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Venezuela

Biotechnology - GE Plants and Animals

Annual

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Report Highlights:

Interest expressed by farmers and research being done by scientists to improve agricultural output and the environment via biotechnology has not resulted in a legal framework for either testing or commercialization, holding down domestic output and import potential. Most research now being done involves tissue cultures or molecular genetics. No change in this situation is expected in the short term.

Section I. Executive Summary:

Despite significant interest in biotechnology by researchers and farmers to meet growing food demand and protect the environment, there is no commercial adoption. Research is being done, but the lack of implementing regulations hinders real progress. A fairly extensive list of international treaties and domestic laws provide the basic legal framework for agricultural biotechnology, but the regulatory system is imprecise.

There are no commercial animal or plant biotechnology events under development in Venezuela,

and the Bolivarian republic has not granted approval for animal biotechnology events or plant biotechnology crops from any source.

Section II. Plant Biotechnology Trade and Production:

Most biotechnology research in Venezuela consists of molecular genetics and tissue culture, and diagnostics for animal viral diseases. The research is mainly done by government institutions and universities, with minimal private sector involvement. Venezuela has not exported biotechnology products.

Plant research is the only area where further development has been observed, using molecular techniques to diagnose viral diseases. In these cases, the use of PCR-based markers has been one of the main techniques used for the detection of plant pathogens. The use of molecular markers in the genetic characterization of plants is also important, which identify genotypic materials and establish relationships between them, allowing the design of improved strategies for selection and breeding.

Another significant use of biotechnology in Venezuela is in vitro culture techniques. Scientists have been establishing methods of propagating materials, and research is performed in country to develop them for commercial use. In recent years, programs have been initiated, usually in research or teaching institutes, to develop genetic transformation of plants whereby genes are inserted by using bacteria of the genus *Agrobacterium*.

Finally, in the area of plant biotechnology, molecular markers have been emphasized as agents of selection in breeding programs. In this regard, advanced research on the use of RFLPs and RAPD rapid markers is being performed, and projects aimed at the use of microsatellites or SNPs for selection are being established.

For more information, please refer to GAIN VE9069.

Section III. Plant Biotechnology Policy:

Agricultural biotechnology is the responsibility of Venezuela's Ministry of Environment and Natural Resources (MARN).

Section IV. Plant Biotechnology Marketing Issues:

Despite the government's reluctance to allow marketing of biotech, Venezuelan producers continue to express their need for, and acceptance of, biotech products. The Federation of Agricultural Producers forecasts that domestic production could double in the next two years if the regulatory framework for biotech establishes the free use of biotech seeds. Another producer group, Productores Agrícolas Independientes, criticized the government for not allowing the use of agricultural biotechnology to the detriment of domestic production. Consumers have not voiced any concerns about biotechnology products or products containing biotechnology raw materials.

Section V. Plant Biotechnology Capacity Building and Outreach:

There are no U.S. government funded capacity building or outreach activities conducted in Venezuela that relate to agricultural biotechnology. In 2005, the United Nations Environmental Program allocated funds to increase public awareness of agricultural biotech and have a consensus among the public and private sector regarding the national biotechnology framework.

Section VI. Animal Biotechnology:

There are no animal biotechnology events under development in Venezuela, and the government has not granted approval for animal biotechnology from any source. There is significant interest by research centers and universities in developing biotechnology.

The use of animal biotechnology techniques is less developed; use has been restricted almost exclusively to the diagnosis of diseases, mainly viral in nature. To date, the information obtained has been based on vaccine produced abroad, and not domestically.