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GMOs: *Hacking genes to feed the world*

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South Africa's official position on bio-technology is fairly tolerant of genetically modified crops, with their distinguished record of increasing food security. But environmental lobby groups bang on about unfounded fears and demand mandatory measures to protect the public from a non-existent danger. Worse, they're making inroads.

Many environmental lobby groups are on the wrong side of the struggle to feed the world's poor. Pressure groups such as [BioWatch South Africa](#), [SAFeAGE](#) and the [African Centre for Biosafety](#) consistently oppose the introduction of genetically modified (GM) agricultural crops on the grounds that they might harm the environment, human health, or both.

Their arguments are very flimsy. Proving the safety of biotechnology is, of course, logically impossible. One cannot prove that negative effects will never occur – only that they have not occurred in the past and are unlikely to do so in future. This standard, the highest that is possible in the real world, has been met. The onus ought to be on opponents of biotechnology to prove its dangers.

Environmental groups set impossibly high standards for others because they can't present any evidence of their own. This only inflames unfounded opposition among the lay public, opposition which amounts to ignorant fear of the unknown and wrong-headed application of the precautionary principle. The fear is naïve and simple-minded, and ought to be classed with fears about witchcraft or distrust of newfangled machines like automobiles and mobile phones. The precautionary principle is a self-contradictory argument which logically precludes its own application. One can never be entirely certain that using a new technology entails no risk, but against this slim chance of harm one has to weigh the certain costs and risks of rejecting the technology.

While the safety arguments against GM crops are speculative and baseless, the benefits are significant and proven. A recent report by [PG Economics](#) surveying the impact of GM crops on the environment and the economies of countries that allow them, finds widespread and consistent gains.

“Over the 15-year period covered in the report, crop biotechnology has consistently provided important economic and production gains, improved incomes and reduced risk for farmers around the world that have grown GM crops,” said Graham Brookes, a director of PG Economics and co-author of the report in a press release.

“The environment in user countries is benefiting from farmers using more benign herbicides or replacing insecticide use with insect-resistant GM crops. The reduction in pesticide spraying and the switch to no-till cropping systems is also resulting in reduced greenhouse gas emissions. The majority of these benefits (in 2010) are found in developing countries.”

Without these benefits, farmers would have required additional arable land equivalent to 10% of the arable land in South Africa or 23% of the arable land in Brazil. Without these benefits, they would have had to increase the environmental impact of pesticides by 18%. The cost of this technology amounted to 28% of the total gains, a rate of return which richly rewards farmers for any claimed drawbacks such as having to purchase new seed stock every season. Over the 15 years, half of all the income benefit went to farmers in developing countries, “90% of which are resource poor and small farms”.

All this is irrelevant because “GM technology is driven by big corporations for profit, not for the benefit or the world’s poor”, says [SAFEAGE](#), under the counter-factual headline, “Why GM food and crops won’t feed the world”. The anti-GM lobby groups are prepared to deny documented facts and sacrifice these benefits on their anti-capitalist altar. Perversely, the result is that they advocate poverty, rising food prices and lower food security.

The African Centre for Biosafety (ACB), for example, has some slick patter about “[food sovereignty](#)”. This is a lovely bit of newspeak that sounds like “food security”, but isn’t. It means autarky, which is the last resort of communists and isolationists. If this sounds like too harsh an insult, the same group unburdened itself of an opinion about the acquisition of a local seed producer, Pannar, by Pioneer, a DuPont subsidiary that is a leading developer and supplier of plant genetics to farmers worldwide. It denounces the [merger](#) as the “further consolidation of private ownership over our seed systems”. Elsewhere, without any evidence to support it, it describes GM crops as a “[hazardous harvest](#)”.

The group’s stated mission is cut from the same cloth: “The ACB campaigns against genetic engineering, privatisation, industrialisation and corporate control of Africa’s food systems and the commodification of nature and knowledge. It supports efforts towards food systems that are equitable and ecologically sustainable, built upon the principles of food sovereignty/agro-ecology.”

Biowatch’s boilerplate is similarly emotive, socialist and contradictory. Such waffle fails to realise that starvation, malnutrition and poverty are possible in a perfectly sustainable, ecological, equitable and sovereign way. It fails to note that the world’s growing population has been enjoying ever-improving nutrition and ever-decreasing hunger without a proportional increase in tilled acreage. It rejects the historical fact that this is because smart, progressive scientists such as the late Nobel laureate [Norman Borlaug](#) promoted the use of technology – including genetics, fertiliser and pesticides – to increase agricultural yields, especially in developing countries such as Mexico, Pakistan and India.

SAFEAGE actually cites the statistics: “Global availability of calories has increased by about 15 per cent since the 1960s, and the proportion of hungry people in developing countries decreased from about 37% to 17% of the total population in those countries between the present (sic) and now.”

And then, with a straight face, it continues: “But this average is deceptive, and mainly depends on a massive decrease in hunger in China.”

Does a fifth of the world’s population – a fifth which embraced the “modern production techniques” which the anti-capitalist environmentalists so glibly reject – not count? Is it because they’re Chinese? Or is there something else I’m missing about why “a massive decrease in hunger” makes decreasing hunger “deceptive”?

Was China an exception? Was ever-increasing poverty and hunger the rule? Nope. Calorie intake per capita has increased in all developing world regions since 1960, according to the UN Food and

Agricultural Organisation. Its [report](#) *The State of Food Insecurity in the World 2010*, notes that undernourishment levels declined in all developing regions since 1990, except for a small rise from low levels in North Africa and the Middle East. Even sub-Saharan Africa showed an improvement, even taking into account the apparent setbacks of 2009 because of the global economic crisis. And it turns out even that setback is debatable. Such data is routinely produced by means of computer simulations, despite the known fallibility of extrapolations from numerical models. The simulations said the so-called “food crisis” of 2007-2008 caused more hunger, but when they actually asked people, researchers heard the exact [opposite](#). Bureaucrats (and environmentalists) must find real people terribly annoying.

Either way, the claim that hunger decreased over the last 50 years is not “deceptive”, unlike the alarmist propaganda of outfits like SAFeAGE.

Public interest groups which claim they want to end poverty and improve the environment ought to be cheerleaders for biotechnology. They should agitate for relaxing GM crop regulations not only in South Africa, but also among its trading partners in the region and worldwide. Many of them prohibit the importation of GM food, according to a [case study](#) on South Africa’s regulation of GM products, conducted by the International Food Policy Research Institute (IFPRI).

Sadly, the IFPRI report finds that the environmental groups are doing exactly the opposite: “South Africa is unique in its management of genetically modified crops and the products derived thereof. It is the only country in Africa with successful adoption of genetically modified (GM) crops, and with a fully functioning biosafety system to safely market, export, and import GM and non-GM crops. South Africa’s experience during the past 10 years has shown that the adaptation capacity and flexibility of its regulatory system has allowed the country to take advantage of biotechnologies under ever-changing global conditions. However, with the increasing influence of local special interest groups on decisionmaking, there has been a clear movement toward costly, more rigid trade and marketing regulations of GM products in South Africa.”

It recommends several measures “to improve rather than rigidify market and trade regulations – policies that would allow South Africa to better adapt to global changes, to manage risks rigorously but efficiently, and to take advantage of safe and potentially promising new GM technologies.”

In South Africa, where a ban on GM could not be achieved, many eco-activists are reduced to routine obstructionism in court, designed to stymie farmers who want to use new GM technology. They advocate stringent safety laws and elaborate testing that raise the cost of producing GM crops. On the presumption that some consumers demand non-GM food, they lobby for strong mandatory labelling laws.

But as Anatole France once said, “If 50 million people say a foolish thing, it is still a foolish thing.”

Food labelling laws should be simple: don’t lie. If you want to cater to people who fear modern technology, despite many proven benefits and no proven risks, fine. Label your canola oil as non-GM, the same way you might label your fancy-shmancy boutique jam “organic”. As long as you’re not lying to them, there’s nothing wrong with exploiting the fashionable pretensions of those who can afford to ignore unromantic truths such as Borlaug’s “Green Revolution”. There is, however, plenty wrong with whipping up unfounded fears that serve only to raise food prices and increase agricultural risks.

Demanding laws that force GM foods to carry labels – rather than merely requiring honest advertising about non-GM food – is not only a layer of bureaucracy that costs the poor money they can ill afford to waste, but it tells consumers that agricultural biotechnology is something to fear. How many people insist on “preservative-free” food, despite not having the faintest clue whether it makes sense to reject proven means of preventing wastage, spoilage and food poisoning? Blame food-labelling campaigns.

The same will happen with the mandatory GM labelling laws that the self-appointed, wrong-headed activists demand: it will decimate the potential market for productive high-yield crops, raising prices for consumers and raising costs for farmers. If an outright ban proves to be politically unattainable, high regulatory hurdles, expensive legal obstructionism and scary warning labels will have to do. Besides, the self-appointed eco-watchdogs would no doubt love to rake in lush fees for mandatory testing and certification services.

But they'd still be wrong. The environmental lobby has no right to impose its Luddite fears on anyone, especially not those who can least afford it. **DM**