

Soy cultivation in Argentina: a reference case

By Darío Aranda

In agribusiness, Argentina is a role model, particularly when it comes to the production of genetically modified soybean. It was the first Latin American country to approve the cultivation of genetically modified soybean, and it is the world's third-largest soybean exporter (after the US and Brazil). This monoculture makes up 56% of cultivated land (19 million hectares) in the country and results in massive deforestation, evictions of farmers, land conflicts, and widespread use of agrochemicals. Six court rulings, scientific studies, and a criminal trial round off a panorama that brings the future of agribusiness in Argentina into doubt.

The spearhead

In 1996, under the government of Carlos Menem, Argentina approved the cultivation of transgenic soybeans. This approval, which radically changed agriculture in the country, was granted in an administrative process spanning only 3 months. Argentina approved the cultivation of GM soybeans without performing its own studies. It only used the studies presented by the company, Monsanto, as scientific evidence. In 1997, 11 million tons of GM soybeans, which had been cultivated on an area of 6 million hectares, were harvested in Argentina. By 2010, soybean crops covered an area totalling 19 million hectares, which amounts to 56% of the country's cultivated land. Soybean cultivation relegated wheat, and now already occupies half of the country's productive land.

One third of worldwide soybean sales are produced in Argentina. The country is the world's third-largest grain exporter, and the world's top oil exporter, and this in spite of the fact that Argentineans do not consume soybean. Of the soybean harvested, 97% is exported to Europe and Asia.

Land concentration and deforestation

According to a recent agricultural census, there were 422,000 farms in the country in 1988, and by 2002 this figure fell to 318,000 (a 24.6% drop). Over just 10 years, more than 200,000 families were evicted from their historical farms with no choice but to head for the emergency camps set up in large cities.

Between 2002 and 2006, 1,108,669 hectares of forest were destroyed. This equates to 760 hectares per day and 32 hectares per hour. The Ministry for Environmental Affairs underlined that deforestation was taking place to adapt such areas for agricultural use, mainly soybean cultivation.

There are land and environmental conflicts over an area spanning 8 million hectares throughout 6 provinces in North Argentina, largely due to the advancing movements of the agricultural frontier. Of the 950,000 people affected, the majority are indigenous people and farmers. A study conducted by Chaco Argentina Agroforestry Network (*REDAF*) reveals a new attack on indigenous peoples, this time led by the agricultural model: it found 164 land and environmental conflicts over almost 8 million hectares (390 times the size of Buenos Aires). 89% of the conflicts emerged at the same time as the introduction of the current agricultural model, which praises GM soybean as its success story.

Scientific evidence

Andrés Carrasco, one of the most recognised scientists in the country, researcher at Conicet (the most renowned research centre in Argentina), and head of Molecular Embryology laboratories of the University of Buenos Aires already warned in April 2009 that, "Very high concentrations of glyphosate, which is used in agriculture as a herbicide, can have negative impacts on embryonic morphology (amphibian) and interferes with the normal development mechanisms of the embryo". It was the first time in Argentina that an Argentinean laboratory study confirmed the negative effects of this main agrochemical. Carrasco confirmed that glyphosate causes many different kinds of malformations and warned that, "The proven laboratory results coincide with human malformations due to glyphosate exposure during pregnancy".

In August 2010, molecular biologists, geneticists, epidemiologists and endocrinologists, amongst professionals from other branches of medicine, presented their studies over two days during a conference at the National University of Córdoba (UNC). They concluded that, "There is scientific evidence that is sufficiently strong and consistent to confirm that pesticide exposure increases health risks". This finding was announced at the aforementioned Conference of Doctors of Crop-sprayed Villages. It was the first time that a public university invited researchers and academics to discuss the use of agrochemicals and the current agricultural model. Using national and international research results and patient records, renowned

specialists associated agrochemicals with different types of cancer, miscarriages, malformations and impaired fertility.

Justice

Six legal trials give reason to call the use of agrochemicals in Argentina into question.

In 2003, farmers in the Colonia Loma Senés settlement (Formosa province) reported glyphosate fumigations in the area. They referred to their ruined crops, submitted medical certificates confirming symptoms of poisoning and showed photographs of dead animals. In a never-before-seen measure, Judge Silvia Amanda Sevilla called for an immediate end to the fumigations. Her out of the ordinary decision set a legal precedent.

In March 2008, a final ruling issued by Criminal Court N° 2 of Mercedes (Buenos Aires province) prohibited fumigations in the area surrounding the town of Alberti.

Ten years ago, the district of Ituzaingó Anexo, on the outskirts of the Cordoba province, became well-known for its overwhelming number of cases of cancer (200 cases out of 5000 inhabitants) and children with malformations. Inhabitants were surrounded in the east, north and south by soybean fields and fumigations reached the doors of their homes. The *Madres de Ituzaingó* organisation, which was founded as a response to multiplying diseases revealed these cases and reported soybean farmers and political leaders for complicity. In December 2008, the Cordoban court prohibited soybean producers from fumigating in the surroundings of residential areas, and established the realisation of such as a criminal offence, thus targeting glyphosate and endosulfan. The measure prevented agrochemicals being sprayed within 500 metres from residential areas and, in the case of aerial fumigations, within 1500 metres.

For years, residents of San Jorge, in the Santa Fe province - an area right in the middle of soybean monoculture - have been reporting the effects of agrochemicals that have been causing them allergies, poisoning, and respiratory problems. In March 2009, the Court finally prohibited the fumigations. The decision was appealed, but last December a precedent-setting verdict was given: the Civil and Commercial Court of Appeals (chamber II) announced its firm ruling prohibiting fumigations near residential areas within 800 metres (if by land) and within 1500 metres (by way of aerial fumigation) of homes. In passing this ruling, the judges invoked the precautionary principle, deciding that, in light of possible irremediable environmental damages, protective measures must be taken.

In June 2010, the Court also prohibited the use of chemicals, including glyphosate and endosulfan, near residential areas in the Chaco province and set a precedent by also protecting the waterways. The verdict took into account the precautionary principle and required producers to present an environmental impact study. The measure emerged as a response to a precautionary measure taken by residents of the localities La Leonesa and Las Palmas against fumigations on a rice farm.

In August 2012, the Criminal Chamber I of the province of Cordoba sentenced a soybean project and a pilot of a fumigation airplane to a three-year suspended sentence of imprisonment (without effective fulfilment). After 2 months of oral and public trial, the judges established that the fumigation near the neighbourhood of Ituzaingó Anexo was a criminal offence. The *Madres de Ituzaingó* group demanded a prison sentence, and thus challenged the verdict. However, social and environmental organisations saw it as a step in the right direction. For the first time in Argentina fumigation cases were being brought to trial, and the accused were convicted. It set a legal precedent for a hundred other villages that are sprayed every year.

On the same day of the verdict, the Argentinean government approved the launch of Monsanto's new soybean, RR2. It was "more productive and resistant to agrochemicals". The government plans to increase grain production by 60% by 2020 (currently 100 million tons of grain are harvested – half of which is soybean, and it aims to increase this to 160 million tons).

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For more information or to organize an interview, please contact
Volker Gehrmann
Foundation on Future Farming
Email: v.gehrmann@gmo-free-regions.org
Tel: +49 30 24047146