



6 The right to know. The right to choose

There has been no public policy process to determine the use of GE in South Africa, and decision-making has been characterised by a lack of transparency and denial of access to information, as witnessed in the High Court case between Biowatch South Africa, Monsanto and the Department of Agriculture. Civil society is unable to determine whether the proliferation of genetic engineering in South Africa is safe and compliant with South African law, the Constitution, and international environmental standards.

Litigation brought in the public interest by Biowatch South Africa to compel the Department of Agriculture to provide access to information held by it, relating to permits for the introduction of genetically modified food and crops in South Africa, was heard in court in May 2004.

Biowatch South Africa originally instituted the action - relying on its constitutional right of access to information - against the Registrar Genetic Resources, Executive Council for Genetically Modified Organisms and the Minister of Agriculture. The multinational company Monsanto intervened in the court case, on the basis that it needs to protect its commercial confidentiality. The parties were later joined by Stoneville Pedigreed Seed Company and Delta and Pine Land, both distributors of Monsanto's GE seed. This is a classic case of where huge multinational interests are protected by the government, at the expense of transparency, democracy and social justice. Not only are these corporations unaccountable, but our government in our courts is now acting to protect their interests.

In the same vein, Africa has previously been fed GE food aid without its knowledge or consent. During the food aid crisis of 2002, the World Food Programme told African countries that they had received GE food aid before.

Globally, the introduction of GE has sparked major political debate and polarised countries and people. Introducing this controversial, patented seed in Africa will only further exacerbate conflict and misery. Africa and her people should have the right to make an informed choice about what they grow and eat and not be subjected to inappropriate political pressure to compromise their food security.




Further reading

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Websites

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Six reasons why Africa is concerned about genetically engineered crops

1 Ethical concerns

Genetic engineering (GE) tinkers with the very essence of life. Species are mixed together that would never naturally reproduce. Through patenting seeds and genes, life can now be owned by corporations. Through contamination of natural wildlife and plants, GE forever compromises the rights of future generations to a safe, healthy and diverse environment.

The advent of GE has allowed for genetic material, including seed, plants, animal and human genes to be patented and genetically modified organisms (GMOs) are, without exception, patented. Life forms can now become the intellectual property of an individual or a multinational corporation.

Many religious people and those who have a strong sense of social justice feel that it is unethical and wrong for individuals or companies to own life. Biological organisms - including plants, bacteria, and animals - are seen as the common heritage of the human race. It is our responsibility to care for biodiversity and also to share it with our fellow human beings and leave it in good condition for our children's children.

Seed is the beginning of life and the first step in the food chain. Subjecting this precious resource to corporate ownership and greed has no place in Africa where 90% of the total seed planted is farm-saved, and where free access to a diversity of seed is essential for the survival of poor communities.¹

2 Economic justice

Economic injustices are entrenched by GE as it fuels corporate domination and control of seed and pharmaceuticals. Genetic engineering further tips the trade balance in favour of countries in the North and increases the flow of resources and knowledge from the South.

In Africa, GMOs are marketed as a solution to poverty and food security and an opportunity African farmers should not miss. South Africa grows GE crops and produces enough food to feed itself, so why are our people going hungry? The belief that GE crops can alleviate hunger disregards many factors such as high input costs, infrastructure and above all the distribution of wealth and power. The claim that GE will feed Africa is irresponsible, as it is not a lack of good seed or technology that is keeping the African farmer down, but global structural defects resulting in economic injustice.

¹ The Agreement on Trade-Related Intellectual Property Rights (TRIPS) of the World Trade Organisation (WTO) impacts on peoples' ownership of and access to food and seeds and has the potential to significantly reduce genetic diversity. TRIPS and the use of patents expropriates knowledge from farmers and indigenous peoples in developing countries who, in many cases, have been cultivators, researchers and protectors of plants for thousands of years. This practice is commonly referred to as 'biopiracy'. Biopiracy is not the result of the absence of intellectual property right (IPR) systems in the developing world, but a direct consequence of the imposition of western style IPR systems (based on the US patent regime) through the TRIPS Agreement.



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Over the past few years the so-called 'life-industry' has grown exponentially and companies are taking out monopoly patents on information, technology and biological organisms and increasing their market share through mergers, acquisitions and vertical integration of their interests in pharmaceuticals, seed and agro-chemicals. This has resulted in unprecedented corporate control over the basics of life.

Five giant corporations² dominate the US\$4.5 billion global market for GE seed, with income coming from seed sales and the technology fees farmers have to pay for using patented seeds.³ They are selling only two types of GE crops; herbicide resistant crops that allow the farmer to spray more herbicide; and crops that behave like insecticides.

3 Social impacts

Instead of being a panacea to the problem of hunger in Africa, GE crops threaten rural livelihoods, food security, and local control over genetic resources. Genetic engineering threatens local livelihoods by undermining farmers' rights to save seed. Seed security is the first step in food security but GE and seed patents take this right away from farmers.

The patenting of seed restricts the traditional right of farmers to save seeds from year to year⁴. It also negates the role played by farmers in breeding and selecting their seed as it allows companies to apply for patent rights over plants traditionally used by farmers⁵. In Europe and the rest of the industrialised world, the GE debate has centred on public health and environmental safety. For developing countries on the other hand, the ability of farmers to control how they use their seed is a question of survival and the basis of their food security.

In spite of the marketing hype that GE will feed the world, there is no crop on the market as yet that has the potential to achieve this. The main GE crops currently planted are soya and maize, and these are used mainly for animal feed, not food. GE Cotton is also planted, but this is a cash crop where farmers rely on credit and is notorious for getting farmers into debt.

The GE crops on the market are aimed at benefiting large-scale commercial producers and biotechnology companies. These crops are all either insecticides or are herbicide resistant, and have to be managed in conjunction with the companies' chemicals. Another need of large-scale producers, to save on labour, is being addressed by GE crops. For example, coffee, a source of labour for millions around the world, is being genetically engineered to ripen simultaneously, enabling mechanical harvesting.⁶ South African commercial farmers planting GE crops mention labour as one aspect they save on, something our rural areas cannot afford. The needs of Africa, such as drought and salinity tolerance, or improvements in nitrogen fixation, are not a priority for the biotechnology industry and a GE solution to these problems is far from being developed. For agribusiness the emphasis is on products that generate sales large enough to recoup investment and generate profits: poverty alleviation, food security, and environmental sustainability simply do not factor in this value system.

² These are: Monsanto, Du Pont, Syngenta, Bayer and Dow. Du Pont and Monsanto own 41% of agricultural biotechnology patents and share about 93% of the GE seed market worldwide.

³ Patents on GE seed enable the holders to enforce payment of technology fees for growing crops containing specific genetic traits even when they have not supplied the seed. For example in the United States and Canada non-GE farmers have had to pay fees for growing crops incorporating GE traits as a result of cross pollination from nearby GE crops. Farmers who resisted have ended up in drawn out court cases with Monsanto.

⁴ Farmers around the world (including small-scale farmers in South Africa) that buy GE seeds have to sign growers' contracts agreeing:

- to use the seed for planting a crop for only one season (i.e. they may not save seed)
- to not supply any GE seed to any third party, (i.e. they may not exchange seed).

⁵ Each country determines its own patent laws but through bilateral and international agreements, such as the TRIPS of the WTO, richer countries seek protection of their companies' activities worldwide.

⁶ <http://www.actionaid.org/campaigns/coffee.html>

4 Health impacts

The health impacts of genetically engineered foods are uncertain but many health professionals are alarmed, in particular about the impact on infants and people with compromised immune systems.

The health threats of GE foods include allergens⁷, uncertain toxic effects⁸, antibiotic resistance⁹ and reduced nutritional quality¹⁰. In Africa, we are particularly concerned about the impact of GE foods on people with already compromised immune systems.

Proponents of GE claim that GE food is thoroughly tested for safety, but there is a substantial volume of contradictory research that shows high levels of uncertainty. Where we are facing uncertainty about the harm of GE foods, we should not let profit rule, but take the necessary precautions.

5 Environmental impacts

The environmental impacts of genetic engineering are very serious and irreversible. Genetic engineering threatens local biodiversity; can contaminate farmers' varieties; can increase the use of pesticides; can create invasive species; and can result in new and more virulent viruses.

The environmental impacts of GE crops include:

- Loss of biodiversity;¹¹
- Contamination of farmers' varieties or landraces¹²
- Increased pesticide use;¹³
- Creation of invasive species;¹⁴
- Harm to wildlife and soil organisms;¹⁵ and the
- Development of new or more harmful viruses.¹⁶

⁷ The novel proteins (genes) in GE foods can cause unexpected allergic reactions.

⁸ Monsanto's GE growth hormone, widely used in milk, increases the risk of cancer; GE potatoes were found to weaken the immune systems of rats.

⁹ Most GE organisms contain a gene that gives resistance to antibiotics. The risk is that this gene can reduce the effectiveness of antibiotics taken when a person is ill and there is a possibility that the antibiotic resistance can be passed on to the cause of the infection, the microbes, causing antibiotic resistant infections.

¹⁰ It is widely acknowledged that we still understand very little about genetics. Therefore the insertion of a foreign gene has many unexpected side effects on the host organism.

¹¹ The more diverse our agriculture, the more resilient we are against pests and climate change. 75% of the genetic diversity in agriculture has been lost in the 20th century. GE crops exacerbate this problem because the industry promotes the adoption of a small number of commercially successful varieties.

¹² These are crops that farmers have bred and adapted to local conditions over centuries for specific properties such as drought resistance, late or early maturing, and saline resistance.

¹³ Companies claim that GE crops are environmentally friendly because they use fewer chemicals. However, much of the work on crops involves making them more rather than less dependent on chemicals. Evidence from the US and Argentina supports this. Pesticide use has increased significantly since the introduction of GE crops. United States Department of Agriculture data on GE crops shows a marked increase in pesticide use over a six year period despite an initial reduction in the first three years.

¹⁴ The passing of genetic traits to other species can make species become invasive and there is evidence of this in Argentina, the US and Canada where farmers have a serious problem with 'superweeds' that have become invasive and do not respond to herbicides.

¹⁵ The toxins from GE crops have proved to be harmful to non-target species, such as lacewings, butterflies and bees and also remain active in the soil for up to 320 days, impacting negatively on important soil organisms.

¹⁶ In laboratory tests there has been cases where GE crops engineered to be resistant to viruses cause mutation in target viruses, and result in even more virulent forms of the organism.