

Enhancing Government Understanding of Biotechnology: the Case of Brazil

SUMMARY: As adoption of biotechnology crops grows in a country, so do the economic, agriculture, trade, research, science and legal opportunities and implications. Government officials must keep pace, and in Brazil, an innovative programme has been created to educate all levels of the government about biotechnology.



In every country there are some government employees, particularly regulators, who deal with agricultural biotechnology in their jobs every day and are familiar with the science, the products and the policy trends. It can be more difficult for staff in other agencies, especially those that might only occasionally work on biotechnology-related issues, to learn about and keep current with this complex subject. In Brazil, an educational programme designed especially for government officials helps them understand agricultural biotechnology and how it impacts the development of the entire country.

Biotechnology in Brazil

In 2009 Brazil became the second largest grower of biotechnology crops in the world, with over 21 million hectares planted, and is also a major exporter of agricultural products. Agricultural biotechnology impacts farming, the environment, rural development, economics and other sectors in Brazil.

Recognising the importance of biotechnology to the country, an ambitious government-wide programme was created in 2007 to increase Brazil's competitiveness in this area. The federal government encourages Brazilian companies to develop new proprietary biotechnology products and processes that could generate income and exports in all sectors of the economy.

From the beginning, the government believed their success would be dependent on the ability of officials in all biotech-related ministries and institutions – not just regulators – to understand and work strategically with the technology. This includes the Ministries of Livestock and Agriculture, Industry and Foreign Trade, and Science and Technology, as well as Embrapa (the national agricultural institute), the Brazilian Agency of Industrial Development and the Association of Brazilian Federal Judges.

The educational programme

The Conselho de Informações sobre Biotecnologia (CIB, or Council for Biotechnology Information) was invited by the government to help them design and implement an educational programme that could be used throughout the country. Established in 2001, CIB is a not-for-profit organisation that serves as a primary resource on biotechnology in Brazil, providing science-based information about the safety and benefits of the technology. CIB works with independent Counselors, who are professionals from major research centers, universities and other organisations, to develop and disseminate factual materials on topics that are particularly relevant to Brazil, based on studies done in the country and elsewhere.



With a mandate to develop an educational programme that spreads biotechnology information in different sectors while focussing on the implications for competitiveness and economic development, CIB and its Counselors got to work. They developed several basic modules that can be used in customised courses for each target audience.

The modules include: Biotechnology basics; Biotechnology applied to animal health; Food biotechnology; Biosafety of GMOS for food and feed; Environmental biosafety and sustainability; Biofuels; Vegetative biotechnology techniques; and Regulation.

Depending on the audience and the need, the courses can be given in space of one, two or three days. Each course is taught by some of CIB's 70 Counselors, selected for their expertise in the subject area of the course.

In addition to the live sessions that CIB organises, they have also supported the Ministry of Livestock and Agriculture and the University of the State of Santa Catarina to develop an internet-based course on innovation and intellectual property for government officials. CIB's contribution was suggesting themes that could enhance knowledge about biotechnology. This course has been extremely popular with over 1,200 people participating, and others will be developed in the future.

The students

Among the first government groups to participate were agriculture inspectors and other employees of the Ministry of Livestock and Agriculture, as well as judges.

The course for agriculture inspectors is important because many of them have no previous exposure to biotechnology. The two-day course for inspectors includes theoretical material about biotechnology, as well as a visit to see active research projects in the lab. The inspectors are also given special instruction on detection methods because they use that methodology in their work. These course offerings are being expanded to reach more inspectors in more states across the country.

Other employees of the Ministry of Livestock and Agriculture, including agronomists, veterinarians and political affairs staff, have taken a one-day course on biotechnology in agriculture. Having up-to-date information on the application of biotechnology to food and feed production enables agronomists and veterinarians to support the farmers using the technology. These courses have been given in two states so far and will be further expanded into four other cities in the future.

CIB has also developed a course for judges who are beginning their careers as well as those continuing their education. This is important because judges in Brazil are beginning to have cases involving biotechnology brought before them, and need to have a foundation of knowledge about the technology in order to rule appropriately. The course covers the basics of biotechnology, biosafety, international trade and regulations in other countries. It has become so successful that it is now part of an official programme after which the judges are evaluated on what they've learned. So far more than 500 law professionals in six states in Brazil have taken the course.



Conclusion

Working with the government of Brazil, CIB plans to continue their programmes to meet the current and future educational needs of staff in many different sectors. With the right information and a better understanding about biotechnology, government decision makers can lead Brazil to achieve its competitiveness and economic goals.