

Genetically modified soya in South Africa

Introduction

It might surprise you to learn that there are very few kinds of GM crops growing in the world today – the four major crops are soya, maize, cotton and canola. The most commonly grown GM crop is soya – it makes up almost half¹ of all GM crops grown around the world. This soya has been genetically engineered to survive applications of herbicides (weedkiller), the most common one being Monsanto’s “RoundUp”. South Africa is a tiny player on the world soya market, but has completely adopted GM soya production.

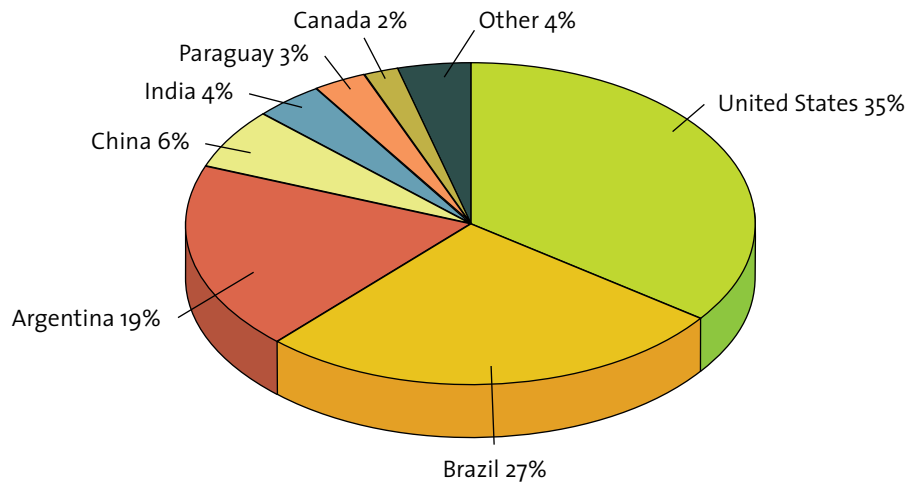
Soya has been a staple food in Asia for three thousand years. During the “Green Revolution” in the 1960’s, soya began to be cultivated as animal feed, with the United States taking the lead in world production. Soya is now a very valuable commercial crop grown to feed the massive livestock sector around the globe. The United States is the world’s biggest producer - in 2011 their production was worth just under US\$39 billion.² Argentina and Brazil are the two other major soya-producing countries. In 2010 these three countries together produced about 81% of all the soya on the world market. This was produced on about 75 million hectares of land. Almost all of this soya was genetically modified³.

Take a moment to imagine what **75 million hectares** of soya looks like – these fields stretch as far as the eye can see; they have been nicknamed “green deserts” by Latin American activists. Now take a moment to imagine the amount of fertilisers, pesticides and chemicals you would need to maintain these vast soya plantations. It’s not hard to understand why these plantations have resulted in violent social and environmental impacts. To make matters worse, all of this GM soya is not grown for food as we have been led to believe – it is produced mostly for animal feed.



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World soya production in 2011



Source: American Soybean Association. Soy Stats 2012 <http://www.soystats.com/2012/Default-frames.htm>

GM Soya in Latin America

During the 1980's and '90's the pressures of globalisation pushed Argentina into becoming a leading producer and exporter of GM forage crops. Argentina began to satisfy the growing demand in wealthy northern countries for animal feed. In time, Latin America replaced the USA as the main provider of forage. In 2006/07, Argentina harvested a record volume of 47,5 million tonnes of soya. This crop covered more than half of the country's agricultural land, equalling about 15,92 million hectares.

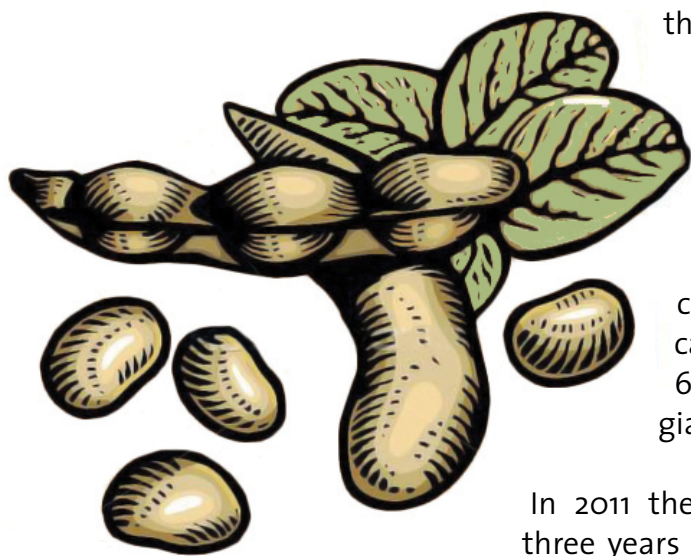
The aggressive spread of industrial soya plantations has been very destructive. Between 2002 and 2004 a million hectares of forest was cut down for soya production. It also caused mass migration to the cities as peasant farmers were pushed off their land as huge land barons took over. Those that stayed to try and make a living in the small pockets of land in between the vast industrial soya wastelands suffered from routine overhead crop spraying. Since this soya was herbicide tolerant much of the spray killed normal crops and made people sick. It became difficult to cultivate their traditional crops such as potato, sweet potato, lentils, peas and various types of maize. Soon, soya grown for animal feed became the staple diet.

The same model of massive soya monocultures spread throughout the Southern Cone of Latin America and today Brazil is the major soya producer in South America. In 2005, Brazil produced 57million metric tonnes of soya. In April 2006, Greenpeace announced that in the 2004/2005 growing season, 1.2 million hectares of the Amazon rainforest was deforested as a consequence of soya expansion. In 2008, Brazil produced a record harvest of 61 million metric tonnes.

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GM Soya in South Africa

The first GM soya bean was approved in South Africa in 2001 for commercial planting. This was Monsanto's RoundUp Ready GTS 40-3-2. At that time South African farmers only grew 134 000 hectares of soya. Today farmers are planting a lot more soya than back then – in the 2011/12 season they planted about 472,000 hectares. Soya bean seed has become extremely valuable - in the last four seasons the market value has jumped from R18 million to R78 million. More soya is needed in South Africa than farmers are able to produce. Only 7% of soya is used for human consumption.⁴ There is an increasing market for soya, mostly for processing to feed factory-farmed animals in feedlots. Farmers are starting to prefer planting soya to sunflower because they can rotate soya with their maize crop.



Monsanto owns the GM technology, so even though other companies may be producing GM soya seed, they are all using this technology and paying Monsanto a license fee. Monsanto has a complete monopoly on this market. Monsanto also has huge control over the chemical that must be used with the seed, called glyphosate. According to their website they control 60% of the local glyphosate market. This multinational giant is making a killing in South Africa.

In 2011 the government granted the first field trial permit in three years for a field trial of a new GM soya variety. Companies run field trials to check how their new crop will perform under local conditions. So this new variety is not commercially available yet, it is still under experimentation. While Monsanto currently owns all of the GM soya that is available, this variety belongs to another company – Pioneer Hi-Bred. This is a “stacked” variety, meaning that it is herbicide tolerant and insect resistant⁵.

In the same year, government authorities gave permits to import three varieties of GM soybean to be used for food, feed and processing (not growing). This is called “commodity clearance” and is different from getting a permit to sell seed to farmers for cultivation. All three of these varieties are owned by Pioneer Hi-Bred. One of them is herbicide tolerant while the other two are a new kind – they are described as having ‘higher oleic acid content’.

GM Soya in our food

South Africans have been eating GM soya without their knowledge since 2001. Soya is a popular health food, a milk alternative and meat alternative. Examples of soya products include soya milk, tofu and soya mince. It is also a very common ingredient in various forms in processed foods, for example check on food labels for ‘lecithin’. In October 2011 the Consumer Protection Act came into force. The Act says that food producers and manufacturers must label GM foods. However a lot of food producers are not following the law and very few of these products are being labelled. In June 2012 the African Centre for Biosafety (ACB) had four products tested for GM content. Two of those products contained very high levels of GM soya but were not labelled!

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- Bokomo's 'Wheat Free Pronutro' had a GM soya content of 71.42% while the GM maize content was a staggering 90.36%
- A dietary supplement called Future Life Energy Meal contained 36.13% GM soya and 100% GM maize.

See the Labelling factsheet for more information.

Gates Foundation promotes GM Soya in Africa

Africa grows less than 1% of the soya on the world market. African countries that produced over 100,000 tons of soya in 2008 were Nigeria, South Africa, Uganda and Zimbabwe. Nigeria is the biggest producer of soya on the continent, harvesting 591,000 tons in 2008. (Think of this as compared to the amount produced in the USA in the same year – 80.75 **million** metric tons!⁶) Nigeria's soya was produced mostly for domestic consumption. Egypt is the 13th biggest importer of soya in the world, importing 1.2 million tons in 2008 and producing 219,800 tons of soya bean oil. Morocco also imports soya for the production of oil and was the 19th largest importer of soya in 2008. Demand for soya outstrips production in Africa, creating the need to look outside of the region for imports. The biggest need is for soya bean cake for animal feed, but soya is also used for oil, meal and soya food products. Soya is becoming a very attractive cash crop as the global livestock sector grows and needs more feed. It is also a good crop for biofuel production.

In 2010 the Bill and Melinda Gates Foundation announced a new project to develop the soya value chain in Africa. The US\$8 million project will introduce soya production to 37,000 small-scale farmers in Mozambique and Zambia, and aims to spread the model to other regions in the future. The project will facilitate their access to agricultural inputs and new technology, facilitate access to markets and assist in infrastructure development. Another aim that we must take note of is "to develop enabling policies for investment".

A major partner in this project is Cargill, which has massive business interests in Latin America, as mentioned above. They hardly have any business interests in Africa yet. It is clear that this project will open new markets for multinational corporations and lobby governments to put policies in place that protect their interests. At the same time it will undermine African agricultural practices and crops and get farmers onto the agribusiness treadmill.⁷

Soya production in the world is now almost 100% genetically modified. It is very likely that this project will push participating governments to accept GM soya production. African governments have been very cautious about adopting GMOs and this kind of project can help to open the doors to GMOs that have up until now been locked. South Africa is the only country on the continent that is growing genetically modified soya.

In early 2010, the Mozambican government allowed an import of 35,000 million tonnes of GM soya from South Africa. Their acceptance of this first shipment shows that their door is now open for African trade in GM soya. Although the shipment was for "food, feed and processing", not for sale to farmers to plant, who knows if the seeds will end up in farmers fields?

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References and notes

Unless noted otherwise, information in this factsheet comes from the in-depth publication by the African Centre for Biosafety, “**Hazardous Harvest: Genetically modified crops in South Africa, 2008 – 2012**” available at <http://www.acbio.org.za/images/stories/dmdocuments/Hazardous%20Harvest-May2012.pdf>

- 1 47% of all GM crops in 2011 were soya
- 2 American Soybean Association (2012). **Soy Stats**. <http://www.soystats.com/2012/Default-frames.htm> (accessed 8/8/2012)
- 3 93% in USA, 75% in Brazil and 100% of Argentina’s soya crop was genetically modified
- 4 National Agricultural Marketing Council. (2011). **The South African soybean value chain**. <http://www.namc.co.za/dnn/LinkClick.aspx?fileticket=hmnbvBkExdY%3D&tabid=92&mid=635> (accessed 8/8/2012)
- 5 Pioneers new variety is called 356043 x 40-3-2.
- 6 American Soybean Association (2012). **Soy Stats**. <http://www.soystats.com/2012/Default-frames.htm> (accessed 17/7/2012)
- 7 Swanby, H. (2010). **The Gates Foundation and Cargill push soya onto Africa**. http://www.acbio.org.za/images/stories/dmdocuments/Soya_Push_in%20Africa.pdf