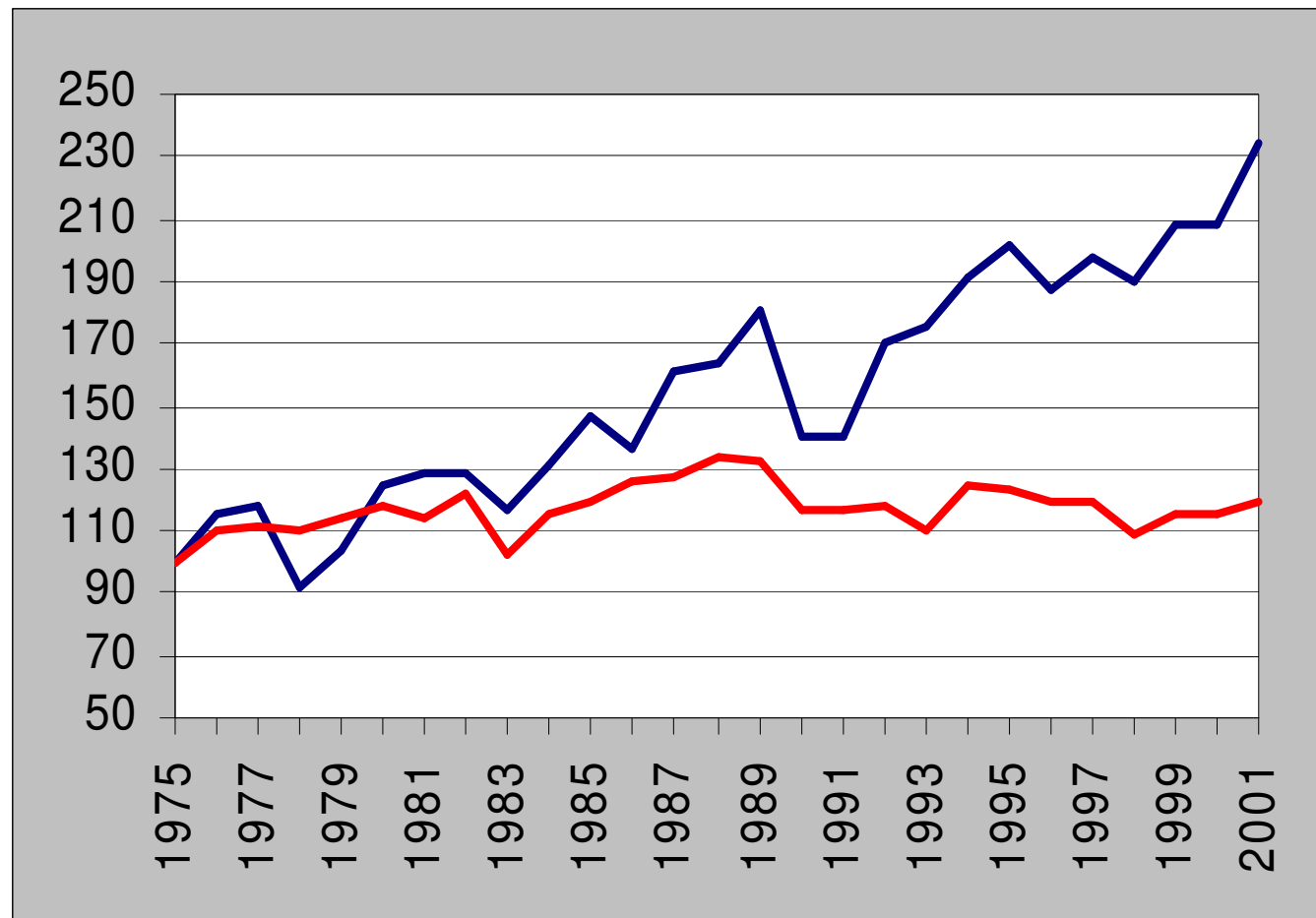
Source: SPA/MAPA (Agricultura Brasileira em Números)



# Evolution of Agriculture in Brazil

Index of evolution of cultivated area and grain production in Brazil

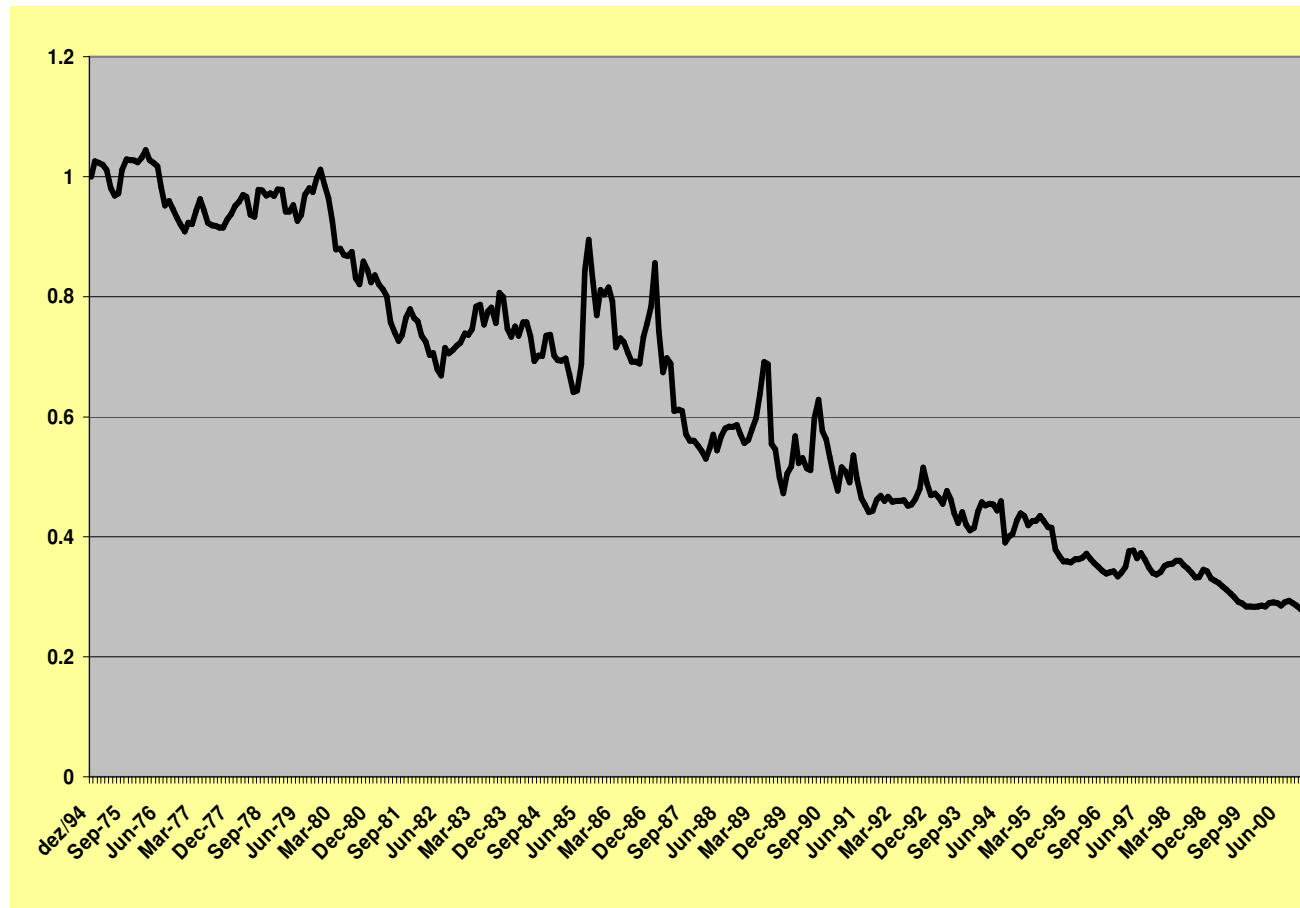
1975 – 2000 (1975 = 100)



# Agricultural Innovation and Food Security in Brazil

Cost of a standard monthly food package (“cesta básica”) in Brazil

December 1974 – June 2000 (1974 = 100)

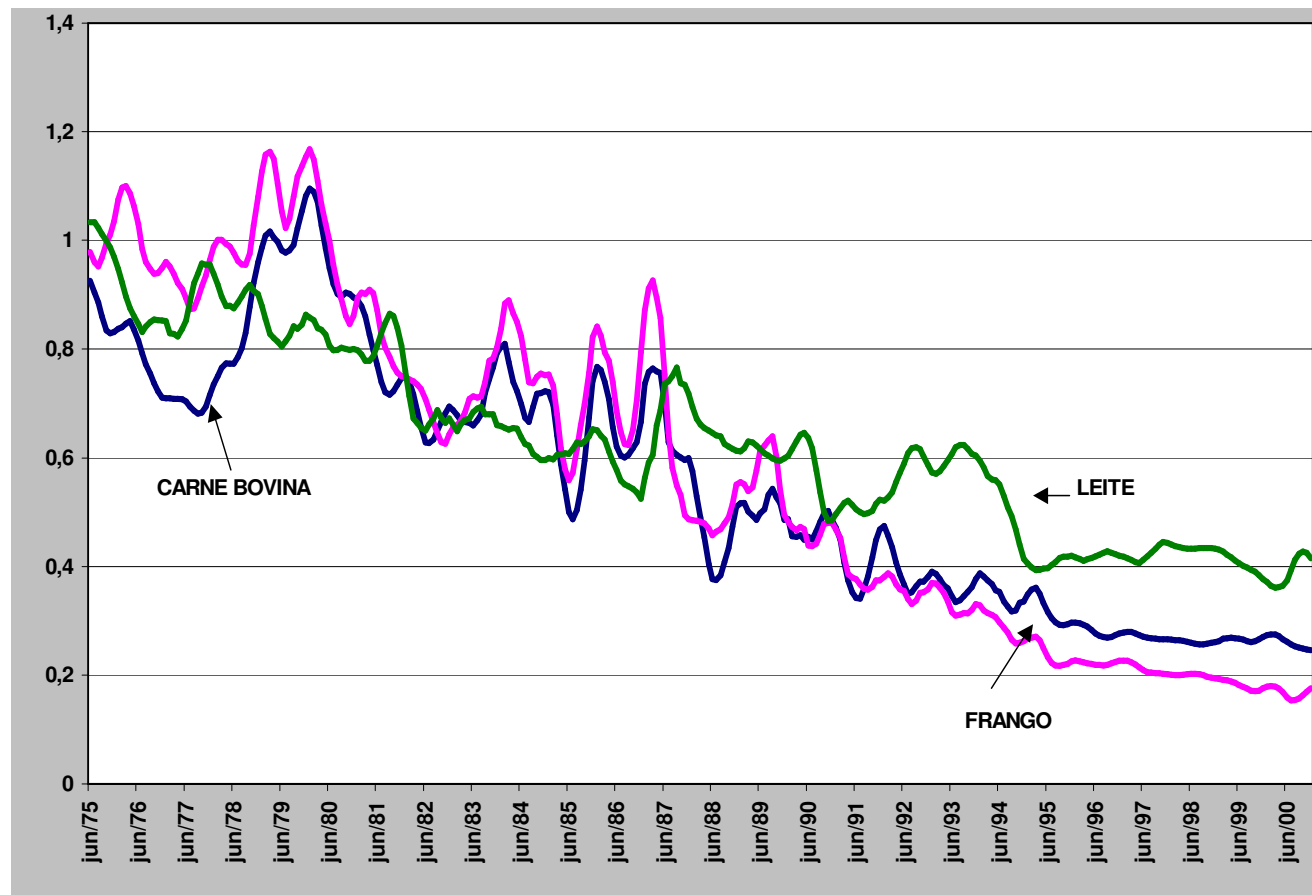




# Agricultural Innovation and Food Security in Brazil

Changes in the real prices of beef, poultry and milk in Brazil

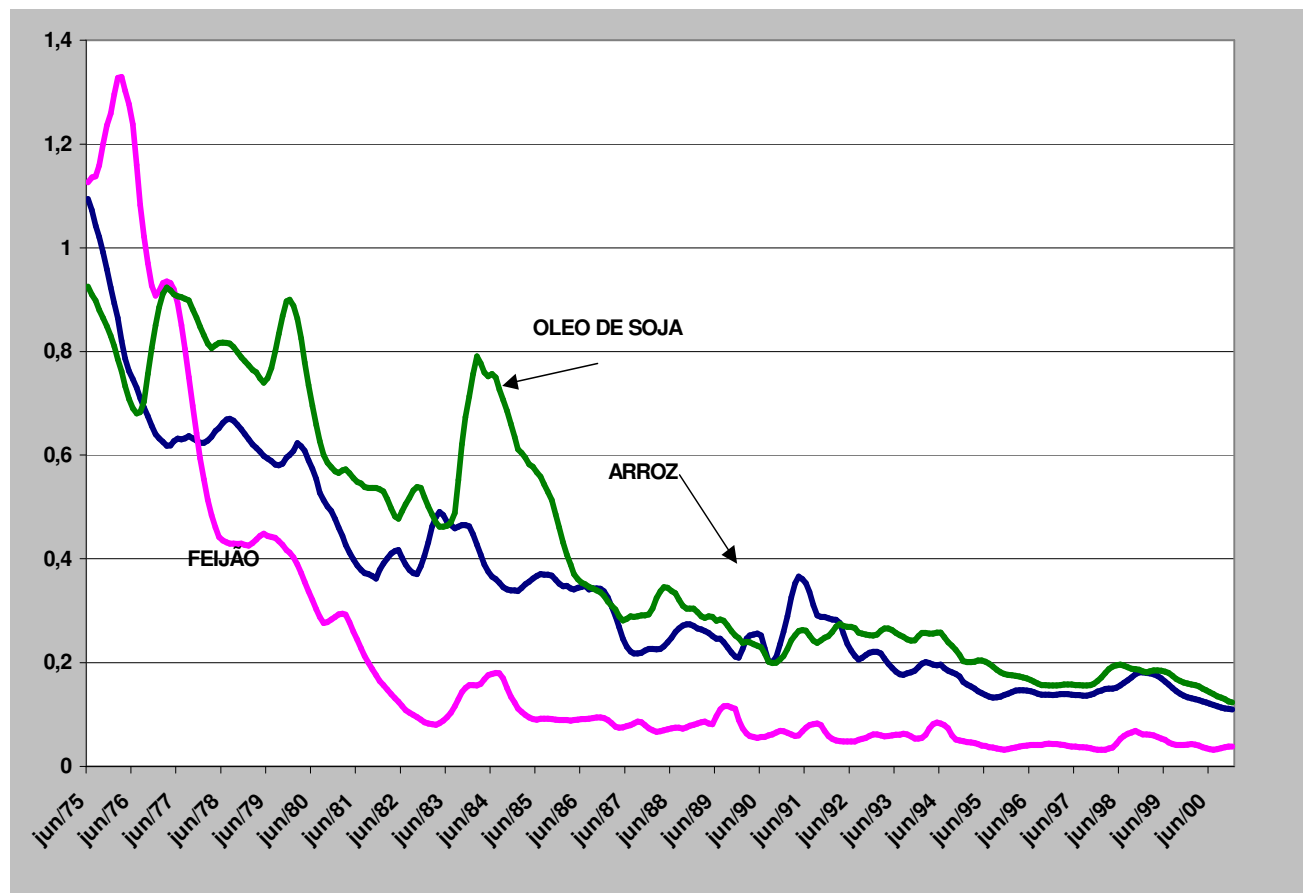
1975 – 2000 (June 1975 = 100)



# Agricultural Innovation and Food Security in Brazil

Changes in the real prices of rice, common beans and soybean oil in Brazil

1975 – 2000 (June 1975 = 100)



# Evolution of Agriculture in Brazil

## Contributions of Research and Extension

Increases in agricultural production and food security were possible due to a great expansion of agricultural research and rural extension services in the country.

# Evolution of Agriculture in Brazil

## Availability of Subsidized Credit

From the 1960's to 1980's extension in Brazil was based on abundance of subsidized agricultural credit and the purchase by the producers of modernizing technology packages, using intensive capital (machinery and industrial inputs).

The extension services introduced farmers to the dynamics of market economy. Technical Assistance and Rural Extension Services aimed to increase productivity and to change the mindset of the producers from "traditional" to "modern."



# Evolution of Agriculture in Brazil

## A Limitation of the System

The reliance on the existence of subsidized agricultural credit was a limitation of this system of rural extension.

Small family farmers who had no access to credit were outside the rural extension service.

Also, many considered that farmers' empirical knowledge and real needs were not taken into account by this system.

# Smallholders & Family Farming



# Smallholders & Family Farming in Brazil

## Family Agriculture has great social significance in Brazil

It represents 64.4% of all rural establishments in the country, and generates 22.9% of the gross production value of agriculture.

On the other hand, commercial farmers account for 30.7% of rural properties and 76.3% of the gross product of the Brazilian agriculture.





# Smallholders & Family Farming in Brazil

|                           |                 | FAMILY FARMING | AGRIBUSINESS |
|---------------------------|-----------------|----------------|--------------|
| NUMBER OF PROPERTIES      | Total           | 3.330.667      | 1.589.798    |
|                           | Percent         | 64,4%          | 30,7%        |
| TOTAL VALUE OF PRODUCTION | Total (R\$ mil) | 32.869.579     | 109.758.954  |
|                           | Percent         | 22,9%          | 76,3%        |
|                           | Average (R\$)   | 10.978         | 69.242       |



## Smallholders & Family Farming in Brazil

|                     | FAMILY FARMING<br>(%) | AGRIBUSINESS<br>(%) |
|---------------------|-----------------------|---------------------|
| Grains              | 20,5                  | 79,2                |
| Horticulture        | 36,1                  | 61,9                |
| Sugarcane           | 4,5                   | 95,4                |
| Cassava             | 48,7                  | 49,8                |
| Potato              | 19,5                  | 80,1                |
| Cotton              | 0,5                   | 99,5                |
| Coffee              | 22,5                  | 77,5                |
| Orange              | 8,0                   | 92,0                |
| Fruticulture        | 15,5                  | 84,4                |
| Tobacco             | 74,0                  | 24,6                |
| Forest              | 8,5                   | 90,1                |
| Cattle and Buffalos | 38,0                  | 61,3                |
| Milk                | 47,1                  | 52,5                |
| Swine               | 35,4                  | 63,7                |
| Poultry             | 24,9                  | 73,4                |
| Eggs                | 9,3                   | 89,8                |

# Changing Strategies in Research and Extension in Brazil

## Changing Paradigms

From the early 1980's until today, due mainly to the end of subsidized agricultural credit, the country has been favoring more "participatory planning" strategies to build connections between the extension workers and producers and improve conditions for family farmers.

Its proponents argue that the methodologies for rural intervention should be guided by participatory principles, taking into account the knowledge and cultural aspects of the target audience.



# Changing Strategies in Research and Extension in Brazil

## From Diffusion to Participatory Approaches

| <b>Diffusion</b>         | <b>Participation</b>          |
|--------------------------|-------------------------------|
| Institutional Objectives | Social Practices              |
| Centralized Planning     | Participatory Planning        |
| Diffusion of Packages    | Dialogue and Joint Action     |
| Volume of Production     | Inclusion and Quality of Life |
| Repetition               | Creation and Innovation       |
| Progress                 | Sustainability                |

# Changing Strategies in Research and Extension in Brazil

## Brazilian Constitution of 1988

Public Federal Agricultural Research = EMBRAPA

Public State Extension Services

Public State Agricultural Research Institutes

+

Educational (Public, Private) Institutions

Private Advisory Enterprises

# The Brazilian Agricultural Research System

17 State Research Networks

OEPAS



CONSEPA

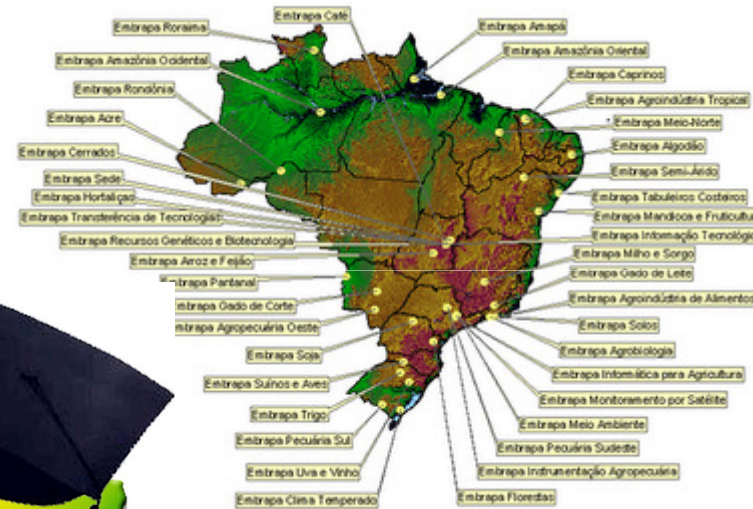
Conselho Nacional dos Sistemas Estaduais de Pesquisa Agropecuária

Rural Extension

Empresa de Assistência Técnica e  
Extensão Rural  
EMATER

The Brazilian Agricultural Research Corporation

43 Embrapa Centers



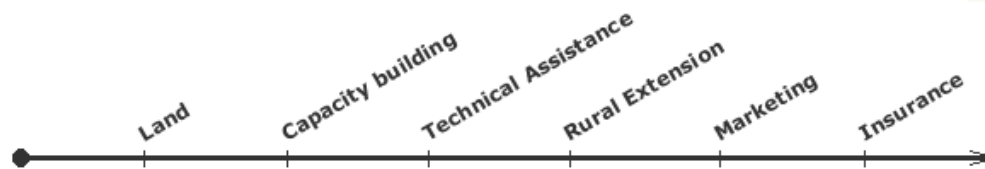
70 Agricultural  
Universities

Private Sector

Brazil has also an active and growing private sector, which supplies technologies and technical assistance mainly in farm inputs and food processing

# Special Policies for Smallholders & Family Farming in Brazil

**PUBLIC POLICIES IMPLEMENTED BY  
THE MINISTRY OF AGRARIAN  
DEVELOPMENT - MDA**



Ministry of Agrarian Development

**Sustainable Rural Development**  
**Empowering Rural Territories**  
**Promotion of Equity**  
**Democratic Participation**  
**Social Inclusion**



# Special Policies for Smallholders & Family Farming in Brazil

- 1) **CREDIT & INSURANCE**: four lines of credit for around 2 millions beneficiaries + production cost insured against bad harvest.
- 2) **TECHNICAL ASSISTANCE & RURAL EXTENSION**: activities in collaboration with public agencies (state and province level); NGOs, universities and EMBRAPA (Brazilian Agricultural Research Organization).
- 3) **VALUE ADDING & INCOME GENERATING PROGRAMS**: biodiesel, agro-industrialization, organic agriculture, non-agricultural activities.
- 4) **LAND REFORM**: redistribution and regularization.
- 5) **TERRITORIAL DEVELOPMENT** sustainable development, democratic participation, cooperatives rural/agricultural activities integration.
- 6) **SOCIAL, ETHNIC, RACIAL AND GENDER INCLUSION AND EQUITY**: Actions against slavery; women's rights, black communities, indigenous people's inclusion; digital inclusion.





# Dynamics of Land Reform in Brazil

**Brazil has been developing a deep agrarian reform in the past decades, which is benefiting hundreds of thousands of landless and poor farmers**

## Settlements

**39 million ha have been allocated up to 2007. A surface larger than Portugal, Netherlands and Belgium together.**

**An investment of R\$ 2.7 billion (approx. US\$ 1.22 billion)**

**Around 1,550 properties were disappropriated.**

**450,000 families settled up to 2007.**



# Special Policies for Smallholders & Family Farming in Brazil

## Alternative Biofuels in Brazil – Biodiesel

Income generating program on green fuel production by smallholders, using oils of palm, soya, castor seed and sunflower.

300 thousand family producers benefits from the Brazilian biodiesel program, especially in the North and Northeast regions.

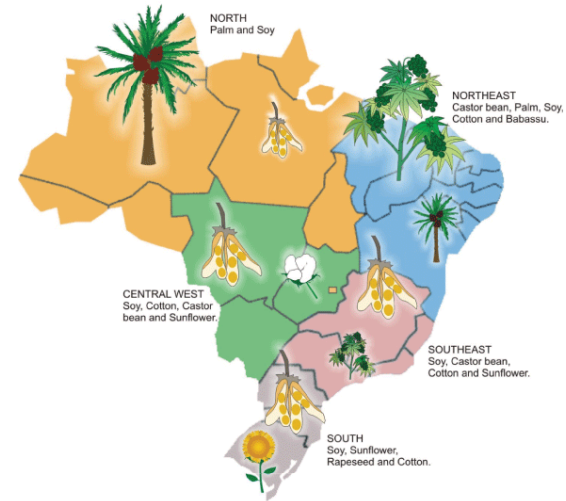
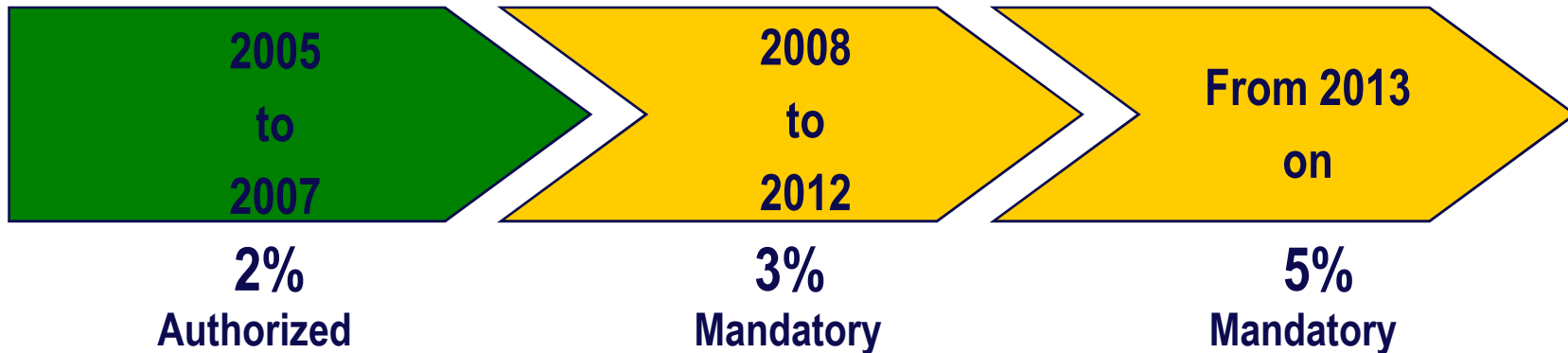


Figure 7. Biodiesel sources according to Brazilian regions.

➤ **Law 11.097/2005:** Establishes minimum percentages to mix biodiesel to diesel, defines criteria to monitor the introduction of this new fuel into the market.





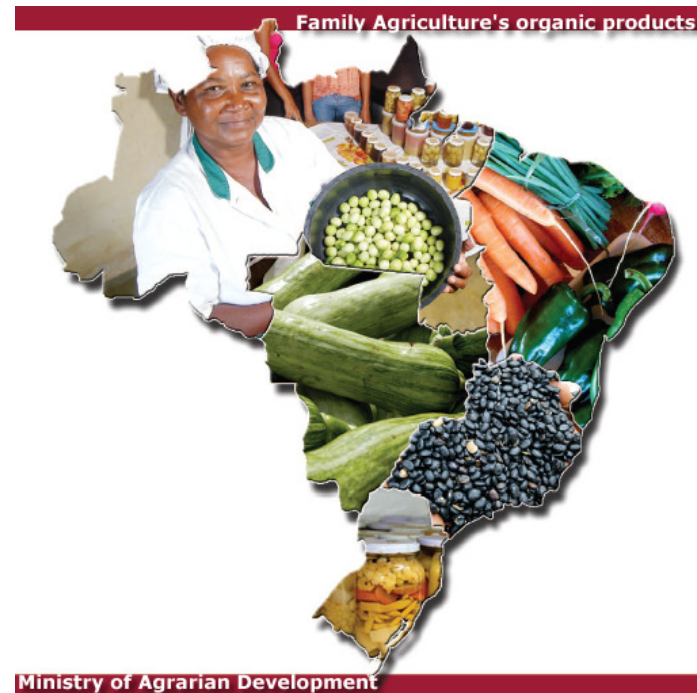
# Special Policies for Smallholders & Family Farming in Brazil

## ORGANIC PRODUCTION

**Brazil is the world 5th largest country for organic production, with approx. 15 thousand certified properties.**

**70% of them are family producers who are responsible for the expansion of organic production in Brazil.**

**Family farming organic produce in Brazil receives substantial support from the government, specially thanks to PAA, the Program for Food Purchase of the Brazilian Government.**



### Agroecology

**MDA launched an Agroecology Program in 2005 with an investment of R\$ 40 million (approx. US\$ 18.18 million) aiming at technical assistance, marketing, research and exchange.**

# Special Policies for Smallholders & Family Farming in Brazil

## AGRO-INDUSTRIALIZATION

### Agroindustry

Aiming at income generation through value adding, the program makes possible enhancements in Family Agriculture products and marketing strategies.

Studies inform that each family improves its monthly income in R\$ 300.00 (approx. US\$ 136.00), thanks to the Agroindustry program.

Nets of agroindustries are incentivated and empowered in order to create microregional development. Pronaf Agroindustry finances the implementation, recovery or modernization of facilities up to an individual limit of R\$ 18 thousand (approx. US\$ 8,180.00).

Producers are already exporting their products.

77.000 families up to 2006.



### Family Agroindustry

The establishment of Pronaf Agroindustry and the Family Agriculture National Program has improved the quality of life of many farmers, adding value to their products. The Harvest 2005-2006 Plan innovates encouraging the establishment of agroindustries in agrarian reform settlements.

# Special Policies for Smallholders & Family Farming in Brazil

## ELETRIC POWER SUPPLY

### Program Light for All

**76 thousand families in 510 settlements have been beneficiaries from this program established by the Ministry of Mines and Energy.**

**The goal is to universalize electric power supply in settlements by the end of 2006.**

**Electric power installation costs in households will be free for low income families. Also low tariffs for residential consumers using a one-phase connection and consumption lower than 80kwh/month.**

**Electric energy will facilitate the integration of federal government's social programs, as well as access to health, education, water supply and sanitation services.**



# The Brazilian Agricultural Research Organization

## Embrapa Network for R,D&I

- ✓ 41 Research Centres and Services Units
- ✓ 3 Virtual Laboratories Abroad (Labex)
- ✓ Offices for Technology Transfer: 14 in Brazil and 2 abroad (Africa and Venezuela)

### North

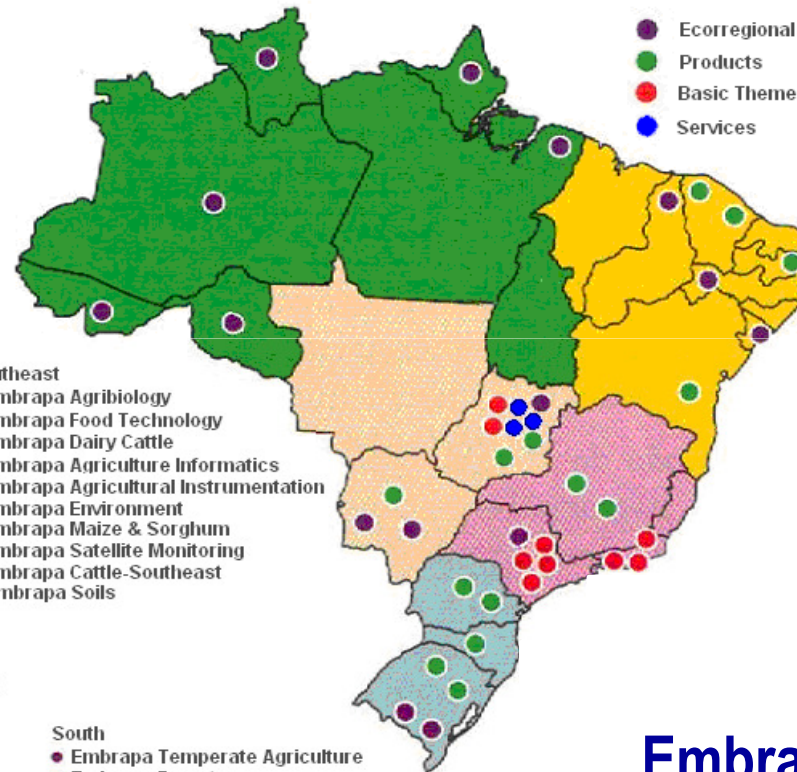
- Embrapa Acre
- Embrapa Amapa
- Embrapa Western Amazon
- Embrapa Eastern Amazon
- Embrapa Rondonia
- Embrapa Roraima

### Northeast

- Embrapa Mid-North
- Embrapa Tropical Semi-Arid
- Embrapa Coastal Tablelands
- Embrapa Goat and Sheep
- Embrapa Cassava & Tropical Fruits
- Embrapa Cotton
- Embrapa Tropical Agroindustry

### Mid-West

- Embrapa Agrienergy
- Embrapa Western Region Agriculture and Livestock
- Embrapa Rice & Beans
- Embrapa Coffee
- Embrapa Cerrados
- Embrapa Beef Cattle
- Embrapa Vegetables
- Embrapa Technological Information
- Embrapa Pantanal
- Embrapa Genetic Resources & Biotechnology
- Embrapa Technology Transfer



### Southeast

- Embrapa Agribiology
- Embrapa Food Technology
- Embrapa Dairy Cattle
- Embrapa Agriculture Informatics
- Embrapa Agricultural Instrumentation
- Embrapa Environment
- Embrapa Maize & Sorghum
- Embrapa Satellite Monitoring
- Embrapa Cattle-Southeast
- Embrapa Soils

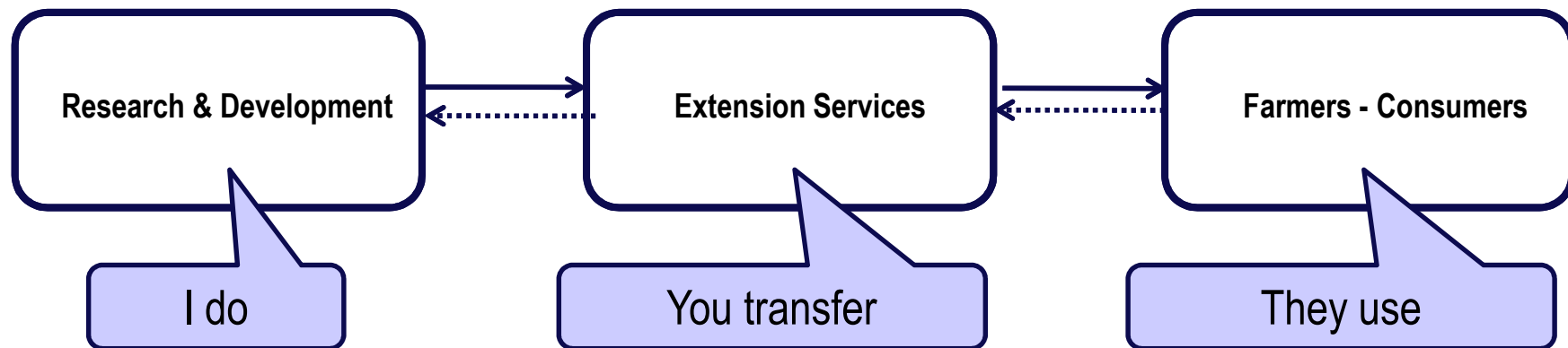
### South

- Embrapa Temperate Agriculture
- Embrapa Forestry
- Embrapa South Animal Husbandry & Sheep
- Embrapa Soybean
- Embrapa Swine and Poultry
- Embrapa Wheat
- Embrapa Grape & Wine

**Embrapa is the largest component of the Brazilian Agricultural Research System....**

# The Brazilian Agricultural Research Organization

Building a communication and technology transfer strategy to move away from the linear vision of research and extension

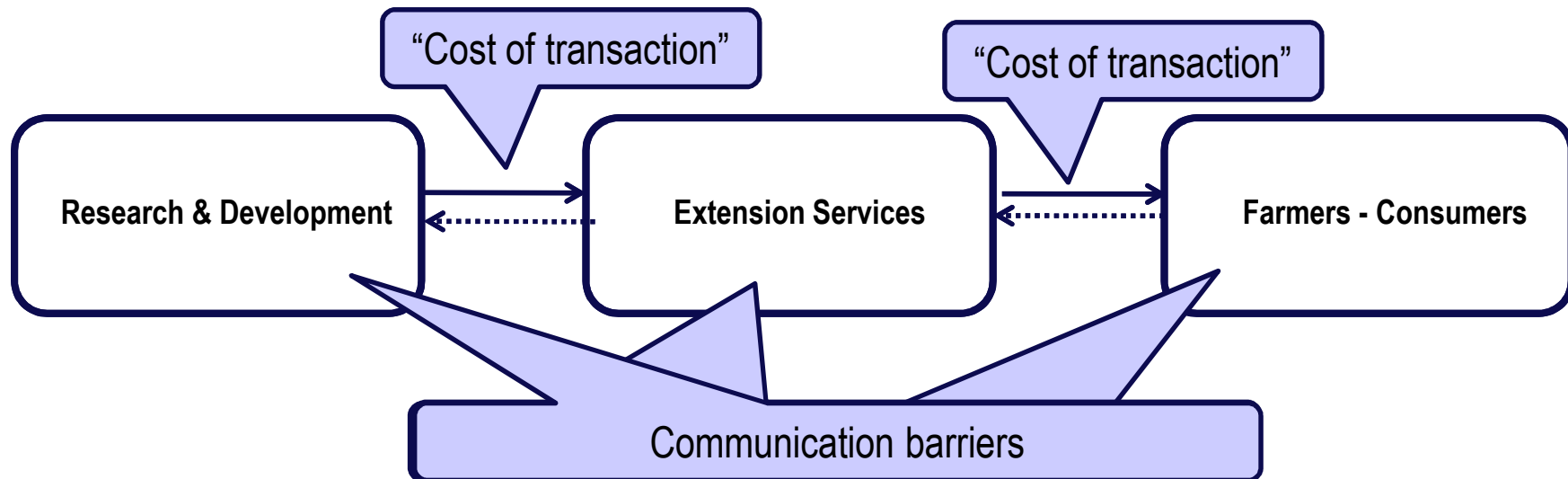


Operation according to the “I do, you transfer, they use” mode, based on non or poorly interactive roles for scientific and technological institutions (define problems, undertake research and develop technological solutions), extension services (transfer technologies) and users (adopt technologies).



# The Brazilian Agricultural Research Organization

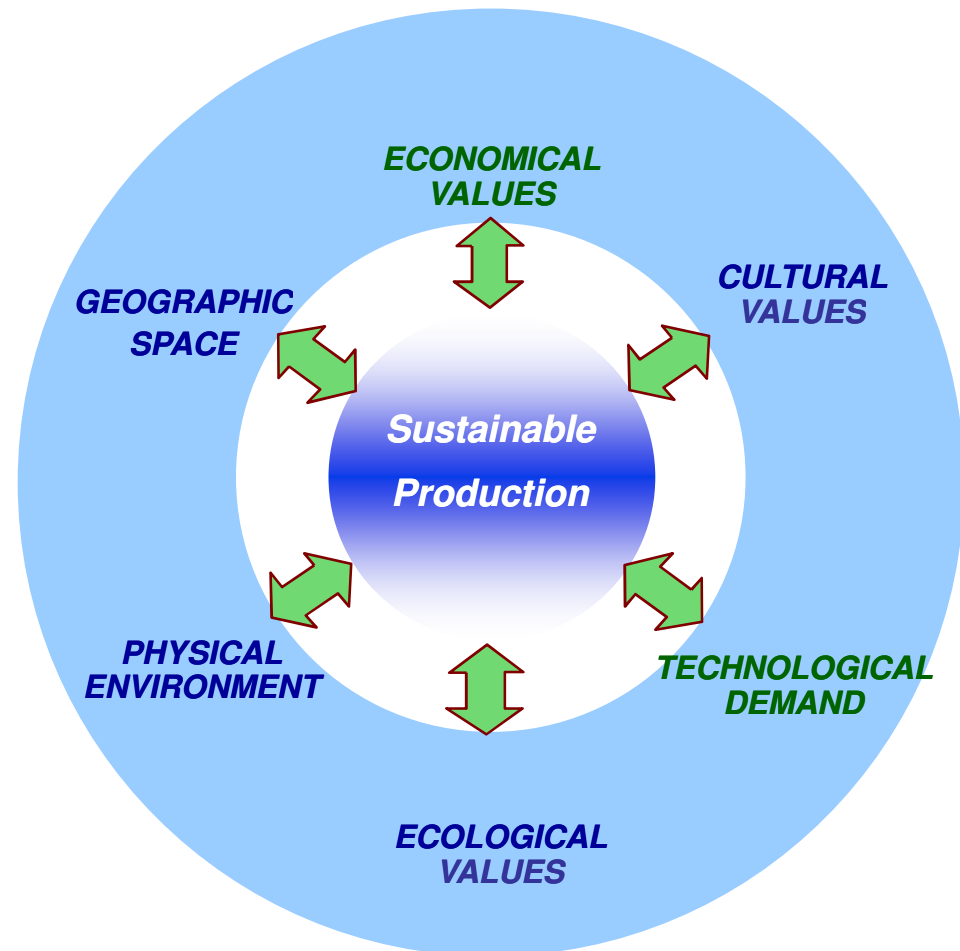
One of the major challenges for agricultural innovation systems today is to build better connections with the real world, which functions as systems of actors embedded in non-linear and increasingly complex institutional and cultural contexts.



Unfortunately, communication and alignment of efforts across disciplines, organizational “silos” and social groups remain a challenge for most agricultural research and extension systems around the world.

# The Brazilian Agricultural Research Organization

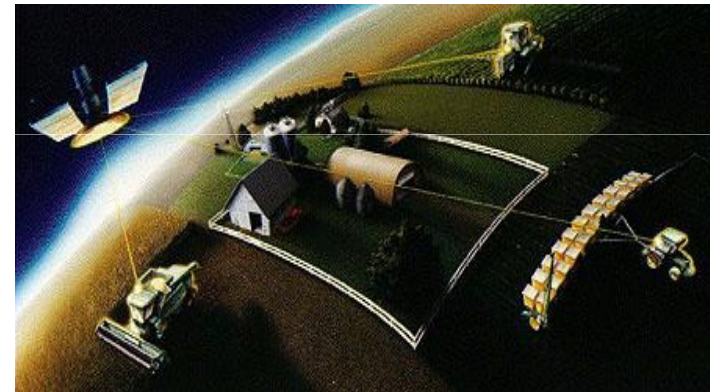
## AGRICULTURE & SOCIETY



# Challenges

*From Small Family-Based ...*

*To Precision Agriculture*



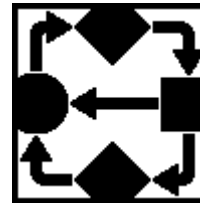
***Inovation & Competitiveness***  
***Productivity & Sustainability***

# Challenges

**Convenience**



**Safety**



**Quality**



**Diversity**



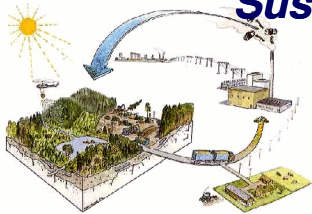
**Productivity**



**Animal & Plant Health**



**Sustainable Energy**



**Environmental Changes & Sustainability**



**Innovation & Information**

**Social Inclusion and Equity**



# Embrapa Adopted an Integral View of Agricultural Innovation



Embrapa is in its 5th cycle of strategic planning

Emphasis in the continuum  
R&D - Communication - Technology Transfer



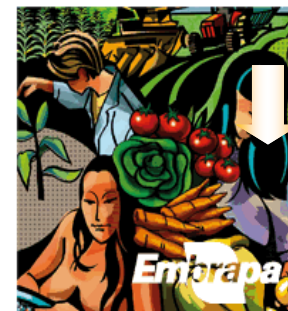
**Competitiveness  
Sustainability**



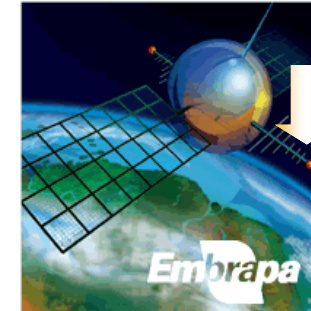
**Renewable  
Energy**



**Natural  
Resources**



**Agrobiodiversity  
Conservation and Use**

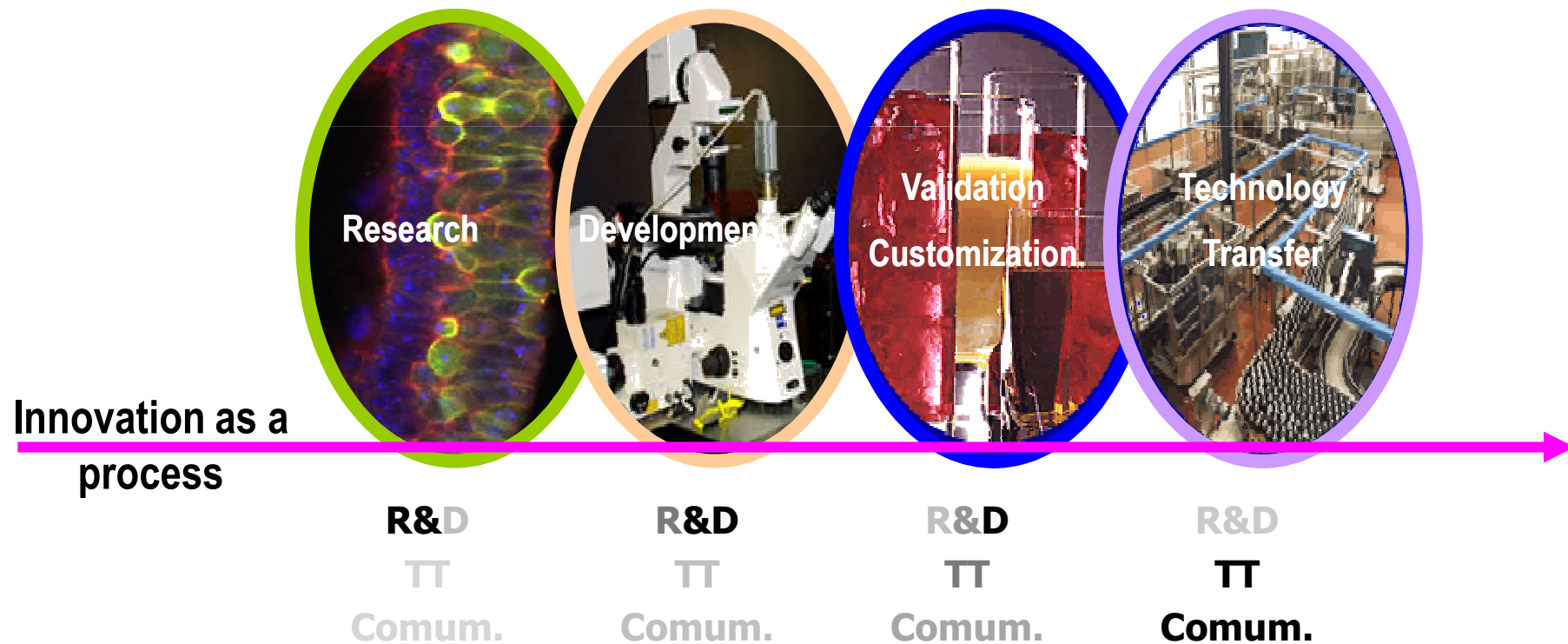


**Frontier  
Programs**

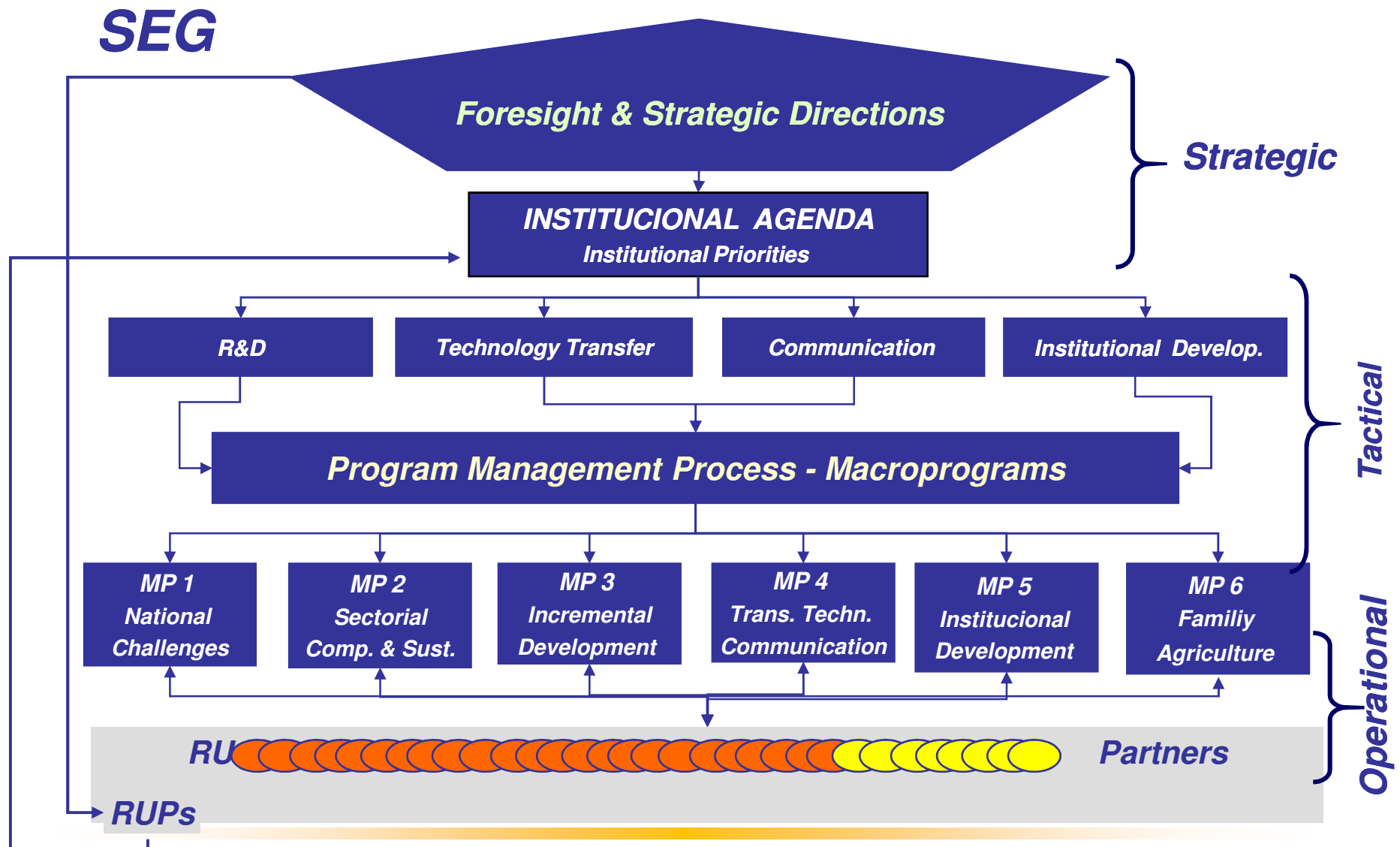


# Embrapa Adopted an Integral View of Agricultural Innovation

Emphasis in the continuum R&D - Communication - Technology Transfer  
Quality of Science - an internal competitive system strongly sustained in peer review.  
R&D, Com. & TT strategies that promote networking and strong links with society



# Embrapa Management System





**Communication and Technology Transfer**

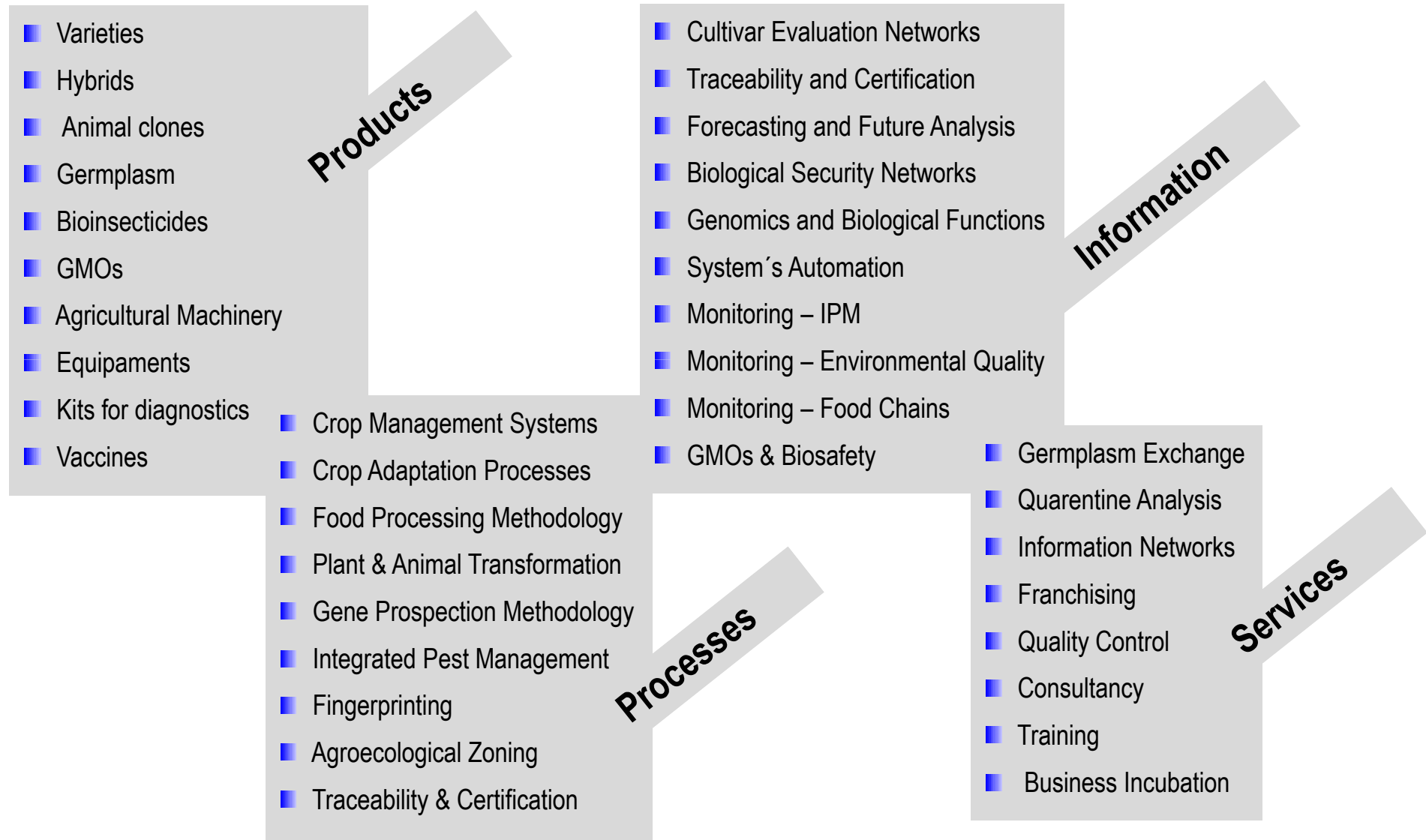
# Communication and Technology Transfer

| <b>Professional Team in Communication and TT</b> |                            |
|--|----------------------------|
| <b>Communication</b>                             | <b>Technology Transfer</b> |
| <b>94 Journalists</b>                            | <b>102 Professionals</b>   |
| <b>25 Public Relations</b>                       |                            |
| <b>9 Marketing Professionals</b>                 |                            |
| <b>128 Professionals</b>                         | <b>102 Professionals</b>   |





## Embrapa has a comprehensive portfolio ...

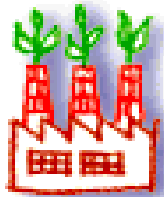




**... to meet the needs of a wide array of partners and clients ...**



**Advanced Production Systems**



**Agroindustry**



**Environment**



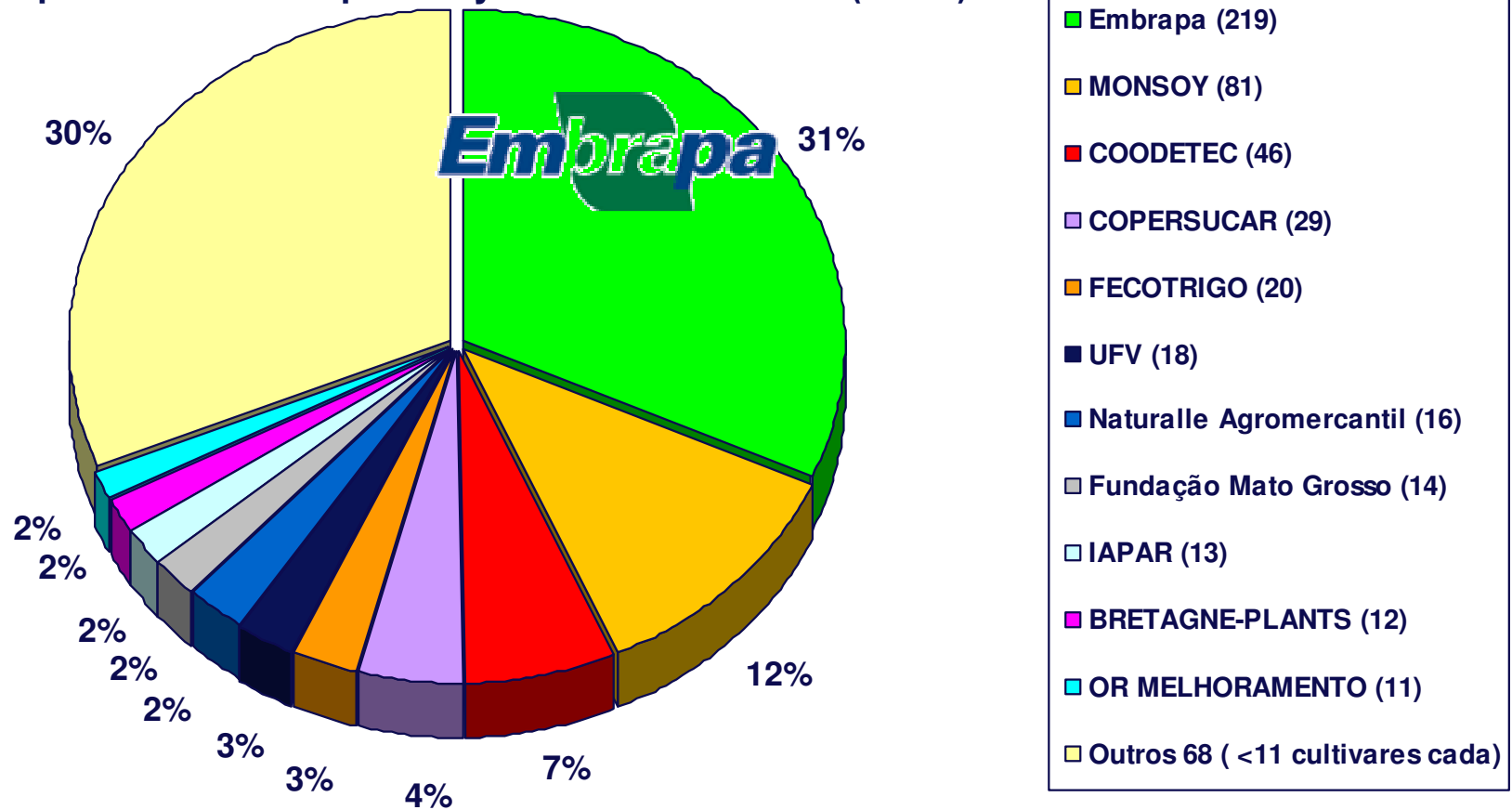
**Regional Development**

---

# Contributions of Embrapa

## Provider of Improved Varieties

Embrapa's Share in Crop Variety Protection in Brazil (em %)



(August 2005)

Total protected cultivars: 699

# Contributions of Embrapa

## Naturally colored cotton



Foto : Natural Fashion



<http://www.cnpa.embrapa.br/jornal/embrapainfo1.html>

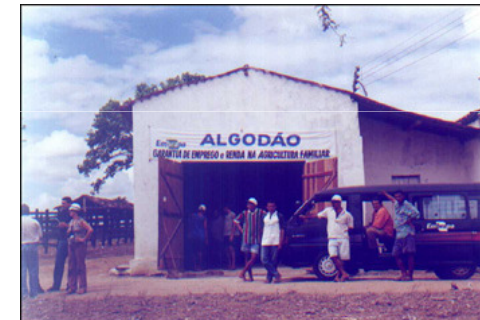


Foto : Natural Fashion



# Contributions of Embrapa

## Colored Cotton Varieties Tailored to the Needs of Small Communities



- Cachoeira dos Índios - PB
- Juarez Távorá - PB
- Barro - CE
- Nova Cruz - RN
- Bezerros - PE
- Água Branca - AL



# Contributions of Embrapa

Embrapa Recursos Genéticos e Biotecnologia  
 Empresa Brasileira de Pesquisa Agropecuária  
 Ministério da Agricultura, Pecuária e Abastecimento  
 Parque Estação Biológica Final W/5 Norte  
 Fone: (61) 3448-4770, 3448-4769 Fax: 3340-3666  
 Brasília, DF

[www.cenargen.embrapa.br](http://www.cenargen.embrapa.br)  
[sac@cenargen.embrapa.br](mailto:sac@cenargen.embrapa.br)

**CULTURAL RECOVERY, SUSTAINABLE MANAGEMENT AND CONSERVATION OF AGROBIODIVERSITY**

**RESGATE CULTURAL, MANEJO SUSTENTÁVEL E CONSERVAÇÃO DA AGROBIODIVERSIDADE**

agem: 2000 exemplares

Embrapa  
 Recursos Genéticos e Biotecnologia

Ministério da Agricultura, Pecuária e Abastecimento

**BRASIL**  
 UM PAÍS DE TODOS  
 GOVERNO FEDERAL

Embrapa  
 Brasília, DF  
 2006





# Contributions of Embrapa

## Nanotechnology

## “Electronic Tongue” Nanosensor for taste detection

**nature** **scienceupdate**  
updated at midnight GMT today is friday, april 26

search nature science update  go advanced search

**news**  
related stories

- Smelling trouble at sea  
4 June 2001
- Sweet tooth gene found  
23 April 2001
- Why life is sweeter for some  
19 February 2001
- Seeing scents  
17 August 2000
- Taste sensation  
6 April 2000
- Taste triumph  
25 January 2000

**more news**

- Big bangs spark row  
26 April 2002
- Shrink-to-fit surgery  
26 April 2002
- Milk in rice could curdle  
26 April 2002

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• about us  
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Amersham Biosciences

**Electronic tongue has good taste**  
Hand-held tasting device displays highly discriminating palate.  
9 January 2002  
**PHILIP BALL**

A new hand-held electronic tongue promises to give accurate and reliable taste measurements for companies currently relying on human tasters for their quality control of wine, tea, coffee, mineral water and other foods.

Human tasters are still irreplaceable for subtle products such as fine wines and whiskies. But their sense of taste saturates after a while, losing its discriminating edge. The device made by Antonio Riul of EMBRAPA Instrumentação Agropecuária in São Carlos, Brazil, and

**Coffee producers could use the electronic tongue for quality control.**  
© PhotoDisc





# Internet Portals – Social Media

Ministério da Agricultura, Pecuária e Abastecimento

Destaque do Governo

Embrapa

Empresa Brasileira de Pesquisa Agropecuária

A Embrapa no Brasil e no Exterior

Página Inicial | Mapa do Portal | English | Español

A Embrapa | Imprensa | Publicações | Bibliotecas

Pesquisar

nesto portal

em toda a Embrapa

Você está aqui: Página Inicial

**Governo F**  
**expansão**

Inclusão social, renda, plantio e ordenamento territorial, produtividade e competitividade sustentável, biodiversidade e aliado ao desenvolvimento econômico.

pressupostos que orientam o Programa de Desenvolvimento Rural (PRODR). O quinto plano de trabalho (5º) Acará, em Tomé

**Últimas Notícias**

- Embrapa realiza reunião com representantes do Paraná
- Projeto investirá R\$ 10 milhões em Acre
- Expo Embrapa 2010 em Goiânia sedia reunião

**Acesso também**

- Agência de Informação Embrapa
- Catálogo de Produtos e Serviços
- AgriTempo
- Monitoramento agrometeorológico
- Sistemas de Produção
- Proeta
- Incubação de Agonegócios
- Infoteca
- Inf. Tecnológica em Agricultura

Ministério da Agricultura, Pecuária e Abastecimento

Destaque do Governo

Embrapa

Algodão

Embrapa Sede | SAC da Unidade | Ouvidoria

**Chefe-Geral da Embrapa Algodão Brasileiro de Palmeira de Babaçu**

O Chefe-Geral da Embrapa Algodão, Dr. Beltrão, esteve presente no I Congresso Brasileiro de Palmeira de Babaçu, que aconteceu de 25 a 27 de maio no Centro de Convenções Governador Santana, em São Luiz, Maranhão. O evento teve como tema "Babaçu, Alimento e Energia para o Brasil" e promoveu uma ampla discussão sobre o cultivo e os segmentos que envolve a cultura.

Saiba mais...

**Notícias Anteriores**

- Inclusão Social será tema do Congresso de M...
- Mestrado em Ciências Agrárias: uma parceria...
- Gestão da Embrapa Algodão será avaliada em...
- Embrapa Algodão participa de I Convenção de...
- Eventos impulsionam a produção de biodiesel...

**Acesso também**

- Algodão Cor Natural
- Embrapa Credenciados
- Revista Brasileira de Oleaginosas e Fibras

Ministério da Agricultura, Pecuária e Abastecimento

Destaque do Governo

Embrapa

Suínos e Aves

Início | Embrapa | Eventos | Licitações | Mapa do Site | Fale Conosco | Ouvidoria

**Embrapa Suínos e Aves**

Produtos e Serviços

Pesquisa & Desenvolvimento

Informações Técnico-Científicas

Centro de Diagnóstico

**Acesso Também**

- Catálogo de Produtos e Serviços
- Incubação de Agonegócios
- PROETA
- Memória da Embrapa
- Agência de Informação

**NOTÍCIAS**

- 05/05/2010 - Embrapa Suínos e Aves conhece o Projeto Biomais! Um projeto que pretende aliar a produção agropecuária e a preservação do meio ambiente foi apresentado na manhã desta quarta-feira, dia 05 de maio, na Embrapa Suínos e Aves. O Projeto Biomais, parceria entre a Empresa Brasileira de Pesquisa Agropecuária (Embrapa) e a Confederação da Agricultura e Pecuária do Brasil (CNA), quer nos próximos nove anos mapear de que forma a agricultura e o meio ambiente podem se relacionar de forma sustentável em todas as regiões do Brasil. [\[ler mais\]](#)
- 03/05/2010 - Lula recomenda "filé suíno" | Um dos momentos apreciados pelo Presidente Luiz Inácio Lula da Silva durante a visita à Embrapa, no Clécia para a Vida, em Brasília/DF, na semana passada, foi a degustação de um filé suíno. Ele comeu e recomendou: "Gente, vocês precisam comer filé suíno - é muito bom!". O filé foi preparado e servido no estande da DF-SUIN, afiliada da Associação Brasileira de Criadores de Suínos (ABCS). [\[ler mais\]](#)

**DESTAQUES**

- [29/04/2010] Embrapa e Itaipu assinam projeto de cooperação para biogás
- [28/04/2010] Software para controle de dejetos permite tomada de decisões com mais eficiência
- [27/04/2010] Cartilhas e livros são lançamentos da Embrapa Suínos e Aves no Clécia para a Vida
- [26/04/2010] Embrapa Suínos e Aves apresenta cisterna no Agrishow Ribeirão 2010
- [26/04/2010] Embrapa registra chuva de 90,1 milímetros

[\[ver todos\]](#)

A Embrapa Suínos e Aves está no twitter. Siga-nos!

Falar com a Embrapa ficou mais fácil. Clique e saiba mais!

# Business and Communication Centers



## Embrapa Business and Communication Centers

- EN da Amazônia
- EN de Campina Grande
- EN de Campinas
- EN de Canoinhas
- EN do Capão do Leão
- EN de Dourados
- EN de Goiânia
- EN de Imperatriz
- EN de Londrina
- EN de Passo Fundo
- EN de Petrolina
- EN de Ponta Grossa
- EN de Sete Lagoas
- EN do Triângulo Mineiro



# Business and Communication Centers

Ministério da Agricultura, Pecuária e Abastecimento Destaques do Governo

**Embrapa**  
*Transferência de Tecnologia*

Embrapa Transferência de Tecnologia

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**A Unidade**  
**Histórico**  
**Organograma**  
**Localização**  
**Dados Cadastrais**  
**Equipe Técnica**  
**Assessoria Jurídica**  
**Licitação**  
**Programas e Projetos**

**Acesse também**

- Catálogo de Produtos e Serviços**  
Ao Alcance de todos
- Agenda de Transferência de Tecnologia**
- Conheça o SNT**  
Faça um tour na nossa Unidade
- Vitrine de Tecnologias**
- Cadastro do Produtor**  
Sementes e Mudanças
- Proeta**  
Incubação de Agonegócios

**Institucional**

- Nossas Vozes**  
Programa Nossas Vozes
- Prosa Rural**  
Conhecimento nas ondas do rádio

**NOSSAS VOZES**

- 7ª - Edição - março/2010**  
- O programa entrevista a doutora em economia e professora da Universidade Federal Fluminense Hildete Pereira de Melo.
- 6ª - Edição - dezembro/2009**  
- Aniversário com filósofo Leonardo Boff
- 5ª - Edição - setembro/2009**  
- O programa entrevista Oswaldo Nascimento - Diretor de Recursos Humanos da IBM do Brasil.

# Communication Centers

The screenshot shows the website for the 'Dia de Campo na TV' program. At the top, there is a yellow navigation bar with the text 'Ministério da Agricultura, Pecuária e Abastecimento' and 'Destaques do Governo'. Below this is a search bar and links for 'Mapa do Site', 'Acessibilidade', and 'Contato'. The main banner features the Embrapa logo and the program title 'Dia de Campo na TV' with a sun icon. A green navigation bar below the banner contains links for 'Página Inicial', 'Portal Embrapa', and 'Embrapa Informação Tecnológica'. The main content area has a heading 'O seu programa de informação tecnológica' and a large logo for 'Dia de Campo na TV 10 anos'. Below the logo is a link 'Confira aqui o tema do próximo programa'. A paragraph of text describes the program as being produced by Embrapa in partnership with research units. At the bottom right, there is a photograph of a television studio set with a host and a camera operator. On the left side of the page, there is a 'Navegação' sidebar with a list of menu items: Objetivo, Histórico, Galeria de fotos, Programação DCTV, Videoteca Digital Embrapa, Próximo programa, Como participar, Como sintonizar, Prêmios, Notícias, Equipe, and Contato. Below the sidebar, there are 'Banners' for 'Próximo DCTV' and 'Sistema Embrapa de Bibliotecas'.

Ministério da Agricultura, Pecuária e Abastecimento

Destaques do Governo

buscar

Mapa do Site Acessibilidade Contato

Embrapa

Dia de Campo na TV

Página Inicial Portal Embrapa Embrapa Informação Tecnológica

Você está aqui: Página Inicial Acessar

**Navegação**

- Objetivo
- Histórico
- Galeria de fotos
- Programação DCTV
- Videoteca Digital Embrapa
- Próximo programa
- Como participar
- Como sintonizar
- Prêmios
- Notícias
- Equipe
- Contato

**Banners**

**Próximo DCTV**  
Confira o próximo tema

**Sistema Embrapa de Bibliotecas**

*O seu programa de informação tecnológica*

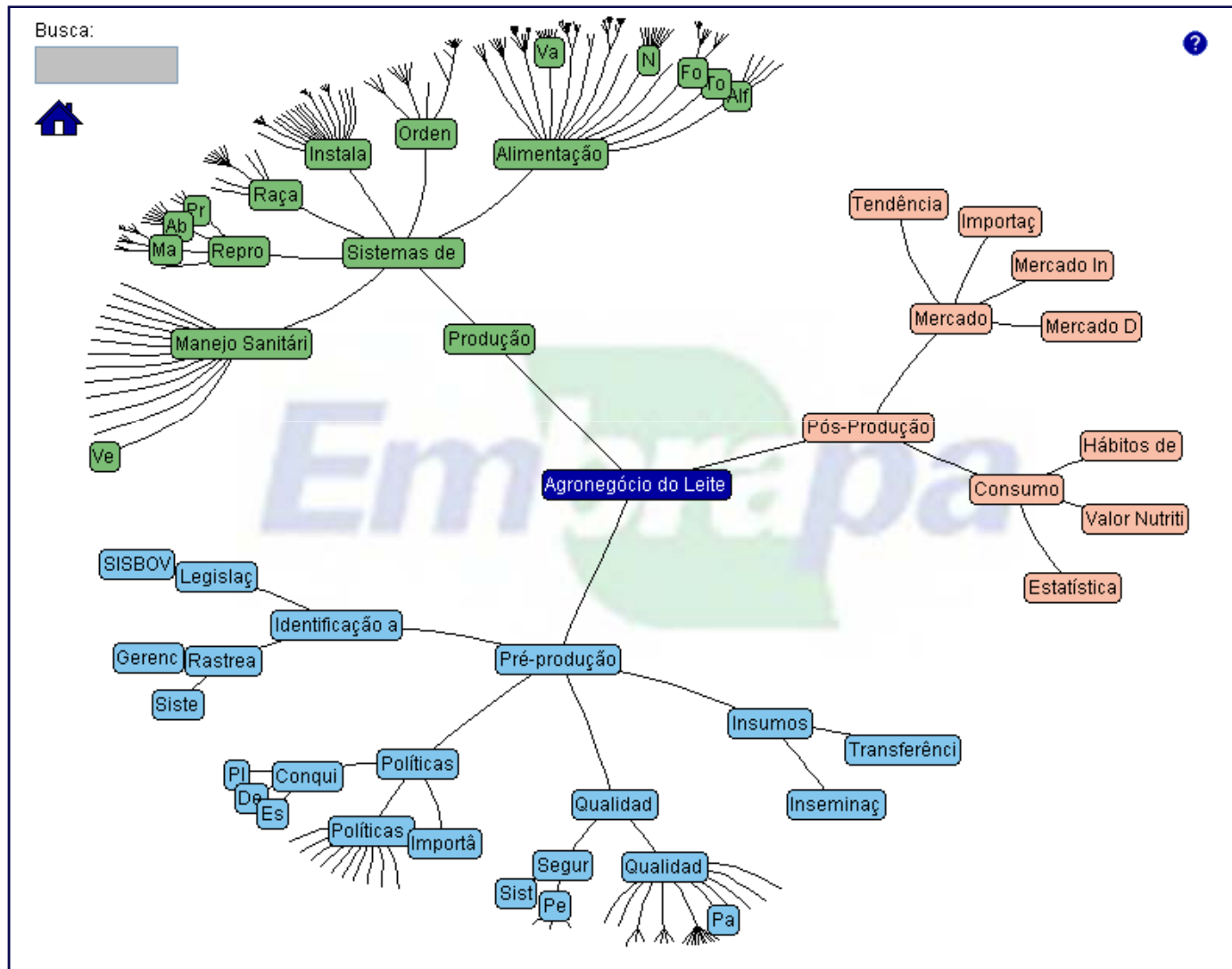
**Dia de Campo na TV**  
10 anos

[Confira aqui o tema do próximo programa](#)

O Dia de Campo na TV, programa da Empresa Brasileira de Pesquisa Agropecuária (Embrapa), vinculada ao [Ministério da Agricultura, Pecuária e Abastecimento](#), é produzido pela Embrapa Informação Tecnológica, com sede em Brasília - DF, em parceria com as Unidades de pesquisa da Empresa e organizações estaduais de pesquisa.



# Virtual Libraries



# Fairs and Expos





# Fairs and Expos



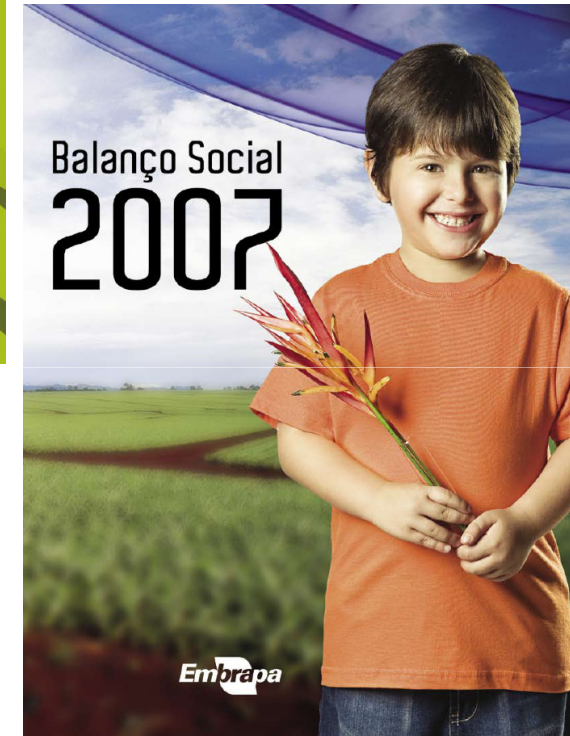
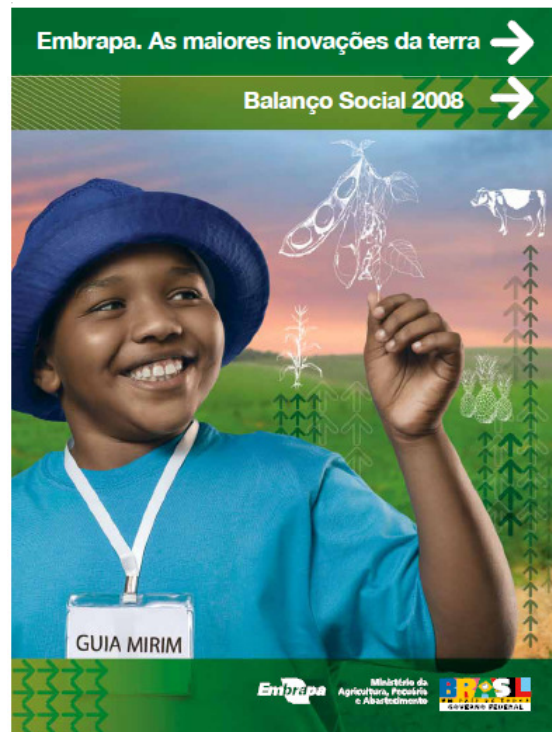


# Incubation Centers



# Communication with Society

Stakeholders are members of “External Advisory Boards”, for every 43 EMBRAPA’s Research Centres



Embrapa publishes regularly its social balance

Every Brazilian Real (R\$) invested in Embrapa returns between R\$ 12 and R\$14 to the Brazilian society (US\$ 1.00 = R\$ 1.77).

The Social balance of Embrapa in the past 10 years amounts to US\$ 49.7 billion



<http://labexkorea.wordpress.com/>

**FRONT PAGE** ABOUT LABEX ADDRESS PARTNERS DOWNLOADS EDITOR

**Embrapa** Labex Korea Brazil-Asia Cooperation in Agricultural Research

### News and Links Shared by Labex Korea Twitter

April 27, 2010 · Leave a Comment

See below a selection of links to news, articles, documents, etc, that appeared recently in the Labex Korea Twitter. If a subject is of your interest, just click in the hyperlink to open the corresponding page. You can follow Labex Korea on Twitter, by clicking [here](#). You can also register [here](#) to receive by e-mail alerts on new posts published by Labex Korea.

**EMBRAPA LABEX**

The concept of Virtual Laboratory – or Labex, was created by the Brazilian Agricultural Research Organization, Embrapa, as means of increasing its scientific and technological ties with advanced research on world. Instead platform at concept of v walls, to ne organization concept, wh validated in Europe, is n in partners Developme South Korea

**PARTNER**

**ARDA**

Enjoy short, timely news shared during 18-26 April, 2010.

Brazilian Presence in the Korean Science and Technology Scene <http://is.gd/bJyUC>

Building a Green Economy <http://is.gd/bJyzQ>

# Labex in the Web

<http://twitter.com/LabexKorea>

**LabexKorea**

Name Mauricio Lopes  
Location Suwon - South Korea  
Web <http://labexkorea.com>  
Bio Senior Scientist of Embrapa and Coordinator of Labex Korea. Promoting Brazil-Asia cooperation in agricultural research.

273 137 2  
following followers listed

Tweets 1,041

Genetically modified papaya will soon be on the supermarket shelves in Japan <http://is.gd/bTNcY>  
about 9 hours ago via TwitterBar

Report provides the first comprehensive assessment of how GE crops are affecting U.S. farmers <http://is.gd/bTNIS>  
about 9 hours ago via TwitterBar

2010 BIO International Convention to Highlight Global Hunger and Public Perception of Agricultural Biotechnology <http://tinyurl.com/28b8u8t>  
about 9 hours ago via web

The role of Research and Innovation for the Knowledge-based Economy <http://is.gd/bTLZc>  
about 9 hours ago via TwitterBar

RT @MonsantoCo: Weed resistance is manageable. Here are our weed management recommendations. <http://bit.ly/9S4F5B>  
about 10 hours ago via web

RT @plantbiology: Ideas lab: a joint BBSRC and NSF activity: Achieving a step-change in the efficiency of photosynthesis <http://ow.ly/1GMr4>  
about 10 hours ago via web

A Green Brazil <http://mobius.blog.frankintempleton.com/2010/04/30/a-green-brazil/#more-627>  
about 11 hours ago via TwitterBar

Following

RSS feed of LabexKorea's tweets



**Thank You!**

Embrapa



# Thank You - 감사합니다

labex.korea@ymail.com



**Embrapa Labex Korea**  
Brazilian Agricultural Research Corporation – Embrapa  
Rural Development Administration – RDA

---

**Mauricio Antonio Lopes, Ph.D.**  
Scientist – Coordinator

International Technology Cooperation Center - ITCC  
Rural Development Administration - RDA  
250 Seodun-dong, Gwonseon-gu, Suwon 441-707, Republic of Korea  
Office: 82-(0)31-299-1099 / Fax: 82-(0)31-293-9359  
labex.korea@ymail.com    <http://labexkorea.wordpress.com>

브라질 농업연구청 아시아협력연구센터  
**Embrapa Labex Korea**  
Brazilian Agricultural Research Corporation – Embrapa

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마우리시오 안토니오 로페스  
농학박사, Labex 상주조정관

농촌진흥청 국제농업기술협력센터  
(441-707) 경기도 수원시 권선구 서둔동 250  
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