

Biotech crops contributed with around US\$ 127,000 million to the country's economy

Since its incorporation in 1996, cumulative gross benefits generated by genetically modified crops are estimated to amount to US\$ 126,969.27 million. Most of these benefits went 66% to farmers, 26% to the National Government and the remaining 8% to input suppliers (seeds and herbicides).

Since 1996, when the first herbicide-tolerant soybean was introduced, Argentina has been a leader in using genetically modified (GM) crops, reaching about 24.5 million hectares of transgenic crops in the latest crop season (2015/2016). The incorporation process of these technologies has been quick and continuous, with an unprecedented adoption dynamics both at a national and international level. This has led to the fact that GM varieties currently represent almost the total planted area with soy, maize and cotton.

According to a commissioned study carried out by Dr. Eduardo Trigo for the Argentine Council for Information and Development of Biotechnology (ArgenBio), over the 1996-2016 period, this adoption process has contributed to the country with a cumulative gross benefit of US\$ 126,969.27 million. These benefits went 66% to farmers, 8% to technology providers (seeds and herbicides) and 26% to the National Government (through export taxes). To put these figures into context, the National Government collected during the 2011-2015 period the equivalent to 1.4 times the annual cost of the Universal Child Allowance program – publicly known in Spanish as AUH (Asignación Universal por Hijo).

At a social level, the study estimates that - considering the surplus generated from these technologies – over a 20-year period, this surplus should have created a total of 2,052,922 jobs.

The study also mentions some environmental impacts related to GM crops, and it emphasizes the synergy between the adoption of these technologies and no-till farming practices, considering the positive impact the latter has on the conservation of soils, the emission of greenhouse gases, carbon sequestration and the energetic efficacy of crop management. At the same time, the author warns about other issues that should be addressed, considering the competitiveness and sustainability of agriculture, as well as the need for rotating crops and active principles, recycling nutrients and implementing refuges in the case of insect-resistant crops.

As to the future, the study highlights the importance of keeping agricultural biotechnology as a Policy of State. In this sense, it emphasizes that the future is one of a growing complexity regarding the demands for technological solutions, so that Argentine agricultural production continues in the path of expansion that it has gone through for the last decades. The challenge lies in creating an appropriate institutional framework for these technologies to be available. Respect for intellectual property, solid science-based regulatory frameworks as well as effective international negotiations are key aspects to encourage investments in R&D and to sustain long-term biotechnology policies.

Biotechnology is an essential component to face in a sustainable manner, the demands from a constantly growing population, with increasingly scarce and limited resources due to environmental changes effects. The challenge is to find the paths and tools of adequate policies that suit today's needs, so as to ensure that the country can keep on leading this technological field, as it has done until today.

Economic benefits per crop and sector

Soybeans accounted for US\$ 118,355.91 million, which represent approximately 25% of Argentine Gross Domestic Product in 2015. Most of these benefits favored farmers (65.9%), while 27.4% was for the National Government – through export taxes – and the remaining 6.7% went to technology suppliers (seeds and herbicides, divided into approximately equal shares).

In the case of maize, insect-resistant and herbicide-tolerant technologies accounted for US\$ 5,510.50 million. 45.2% of benefits went to farmers, 17.7% to the National Government and 37.1% to technology suppliers (with about 31.4% going to the seed sector).

Finally, cotton accounted benefits for US\$ 3,102.86 million, which went mainly to farmers (95%), with the remaining 5% distributed between seeds and herbicides suppliers.

Full report available at www.argenbio.org

About the author

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About ArgenBio

ArgenBio (Argentine Council for Information and Development of Biotechnology) is a non-profit organization whose mission is to disseminate information on biotechnology, contributing to its understanding through education and promoting its development.