This dependence on foreign inputs has contributed to an ongoing debate in Mexico about the future of biotechnology. Critics fear that greater use of this technology will increase Mexico's dependence on the industrialized nations, especially the United States. A related concern is that genetically-altered substances, over which Mexico has no control, might potentially be harmful to the environment, society and the natural order. Some fear that biotechnology will be used to create dangerous new organisms. Moreover, some observers point out that the body of knowledge behind most of the biotechnology products currently in use has not been transferred to Mexico. In response, activists are pushing for more domestic control of biotechnology.

Partly for this reason, Mexico's research and development efforts have been concentrated in publicly-funded universities and research institutes. These centres have made Mexico a biotechnology leader in Latin America, but an over-reliance on public funds has limited the number of practical industrial applications. This is beginning to change. Fiscal restraints and structural reforms have led to a larger private sector role in the industry. Canadian firms have an opportunity to play a key role in this transformation. Companies which understand and respect Mexico's concerns about reliance on foreign technologies will have the best chance of success.

THE BIOTECHNOLOGY SECTOR

Mexico's biotechnology sector is dominated by public institutions. By one estimate, 85 percent of biotechnology research is funded by the government, 7 percent is paid for by the private sector and 8 percent is financed by foreign sources.

Even though there is no coordinated national biotechnology program, there has been considerable public investment in this field. According to the United States Department of Commerce, there are as many as 35 biotechnology groups at five research centres in Mexico. Mexico is recognized as Latin America's biotechnology leader, and provides a regional base for many multinational firms. On the other hand, because of the public-sector's focus on these efforts, Mexico's research facilities have been slow to develop broad commercial applications.

Most private, domestic research funding comes from Mexican food processors. A significant portion of foreign funding comes from international pharmaceutical companies with operations in Mexico. The administration of President Ernesto Zedillo is encouraging further expansion of privately-sponsored research by both domestic and foreign sponsors. Private biotechnology research is undertaken in Mexico by local companies such as *Laboratorios Bioquimex*, *CYDSA*, *Bacardi y Compañía*, *Química Mexicana*, *Replamex* and *Petróleos Mexicanos (PEMEX)*, the national oil company, as well as international companies such as Ciba Geigy, Merck, Monsanto and Orstorn.

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Government-sponsored research and development is administered by the *Consejo Nacional de Ciencia y Tecnología (CONACYT)*, National Council for Science and Technology, which is part of the *Secretaría de Educación Pública (SEP)*, Secretariat of Public Education. This entity operates programs that help Mexican scientists to study abroad, sponsor research in Mexican laboratories and adapt foreign technologies to Mexican needs. The agency is currently facing stringent budget constraints and is looking for new ways to finance programs that have been receiving government subsidies. In addition to promoting the development of science and technology, the agency is now encouraging Mexican researchers to learn how to promote their skills in the private sector. *CONACYT* is responsible for 50 research centres throughout Mexico, at least three of which conduct research in biotechnology.

NATIONAL COMMISSION FOR THE UNDERSTANDING AND USE OF BIODIVERSITY

A few years ago, the Mexican government helped create the *Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO)*, National Commission for the Understanding and Use of Biodiversity. The commission has a mandate to document the country's biological resources and to promote their rational use. *CONABIO* receives financial and technical support from the *Secretaría del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP)*, Secretariat of Environment, Natural Resources and Fisheries, and from international organizations such as the World Bank. Modelled after Costa Rica's National Institute of Biology, *CONABIO* promotes scientific education and uses of biological resources that generate profit while protecting biodiversity.

UNIVERSITIES AND RESEARCH INSTITUTES

Most biotechnology research centres are divisions of major Mexican universities or are affiliated with educational, philanthropic or governmental entities. Most of the university research units have traditionally focussed on primary research, but they are now being encouraged to work with industry to develop commercial applications.