

UPOV SEMINAR ON
PLANT VARIETY PROTECTION AND TECHNOLOGY TRANSFER:
THE BENEFITS OF PUBLIC-PRIVATE PARTNERSHIP

Use of Plant Variety Protection by National Research Centers
Brazilian Agricultural Research Corporation (EMBRAPA), Brazil



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Agriculture, Livestock
and Food Supply



Embrapa

»»» Mission

"Facilitate solutions for research, development and innovation for sustainable agriculture for the benefit of Brazilian society."



- » Established in **1973**
- » **9342** employees
- » **2282** researchers: 35% with masters degrees, 65% with doctorates
- » Budget: **US\$ 1,1 billion**



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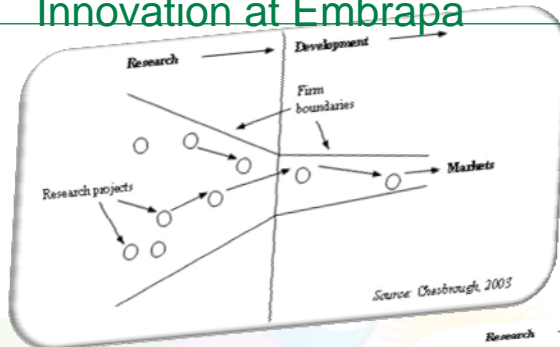
Our researchers work in 47 Decentralized Units spread across the country (there being 43 research units and 4 service units)

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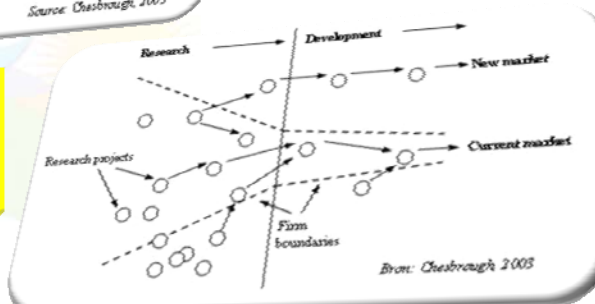
3 virtual laboratories abroad: Labex USA, Labex EU and Labex Asia; and 6 projects active in the TT developed for tropical agriculture: four in Africa and two in the Americas

Innovation at Embrapa



Innovation for Embrapa is the positive result of an integrated – endogenous and exogenous – process of research, development and transfer of sustainable solutions for/with the society.

Embrapa works in a open innovation environment, with hundreds of partnerships with private and public sector in research, development and technology transfer.



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Seed: a vector for Technology Transfer

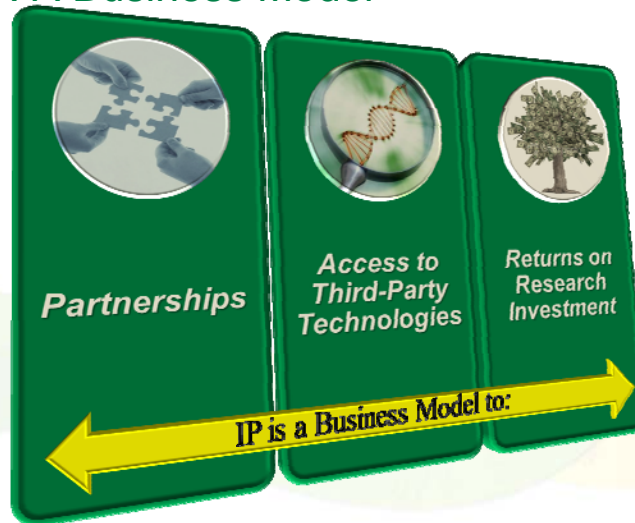


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PVP: A Business Model



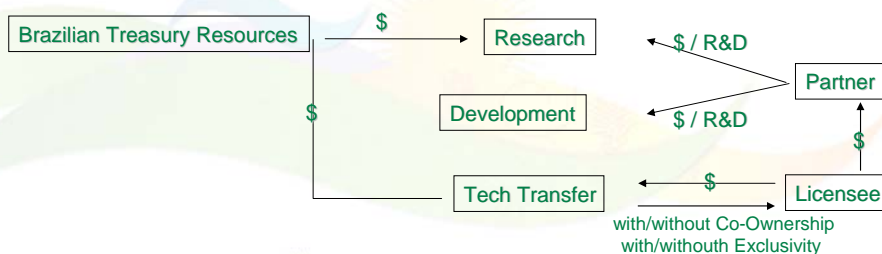
PVP: A Business Model For Partnerships

Brazilian Innovation Law (Federal Law # 10973, of 2004)

Article. 9º

Science and Technology Institutions are allowed to enter into partnership agreements with public and private institutions for the joint implementation of science and technology research activities aiming at the development of technology, product or process.

The Parties shall establish contractually how and to whom **title on the intellectual property shall be granted, as well as their participation in the commercial results** produced by that IP, assuring the right of partners to be licensed on that IP.



PVP: A Business Model For Partnership

Partnership Contracts with various Producers' Foundations, congregating hundreds of producers;

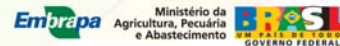
Over 300 test sites for new cultivars located in Brazilian regions with edaphoclimatic conditions, as well as in, at least, 5 other Latin America Countries

Prior definition of the products (cultivars) to be developed/improved, jointly made by Embrapa's researchers and the technical and marketing teams of the private partners

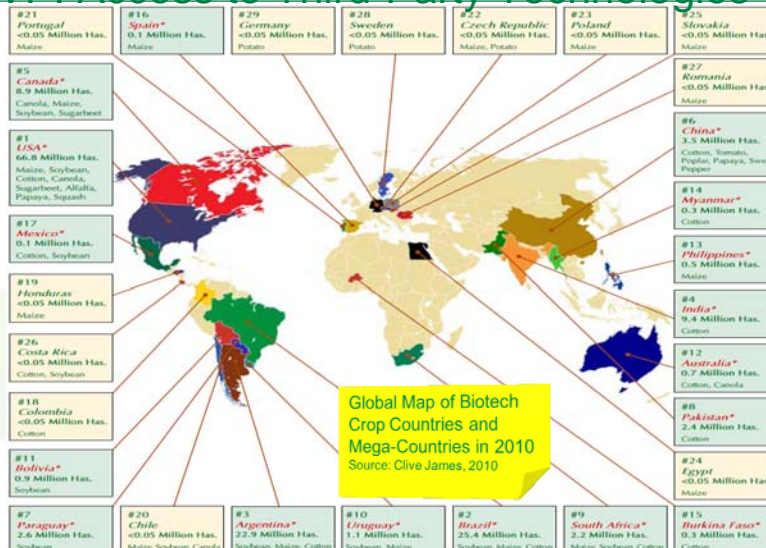
432 New cultivars protected in the last 13 years

~ US \$6 million invested in seed development research by private sector partners; ~ US\$ 10 million in royalty revenues from seed licensing; ~ US\$ 6 million as revenue for the sale of seeds; Totalling a US\$ 22.2 million inflow for research, applied in the generation/improvement of cultivars in 2009

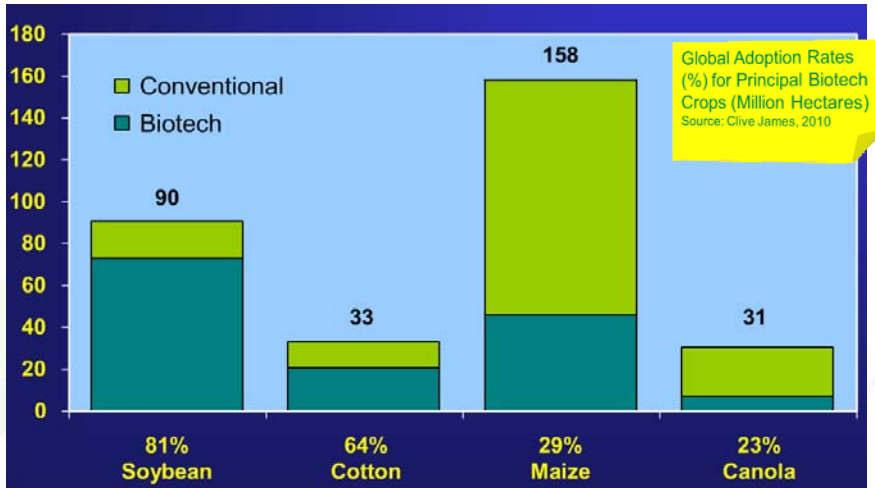
In the period 2009/2010, the average Brazilian national cultivar productivity was of only 2825 kilograms per hectare, while the average productivity of Embrapa's cultivars were of 3364 kilograms per hectare, thus, showing a gain of 21% over the



PVP: Access to Third-Party Technologies



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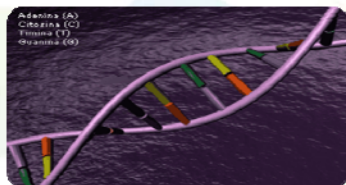
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PVP: Access to Third-Party Technologies

Patents in Brazil

Between 2000 e 2007 Brazil processed 5381 patent applications in the biotechnology area, of which only 318 (5% of total deposits) were of Brazilian origin.



Cultivars in Brazil

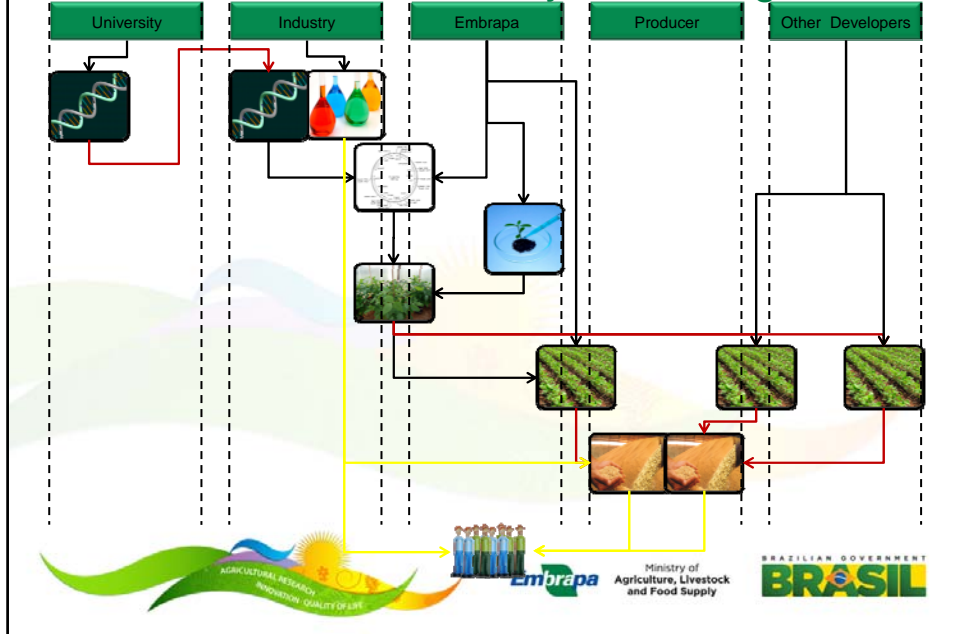
1687 cultivars cultivars were protected in Brazil between 1997 and 2009. Over 55% of that total was Brazilian held, and Embrapa alone held title over 21% (357 cultivars).



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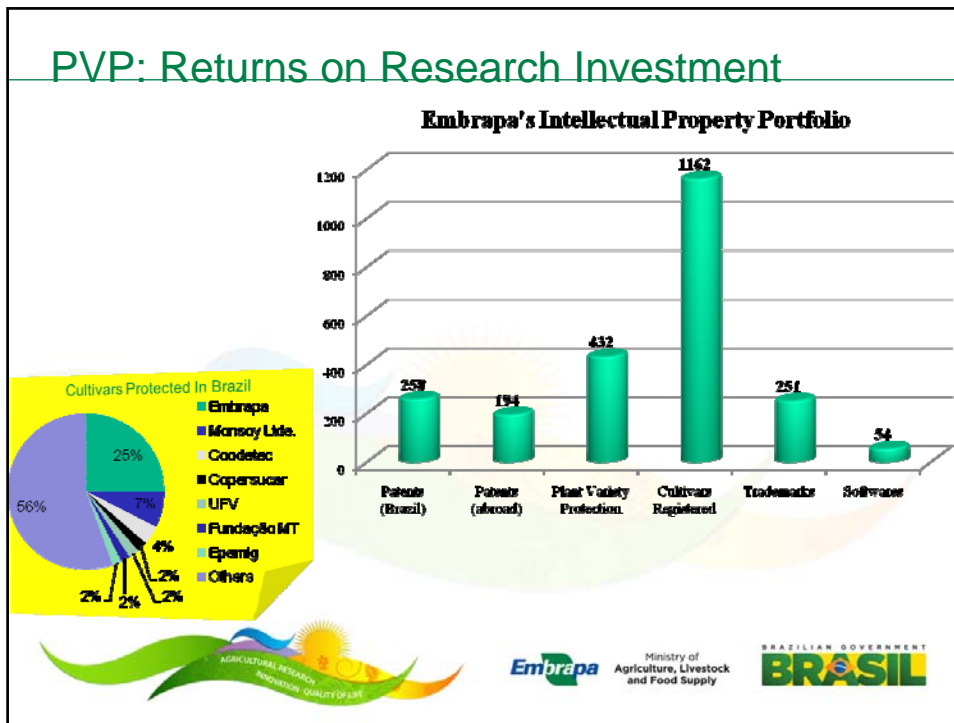
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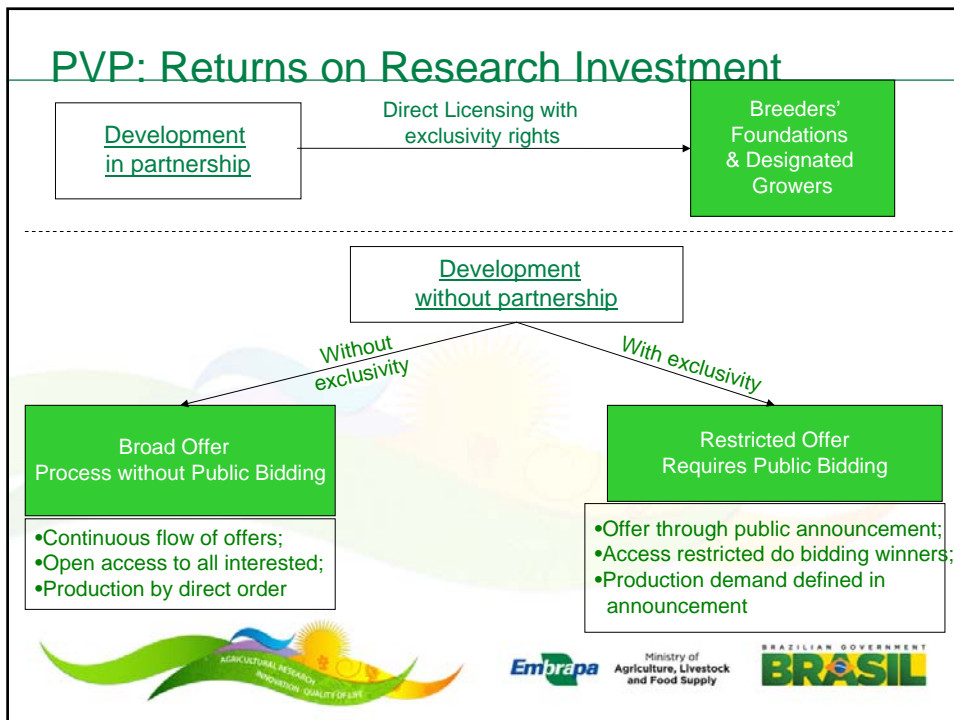
PVP: Access to Third-Party Technologies



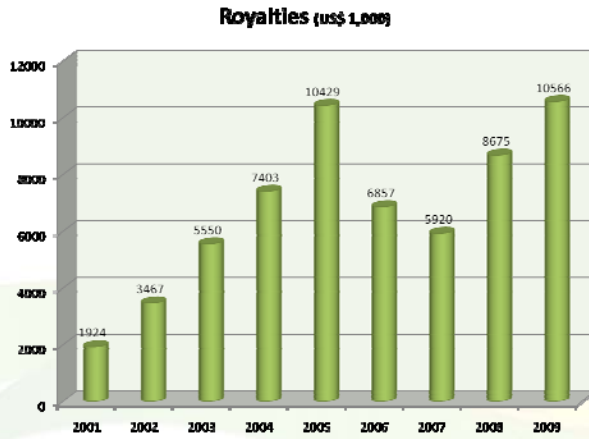
PVP: Returns on Research Investment



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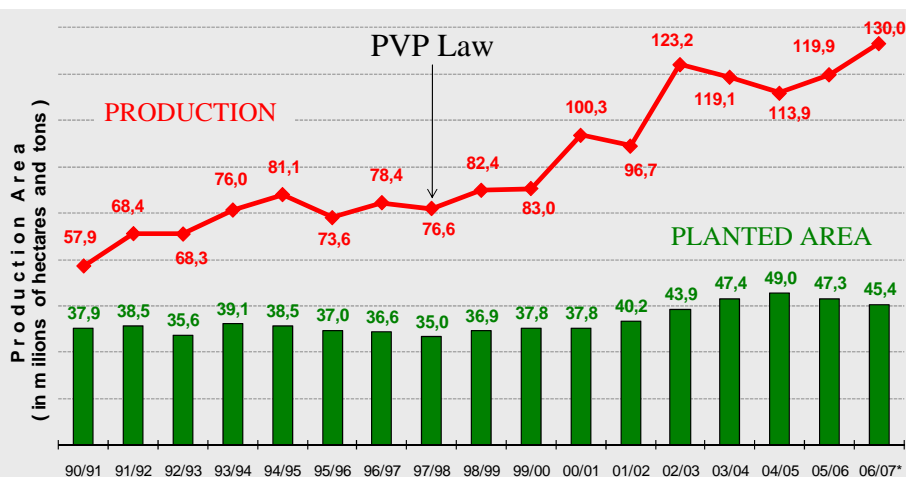


According to the Brazilian Ministry of Science and Technology from 2006 to 2009, Embrapa alone accounted for 80 per cent of the total royalties earned by all Brazilian public institutes (universities, R&D centers).

According to AUTM U.S., the average earnings from the transfer of technology by US public research institutions is equivalent to 0.9 per cent of their budgets. Embrapa's earnings are equivalent to 2 per cent of its budget.



PVP: Returns on Research Investment



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Brazilian agribusiness handles about 750 billion dollars per year

Agriculture represents 28% of Brazilian GDP

Agribusiness in Brazil generates more than 17 million jobs (37% of Brazilian workforce)

In the agriculture sector Brazil is the 3rd largest exporter country in the world

Every US\$ 1.00 invested at Embrapa generates an average return of US\$ R\$ 6.40 for Brazilian society

Embrapa generate a social surplus of US\$ 11.62 Billion

85,725 jobs generated by Embrapa Technologies

710 relevant social actions



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Thank You!

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