

# THINKING BRAZIL

UPDATE No. 9 - FEBRUARY 2004

An Electronic Newsletter of BRAZIL @ THE WILSON CENTER

U  
P  
D  
A  
T  
E

## Sowing the Seeds of Sustainability *Brazil's Next Agricultural Revolution*

In this era of increased global cooperation, a broader international view of the environment and sustainability is taking hold. Just as farmers band together in cooperatives, sharing experience to improve production, scientists around the world work together towards the advancement of knowledge. Born in this climate of cooperation, The LABEX Program, a joint venture between the USDA and Embrapa (The Brazilian Agricultural Research Corporation) seeks to, "...promote opportunities for institutional cooperation in agricultural research monitoring scientific advances, trends and activities of mutual interest of the Brazilian and American agribusinesses."



In light of the essential importance of agriculture for the growing world population and the need to improve the sustainability of current food production systems, on February 6 2004, Brazil @ The Wilson Center, in cooperation Embrapa, the USDA ARS/LABEX program, and The Environmental Change and Security Project addressed these important issues in a seminar at the Woodrow Wilson International Center for Scholars in Washington, DC.

Brazilian grain productivity has increased by more than 80% since 1990/1991 ([www.conab.gov.br](http://www.conab.gov.br)). This

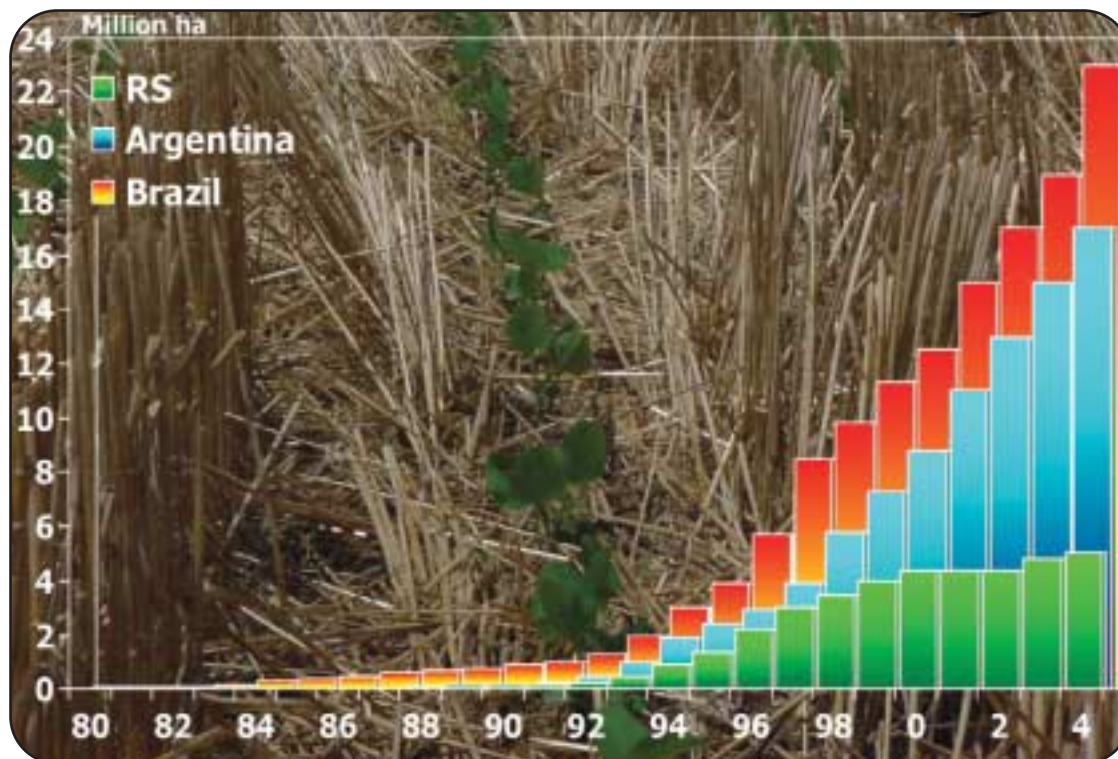
has resulted in a substantial increase in national grain production without great increase of planted area. The rapid expansion of the area of land under no tillage management can be credited to the early adoption of new technologies and management practices as well as strong inputs from the agrochemical and equipment suppliers.

Dirceu Gassen, manager of the Brazilian agricultural cooperative Cooplantio, addressed the experiences of no-tillage agriculture in Brazil, where, since the 1970's, this method



Woodrow Wilson  
International Center  
for Scholars

## AREA CULTIVATED USING NO-TILLAGE SYSTEMS



has been increasingly used with notable success. No-till agriculture is a technique of cultivation that eschews the traditional cycle of ploughing and planting; instead the soil is only disturbed along the rows where seeds are planted. Accumulated straw or detritus from previous crops covers and protects the seedbed.

According to Gassen, the benefits of this methodology are: a 96% decrease in the rate of soil erosion, a 60% reduction in fuel needs, reductions in equipment and

fertilizer needs, significantly less time required for tending crops, increased microbial activity in the soil and improved water infiltration and retention. This approach is also environ-

mentally friendly as emissions of the greenhouse gas carbon dioxide (normally associated with tillage) are minimized and the surface level organic matter left in place (detritus from previous crops) reduces water runoff and pollution while increasing the soil's nutrient retention.



Dirceu Gassen, Airdem Assis, Helveccio de Polli and Greg McCarty



No-tillage equipment in action

The cooperative application of no-till farming techniques has been successful in Brazil for a variety of reasons. When farming first began in Brazil, methodologies were based mainly on Portuguese and European agricultural experiences. Brazil is located in the tropics, lacking both a recognizable winter and the well-defined seasons of its temperate colonial seat in Europe. Brazilian farmers did not abandon this temperate mindset until more recent scientific research redirected thinking. This departure has been responsible for a dramatic increase in production.

While the majority of U.S. farmland falls in the temperate region, the benefits of no-till agriculture have not gone unnoticed. According to the group Conservation for Agriculture's Future, about 17% (roughly 50 million acres) of US farmland was being cultivated using no-till practices in 2000.

The United States and Brazil are clearly at the forefront in the advancement of agricultural technology and are positioned to play decisive roles in the future of agricultural production and agribusiness in the Western Hemisphere. Despite their roles as competitors, their ability to design cooperative strategies aimed at research and development will profoundly affect the future of this vital sector.



**Thinking Brazil Update** is an electronic publication of **Brazil @ the Wilson Center**. This project is founded on the conviction that Brazil and the U.S.-Brazilian relationship deserve to receive better attention in Washington. Brazil's population, size, and economy, as well as its unique position as a regional leader and global player fully justify this interest. In response, and in keeping with the Center's mission to bridge scholarly research and public action, **Brazil @ the Wilson Center** sponsors activities designed to create a "presence" for Brazil in Washington that captures the attention of the policymaking community. **Brazil @ the Wilson Center** is grateful for the support of the Ministry of Culture of Brazil, ADM, Cargill, ChevronTexaco, FMC, and The GE Foundation.

For more information please refer to our website at [www.wilsoncenter.org/brazil](http://www.wilsoncenter.org/brazil) or contact Alex Parlini at [parliniaj@wwic.si.edu](mailto:parliniaj@wwic.si.edu)