

## PUBLIC POLICY

The diversity in the economic production that exists in Mexico represents one of its significant advantages inside the market competition at an international level; inside of that variety the agricultural sector of the country represents a major source of income and jobs and it's necessary for the economic growth and social development of the country. Inside the agricultural activities are located the apple production, this being one of the most profitable economic activities inside of Mexico.

Just last year Mexico produced a total of 716,930 apple tons according to a study made by the Agrifood and Fishery Information Service; this same report established that such apple tons produced an income of 4.66 thousand of millions of pesos. In Mexico, there are approximately 52,248 hectares dedicated to the production of apples. It's important to emphasize that the production of apples on a big scale happens almost all of it in the state of Chihuahua, resulting in this activity predominantly practiced in the east sector of the estate, producing the 81.8% of apples on a national level.

Apples are one of the most consumed foods globally, placing itself in 20th place of most used products; this makes apple growth not just an important business in Mexico but in the rest of the world.

In many places around the globe, the apple production has been presenting a problem in the farming section, the so-called "fire blight". This problem damages a massive part of the apple crops and is caused by a bacteria called *Erwinia amylovora*.

In Mexico, the impact of this pathogenicity is presented in the apple sector of Chihuahua. The bacteria were biochemically identified in 1974 by the National Institute of Agricultural Investigations; however, it wasn't until 1990 that the symptoms were notorious in the crops because the bacteria affected 10% of the production of that year. Since that moment, the infection just kept growing; in 1999 it was estimated a 300 million pesos loss caused by the same bacteria. **National level justification, conforming interpretation, and international law, food access and the right to the benefits of scientific progress and its applications.**

This Public Policy finds its justification in the right to alimentation, which within our constitutional framework, is part of the right to health, which is established in the fourth article of the Constitution. Thanks to our constitution supremacy within the Mexican Law, article 4 of said ordinance, in its fourth paragraph establishes:

"Everyone has the right to health protection. The Law will define the bases and

modalities for access to health services and will establish the concurrence of the Federation and the federal entities in matters of general health, in accordance with the provisions of section XVI of article 73 of this Constitution.”

It is necessary to emphasize, that in the food pyramid, fruits and vegetables are found in its base, which is an elementary part of the Mexican diet. Based on the preceding, and considering the health parameters developed by our Constitution and the General Health Law, biotechnology has looked towards a better sustainability and a healthy environment, to improve the conditions in which these foods are planted, harvested and consumed. Therefore, several social programs have been developed for the application of current technologies to conserve our food variety and maintain a high production rate, to conserve and raise the export percentages of the Mexican fruit product towards the countries abroad.

This Public Policy agrees with the conforming interpretation principle, which as defined by the Supreme Court of Justice of the Nation, "is the activity that consists of seeking explications of several texts, at least of two, that be compatible with each other. In other words, its objective is to identify one or more conforming interpretations because of said action." Therefore, for the elaboration of the present Policy and the Official Mexican Standards elaborated, the Protocol of Cartagena on the Safety of Biotechnology of the Convention on Biological Diversity have been consulted.

In addition, the present Public Policy has found a series of connections with the “Voluntary Guidelines in support of the progressive realization of the right to adequate food in the context of national food security”, elaborated by the Food and Agriculture Organization of the United Nations, since it seeks the economic development and the promotion (in its two compulsory aspects) of the Human Right to an adequate diet, being this, through nutritional and healthy foods, such as Rosaceae fruits.

Regarding the Right to Enjoy the Benefits of Scientific Progress and Its Applications, the Special Relator of the United Nations establishes that this right has an intimate relationship with other rights such as the Right to participate in cultural life, among others. According to the Independent Expert, this right includes all sciences: life, physics, and chemistry, behavior, socials, as well as engineer professions and health. This right contains several sections that are considered important in the project. The first one is that everyone can access, without discrimination, to the benefits of science and its applications, including scientific knowledge. When investigating products related with the one that was developed in the project it was appreciated that biocontrols and other related products have a high price in the market; that's why the product was made in order to be reachable for everyone, either to a multinational company or an independent farmer. This is because it is believed that the possibility to take care

of crops in an innovative way and through the use of synthetic biology is something that everyone should be able to access and afford.

The second section establishes the opportunity for everyone to contribute to the scientific activity and the indispensable freedom for the scientific investigation; this more than allowing the access to individuals to the product, really refers to the investigators that develop projects in its whole.

The third section establishes the participation of individuals and communities regarding decision making and the related right to information. It is considered that there should be more promotion of the meaning and application of this new technologies, given that the Mexican population is not aware of these, and they are of great importance since they are being used and applied at an international level due to its effectiveness and care for the environment.

The fourth and last section of this right is the promotion of a favorable environment regarding conservation, diffusion, and development of science and technology; this part is considered of great importance because many times the lack of diffusion of a determined science or technology creates negative stereotypes of it; this is why it is necessary that individuals get to know it in a favorable atmosphere because the technological and scientific advances have a principal goal that is to give the human being a better way to carry out activities that may result complicated to carry on, or are at a very high price, can damage the environment, above others.

Until now, this right has had a low impact as to the political decision making and in the Human Right Movement since it isn't known that much, but it must be remembered that this right belongs to the Third Generation Human Rights, and it is considered of great importance that the international community starts paying attention to it as a right as important as any other. In relation to the above, and with support from the National Food and Nutrition Security Policy 2012-2019 of Colombia, the following proposals and actions have been considered to implement what has been investigated in this project: Proposals:

- **Perspective or dimension of economic means.**
  - I. Have an adequate supply of the food group contemplated in this Policy.
  - II. Guarantee access to the food group referred.
  - III. Develop income generation programs that favor Food and Nutrition Security.
  - IV. Support Food Sustainability in the country.
  - V. Improve social promotion programs related to Biotechnology and Genetically Modified Organisms.
  
- **Transversal Lines of Action.**
  - I. Improve the quality and safety of food and water.

- II. Achieve an articulated intra and intersectoral action around Food Security and Sustainability, with the participation of all the actors involved in it.
- III. Implement a National Sectorial Environmental Policy-oriented to the sustainable use of the agricultural species of the Mexican biological diversity, with aims of food and natural resources sustainability.

Actions:

- Implementation of educational programs in basic and upper secondary education, for the promotion of biotechnology and genetically modified organisms.
- Establish antecedents for the normativization of concepts related to biotechnology and genetically modified organisms.
- Implementation of general administrative provisions for the reduction of Income Tax on the production, sowing, and harvesting of agricultural food products.
- Tax Deduction of investment with respect to the implementation of Genetically Modified Organisms for agricultural food production processes.
- Programs to promote the benefits provided by genetically modified organisms and their application in agricultural processes in the Mexican State
- Increase the competitiveness of the rosacea produced in the Mexican territory, compared to those produced abroad, by promoting these foods and facilitating their entry into the international market.