

AGAINST THE GRAIN

# Argentina: New “National” GMOs. Resistance multiplies.



## NEW THREATS

**D**uring the last 20 years, Argentina has been the point of entry through which GMOs have spread out over the Southern Cone. To understand the role this country has played in the most spectacular advance by a crop ever witnessed since the beginnings of industrial agriculture, it is indispensable to note the introduction of “Roundup Ready” (RR) soybeans – which resist Monsanto’s Roundup herbicide – into this country almost simultaneously with their approval in the United States in 1996. Argentina was the beachhead from which RR soy illegally invaded South America, coming to occupy over 46 million hectares of Argentina, Brazil, Paraguay, Uruguay, and Bolivia within the space of two decades. They were helped along on this course by a lack of public debate and by corporate capture of the regulatory apparatus, leading to arbitrary adjustments of the legal framework to suit the corporations’ requirements.

We have previously, and at length, discussed the social and environmental impacts of this expansion<sup>1</sup>: destruction of biodiversity, pollution, land concentration, displacement of farmers, destruction of regional economies, and increased corporate power. In this article, we present some significant developments that have occurred in the last year. These developments demonstrate that Argentina continues to be a global proving ground for GMOs even as public resistance grows. Argentina is becoming a mirror in which the world can behold its own future.

On the one hand, the government of Argentina has announced with great fanfare the introduction of new GMOs allegedly different from the existing ones in three ways: 1) the transgenes do not code for herbicide resistance or production of the Bt toxin; 2) some of them are claimed to promise yield increases, and 3) they have not been developed by corporations but by universities and public research institutes. These, however, are pretexts under which to continue imposing the same agribusiness model on our country.

On the other hand, public doubt and resistance is multiplying every day in many walks of life, while all appearances are that the GM model of agriculture is showing signs of strain. It is not as invincible as it once appeared.

1. “The United Republic of Soybeans: Take Two,” GRAIN, 2013, <https://www.grain.org/article/entries/4749-the-united-republic-of-soybeans-take-two>.

### The model has failed! Long live the model!

Herbicide-resistant weeds – foreseen by Monsanto vice-president Robert Fraley as early as 2007<sup>2</sup> – are now a reality. And, as we anticipated from the outset, the solution being proposed for this problem is to introduce new GMOs resistant to other herbicides.

The most dramatic case is the approval in April 2015 of a soybean with stacked resistance to three herbicides: glyphosate, glufosinate, and 2,4-D by Dow AgroSciences. This soybean will, in all likelihood, cause a radical increase in herbicide use. Particularly concerning is the return of 2,4-D, a suspected human toxin notorious as a component of the defoliant Agent Orange used by the United States in the Vietnam War.

In GRAIN’s article “Soy 2,4-D: waging war on peasants,”<sup>3</sup> we warned of the implications of the approval of this new soybean, stating that “these new GMOs will mean the application of millions more litres of herbicides even more toxic than glyphosate, confirming the existence of a war against those peasants still holding out against the advance of agribusiness. But this time the scale of the assault is reaching a new peak of intensity.” 2,4-D soy has now been approved and is ready to be used for the further contamination of Argentina’s land. The only thing standing in the way of this product being rolled out is confirmation that China will buy the products.

### New national and “public” GMOs

But Argentina has not stopped at approving all the GMOs submitted by Big Biotech Corporations since 1996 (more than 30, all of them either herbicide-resistant or Bt maize, soy or cotton). It has now developed allegedly “public” GMO varieties independent of the corporations.

On 6 October 2015, two new GMOs were approved, and significant pressure is being exerted for the approval of a glyphosate-resistant sugarcane variety.

2. “Más herbicidas para sostener lo insostenible,” GRAIN, <https://www.grain.org/es/article/entries/173-mas-herbicidas-para-sostener-lo-insostenible>, 18-9-2007.

3. “Soy 2,4-D: waging war on peasants,” GRAIN <https://www.grain.org/article/entries/4945-2-4-d-soy-waging-war-on-peasants> 26-5-2014.

## What are these new GMOs?

### 1. Drought-resistant soy

This soybean was developed at the Universidad Nacional del Litoral (UNL) by a research team headed by Dr. Raquel Chan and funded by the National Scientific and Technical Research Council (Conicet). This soybean contains a sunflower gene related to the plant's natural response to abiotic stress conditions such as drought and salinity.

The patent on this soybean is owned by the government of Argentina through Conicet and the UNL, who have licensed it to the Argentine company Bioceres for 20 years. Gustavo Grobocopatel, the Argentine "King of Soy," is one of the owners of Bioceres. But this soybean

#### **Andrés Carrasco: "Big business, not much science"**

Dr. Andrés Carrasco, in his last blog post<sup>5</sup>, left no doubt as to the implications of the approval of this new soybean variety: "The outsized boasts being heard in Argentina testify to an epistemological failure of critical scientific thinking within the analytical framework of existing theories. This so-called "technological progress" is just an encroachment on nature with the application of unproven procedures that simplify the complexity of biological phenomena in an attempt to "sell certainty." What is proposed by private sector enterprises such as Truce and Grobocopatel de Bioceres, aided by their research backers at Conicet (especially Néstor Carrillo and Raquel Chan), is to transform nature into a "factory" in which plants essentially stand in for industrial processes. This is precisely the artificial, instrumentalized version of nature that big business needs. The whole approach is shot through with overweening pride coupled with a poor understanding of biological complexity, and not much science is involved. There are large commercial interests at stake, and a whole narrative of legitimation which honest scientists cannot help but question, even if the transnationals buy up every scientific journal or obstruct the publication of studies and voices opposed to neoliberal-productivist science. Science itself - the essential questions of why, for whom, and to what end that it must always ask - is in crisis. All of us in Argentina cannot close our minds to this menace if we want to survive and preserve our sovereignty."

will largely be marketed under an agreement between Bioceres and the US biotech firm Arcadia to create a joint venture called Verdeca. The new company is involved in the development, release, and international marketing of transgenic soy varieties, drought-resistant soy being foremost among them.

Thus, there is no real independence from the large agribusiness corporations, and ultimate control of the product always remains in their hands. A concrete example of this is the agreement between Arcadia and Monsanto to grant the latter the use of the "Nitrogen Use Efficiency Technology in canola"<sup>4</sup> in exchange for royalty payments.

The Red Nacional de Acción Ecologista de Argentina (Renace)<sup>6</sup> has produced a summary of the consequences of the introduction of this soybean. It will make us increasingly dependent on global markets. The agricultural frontier will continue to expand, destroying hill country and forests, driving out original peoples, small farmers, and anyone else it encounters. Drought-resistant soy and corn will become agrofuels for first-world consumers and the elites of the misnamed "emerging countries." The drought-resistance gene will be inserted into a few patented crops, furthering the loss of biodiversity and decreasing the quality and variety of the foods we consume. The scarce rainfall in these dry regions will be taken up by the GMOs, diminishing soil water content and interfering with aquifer recharge. Forest clearing and the application of the industrial agriculture model in dry regions will worsen climate change, causing ever more severe drought and famine. And what then? No one has an answer.

### 2. Transgenic potato

On the same date, the government of Argentina approved the commercial release of a potato genetically engineered to resist Potato Virus Y (PVY). The variety

4. Arcadia Biosciences, "Monsanto Company announce commercial licensing deal for Nitrogen Use Efficiency Technology in canola," <http://www.arcadiabio.com/news/press-release/arcadia-biosciences-monsanto-company-announce-commercial-licensing-deal-nitrogen-201-9-2005>.

5. Andrés Carrasco, "De Papa a Monaguillo," <http://andrescarrasco.blogspot.com.ar/>, 14-3-2014.

6. "El Gen mágico, y después qué?," Renace, <http://renace.net/?p=1889>, 25-3-2012.





was approved “for the whole national territory, with the exception of the arid irrigated valleys of the provinces of Salta and Jujuy, so as to commercially preserve the production areas of Andean tubers.” This technology was developed by a research team led by Fernando Bravo Almonacid and Alejandro Mentaberry at the Institute of Genetic Engineering and Biotechnology. The variety was licensed to the Argentine company Tecnoplant, a subsidiary of the Sidus group.

In addition to all the risks inherent in any GMO, this variety poses a threat to potato diversity in the region. This is evident in the very wording of the approval, with its reference to an “exception” for the arid irrigated valleys of Salta and Jujuy. What is not mentioned is that there is no way of preventing the GE potato from reaching these regions, and even crossing international borders into Bolivia and Peru. The experience of native maize contamination by GM maize in Mexico in the year 2001 clearly demonstrates that GMOs know no borders. Whether intentionally (as occurred in Argentina with the expansion of GE soy into Brazil and Paraguay) or accidentally, there is no way of preventing the seeds or potatoes from traveling. It should be considered that Argentina has historically grown many potato varieties, which today occupy an area of some 100 thousand hectares.

In addition, the studies produced in support of the potato’s commercial release are clearly insufficient. Even Conicet states that “field trials enabled us to select two promising virus-resistant events and make progress towards commercial release. There were nine trials in four different localities of the country during 1998 and 2001. One of the trials was ultimately continued and the chosen event ... proved immune to PVY in trials during which 85% of the control plants were infected. All the trials were authorized and approved by Conabia. In parallel, the food quality of the [selected] variety was analyzed. Various phenotypic and biochemical characteristics were analyzed, demonstrating that the composition and nutritional value of the variety ... are equivalent to those of the original Spunta variety”<sup>7</sup>.

7. “Felicitamos a Fernando Bravo Almonacid and su grupo por un notable avance en biotecnología vegetal,” <http://ingebi-conicet.gov.ar/felicitamos-a-fernando-bravo-almonacid-y-su-grupo-por-un-notable-avance-en-biotecnologia-vegetal/>, octubre 2015

The only study publicized by Conicet<sup>8</sup> states that one interspecific cross trial was conducted to determine the magnitude of the possible natural gene flow between the transgenic line and its wild relative, *Solanum chacoense*. According to the authors, this study yielded negative results, indicating “a very low probability” of such a cross occurring. This low probability appears to be the argument that clinched the release of the new potato variety.

In both cases, the same considerations apply:

- The approval was based on “substantial equivalence” with the non-modified varieties. As considerable research has shown, “substantial equivalence” is an invalid criterion.
- The studies produced in support of the approval were not made public and no public input was permitted.
- All these new GMOs will lead to the expansion of the agricultural frontier, with larger areas under monoculture.

## NEW RESISTANCE

### No to the Monsanto Act!

Further to the agreement signed with Monsanto in 2012, the government of Argentina officially announced amendments to the Seeds Act of 1973 to allow the biotech companies to collect royalties. Resistance by civil society, and even within the government, over the last three years has kept the bill locked up in the Ministry of Agriculture, where it was negotiated behind closed doors with agribusiness (the seed companies and the big soy producers).

But the Ministry of Agriculture has continued to insist that the Seeds Act must be amended. The tragicomedy has continued into 2015, with the following events taking place:

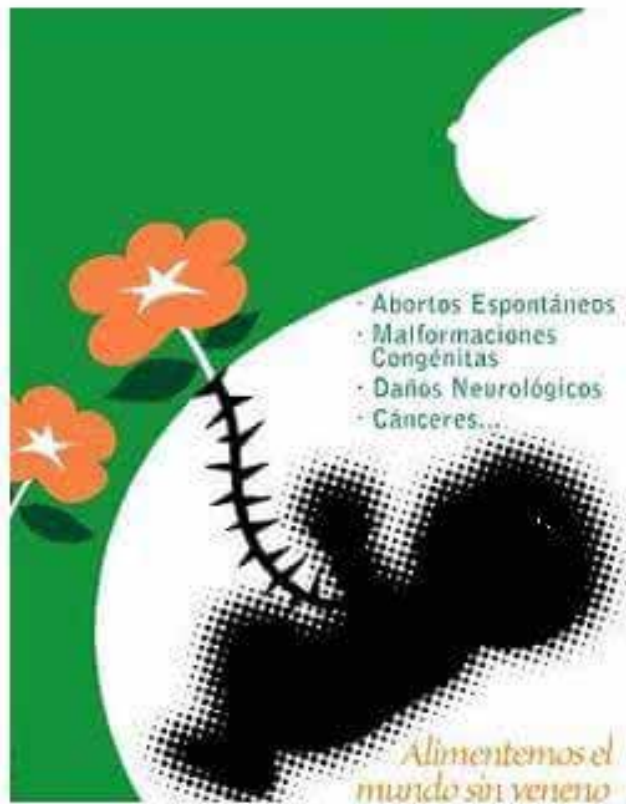
- A conflict between the soy producers and Monsanto, which is trying to collect royalties on Intacta RR2 soy at the ports where the grain is loaded (with the consent of the grain merchants). This conflict arose from the broken promise of 2012 to amend the Seeds Act (the announcement was made simultaneous with the release of the new soy variety).

8. “Field testing, gene flow assessment and pre-commercial studies on transgenic *Solanum tuberosum* spp. *tuberosum* (cv. Spunta) selected for PVY resistance in Argentina,” <http://www.ncbi.nlm.nih.gov/pubmed/22200984>, 27-12-2011.



- The announcement, in May, of amendments to the Seeds Act by means of a “Decree of Necessity and Urgency” to guarantee Monsanto its ability to collect royalties, while at the same time requiring the royalties to be collected solely on seeds, not harvested grain.
- Civil society’s widespread rejection of the decree and its subsequent withdrawal, only to reemerge in the form of a government announcement that the decree will be transformed into a new bill.
- The argument by the Sociedad Rural Argentina, which represents Argentina’s large farmers, that Monsanto does not hold a patent on Intacta RR2 soy<sup>9</sup>, published in a major Argentine daily newspaper: “Monsanto does not own the patent on Intacta RR2 PRO soy. This was the reply obtained by the Sociedad Rural Argentina when it requested the information from the National Industrial Property Institute. This request was made further to the conflict revolving around the marketing

9. “Cuando el abuso no es el camino,” <http://www.lanacion.com.ar/1833000-cuando-el-abuso-no-es-el-camino>, 3-10-2015.



# 3° CONGRESO NACIONAL DE MÉDICOS DE PUEBLOS FUMIGADOS 15, 16 y 17 Octubre de 2015 Facultad de Medicina UNIVERSIDAD DE BUENOS AIRES

of this soy variety, which the company provoked when it made totally illegal attempts to collect royalties.”

- Monsanto’s rejection of the bill tabled by the Ministry of Agriculture, as expressed in a letter from Monsanto Latin America to the Minister of agriculture accusing public officials of drafting a bill that “affects provisions of applicable domestic and international law.” The implication is that the Ministry is contradicting not only the Seeds Act but also the Patents Act. “It is our view that this bill lacks the bare minimum necessary for it to be submitted to Congress”<sup>10</sup>.

As the melee went on, the No Campaign on the New Monsanto Seeds Act got access to the bill (which was never officially published) and was able to analyze and critique its contents.

The critique proceeds along several lines<sup>11</sup>:

- The bill puts limits on farm-saved seed by creating a concept of “payment for technological benefits of

farm-saved seed.” This is a royalty payment which furthers the imposition of UPOV 91.

- The bill gives the Ministry of Agriculture extraordinary powers to “fix, on various seeds and varieties, payment for the technological benefits of farm-saved seeds, to set the value thereof as a function of area sowed, production volume, species, variety, zone, and year.”
- The bill creates a REGISTRY OF FARM- SAVED SEEDS that empowers the authorities “to exercise control and supervision over seed users, in all aspects relating to this act.” What this amounts to is a system for controlling farmers, including small farmers. In practice, it will allow for fines, confiscation of harvests, disqualification of farmers for various benefits, and even shutting down farms.

The Campaign is now working once again to stop this bill from going to Congress.

10. “Monsanto sale duro al cruce del proyecto oficial para renovar la Ley de Semillas,” [http://www.ieco.clarin.com/economia/monsanto-semillas-gabriel\\_delgado-ministerio\\_de\\_agricultura-patentes-transgenicos\\_0\\_1394260578.html](http://www.ieco.clarin.com/economia/monsanto-semillas-gabriel_delgado-ministerio_de_agricultura-patentes-transgenicos_0_1394260578.html), 15-7-2015.

11. “Argentina: la pelea de Monsanto, los sojeros y las semilleras por una Nueva Ley de Semillas a su medida,” [http://www.biodiversidadla.org/Principal/Secciones/Campanas\\_y\\_Acciones/Argentina\\_La\\_pelea\\_de\\_Monsanto\\_los\\_sojeros\\_y\\_las\\_semilleras\\_por\\_una\\_Nueva\\_Ley\\_de\\_Semillas\\_a\\_su\\_medida](http://www.biodiversidadla.org/Principal/Secciones/Campanas_y_Acciones/Argentina_La_pelea_de_Monsanto_los_sojeros_y_las_semilleras_por_una_Nueva_Ley_de_Semillas_a_su_medida), 27-10-2015.



## NO to Monsanto in Malvinas Argentinas

The people of the locality of Malvinas Argentinas (province of Córdoba), through their assemblies and with the support of other organizations, including the Madres de Ituzaingó Anexo, began blockading a Monsanto construction site in 2013. This was to be the largest transgenic maize seed processing plant in Latin America.

The “Spring without Monsanto” movement of 2013 kicked off a campaign of resistance that attracted solidarity from around the world. Together with other actions (particularly a legal challenge to the environmental impact study submitted by Monsanto), this campaign has paralyzed the construction of the plant, with the likelihood of its ever being built fading with each passing day.

So powerful has this resistance been that Syngenta abandoned its plan to build a plant of its own, also in the province of Córdoba, in the last few months<sup>12</sup>.

## We will not be sprayed!

For a decade now, resistance has been growing among local communities to the spraying of soy plantations in their vicinity, which has affected an estimated 12 million people. New voices and coalition partners have joined the fight, with the groups Doctors and Lawyers from Sprayed Communities playing an essential role.

The campaign has centered around keeping spraying away from urban areas, rural schools, and rural habitation. One focus has been to draft and lobby for local ordinances establishing buffer zones ranging from 500 to 3000 m around inhabited areas.

But all the coalition partners share a profound critique of the soy-based economic model and are calling for a transformation towards agroecological production.

Much has been achieved so far, and the list of municipalities that have put limits on spraying is growing by the day. Numerous towns have even banned aerial spraying outright. It has been much more difficult, however, to secure the adoption of provincial legislation. The bills presented have been either rejected or converted into ridiculous proposals of 50-meter buffer zones.

What is certain is that the voice of Pueblos Fumigados [Sprayed People or People Against Pesticides] is being

12. “Syngenta también se va de Córdoba,” [http://www.biodiversidadla.org/Principal/Agencia\\_de\\_Noticias\\_Biodiversidadla/Argentina\\_Syngenta\\_tambien\\_se\\_va\\_de\\_Cordoba](http://www.biodiversidadla.org/Principal/Agencia_de_Noticias_Biodiversidadla/Argentina_Syngenta_tambien_se_va_de_Cordoba), 6-10-2015.

heard. Recently, the third conference of Pueblos Fumigados was held at the Faculty of Medicine of the University of Buenos Aires. Even the dean of the Faculty admitted the problem, and it was decided to take the case to the Inter-American Commission on Human Rights for the purposes of “compelling the Government of Argentina to take urgent and effective measures to safeguard the health and lives of children and adolescents living in the country from direct and indirect exposure to agrottoxins, whether from aerial and ground spraying of extensive and intensive crops on over 30,000,000 ha of Argentina’s territory or from consumption of foods containing residues thereof”<sup>13</sup>.

## A different kind of agriculture is possible!

Perhaps as a harbinger of times to come, the year 2015 comes to a close in La Plata, Argentina with the Fifth Latin American Congress on Agroecology, bringing together over 1500 researchers, small farmers, family farmers, and students in an effort to demonstrate that another kind of agriculture is possible.

The Vía Campesina movement<sup>14</sup> was represented, among others, by Adalberto “Pardal” Martins of the Landless People’s Movement of Brazil, who explained the context of the small farmer’s fight against agribusiness. Martins emphasized that the goal of peasant agroecology is to transform the basis of the dominant food system. Characterizing agroecology as “the peasant practice of resistance to agribusiness and the advance of capital,” he presented the example of a network of organic gardens operated by the women of his movement, which is linked to a network of peasant ecological fairs, a peasant-run ecological seed cooperative/company, Bionatur, and a “conglomerate” of small-scale ecological rice growers, all in the southern zone of Brazil.

13. “3° Congreso de Médicos de Pueblos Fumigados, Agrotóxicos en la Argentina: Se solicita la intervención de la Comisión Interamericana de Derechos Humanos,” [http://www.biodiversidadla.org/Principal/Secciones/Noticias/Agrotoxicos\\_en\\_la\\_Argentina\\_Se\\_solicita\\_la\\_intervencion\\_de\\_la\\_Comision\\_Interamericana\\_de\\_Derechos\\_Humanos](http://www.biodiversidadla.org/Principal/Secciones/Noticias/Agrotoxicos_en_la_Argentina_Se_solicita_la_intervencion_de_la_Comision_Interamericana_de_Derechos_Humanos), 21-10-2015.

14. “La agroecología es la práctica campesina de resistencia ante el agronegocio y el avance del capital,” [http://www.biodiversidadla.org/Principal/Secciones/Noticias/La\\_agroecologia\\_es\\_la\\_practica\\_campesina\\_de\\_resistencia\\_ante\\_el\\_agronegocio\\_y\\_el\\_avance\\_del\\_capital](http://www.biodiversidadla.org/Principal/Secciones/Noticias/La_agroecologia_es_la_practica_campesina_de_resistencia_ante_el_agronegocio_y_el_avance_del_capital), 13-10-2015.



GRAIN is a small international non-profit organisation that works to support small farmers and social movements in their struggles for community-controlled and biodiversity-based food systems.

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