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Unruly Rules

Do we fix the Gene Technology Act or opt for a moratorium, asks **ARIEL SALLEH**

While scientists around the globe disagree about the fundamentals of genomics and whether or not DNA can be controlled, governments have grasped the Genetic Modification (GM) industry as an engine of economic growth. But how many Australians really want the kind of genetically engineered future that politicians are committing us to? And even if some of us do, is Australian law protecting us from the risks that genetic modification poses? I'm talking about potential evolutionary changes, species loss, degraded soils, food allergies, involuntary vaccination, new viral epidemics and social impacts on farming communities. Or should we demand a moratorium on the release of genetically modified organisms (GMOs) until our health and environments can be assured?

The Commonwealth *Gene Technology Act 2000* is under review right now, and open for public submissions until 15 July. The terms of reference can be viewed at www.tga.gov.au/gene/gtreview.htm. Some people in Canberra see our regulatory system as an exemplar of best practice, but this is far too hopeful a view. The Act is based on an outdated concept of genetic science and unrealistic expectations for risk assessment. Furthermore, economic pressures work against its application and it offers limited scope for public engagement.

The Regulatory System

The Act set up an Office of the Gene Technology Regulator (OGTR), located in the Department of Health. The regulator oversees the accreditation of research facilities and licenses experimental or commercial dealings in GM. It reports to a Ministerial Council of Federal and State politicians, a body that meets infrequently. Relevant pre-existing agencies like Food Standards Australia, the Quarantine Service and several others fall under the OGTR. If a product is intended for environmental release, the regulator is required to consult a committee of scientists known as the Gene Technology Technical Advisory Committee (GTTAC).

Parallel advisory bodies, the Gene Technology Community Consultative Committee (GTCCC) and Gene Technology Ethics Committee (GTEC) have no direct input to licensing; rather, they address the interplay of social values and risks in isolation from the scientific committee. Hence, in 2003, while GTEC was deliberating on the ethical implications of trans-kingdom gene transfer, the regulator was processing hundreds of other GM applications. Likewise, while the GTCCC was calling attention to widespread community disquiet over proposed GM canola crops, GTTAC scientists advised the regulator to go ahead with release. There is no adequate appeal against the OGTR for unpopular decisions, and the regulator has legal immunity.

The *Gene Technology Act* requires that a licence not be issued unless the regulator is satisfied that the applicant is a

suitable person to hold one. But two companies with prior convictions over industry practice have been licensed — Bayer and Monsanto. In terms of monitoring compliance with licence conditions, the regulator has not prosecuted any of the three dozen industry breaches occurring since the Act came into play. In regard to damage to third parties, the regulator may ask an applicant to take out insurance. However, insurers are wary of GM, because calculation of risk is all but impossible.

Open Markets: Closed Discourse

The imperatives of the market mean that scientists and policy makers are less open about the limits of their knowledge in regard to GM, such as unintended health or ecological consequences of an engineered novelty. If not for the economic imperative, scientists could discuss theoretic uncertainties that arise with the move from Watson and Crick's genetic determinism to alternative models of complexity genomics; they could concede the empirical difficulty of managing dangerous carriers of DNA used in research such as *E. coli* bacteria or hyper-mobile viruses; and they could admit to the logical impossibility of predicting future effects of GM. Then, perhaps, regulatory agencies would not grant commercial GM licences on the basis of weakly validated findings or best-guess scenarios.

But the economics of genetic engineering run way ahead of its science, ethics and public accountability. The gap is papered over by public relations. Yet, as big companies and government use PR agencies to manage what they dismiss as 'public fear', they damage public trust. PR communications too often foster a simplistic view of scientific advice as objective, and community perceptions as inferior or subjective.

Locally, this bridging role is in the hands of an unusual inter-departmental organisation known as Biotechnology Australia. Charged with overseeing the National Biotechnology Strategy, it boosts public awareness of GM's many uses and it monitors the media with an eagle eye. In 2004, Biotechnology Australia promoted a business and science conference in Brisbane, with American GM and Nanotech entrepreneur Craig Venter as keynote. Simultaneously, it co-sponsored the Seventh World Congress of Bioethics in Sydney. However, in its role of ensuring that government responds to industry in a co-ordinated fashion, Biotechnology Australia turns from public relations manager to driver of GM.

As the *Gene Technology Act 2000* was being put together, the states were developing their own policies. The Northern Territory enlisted Aboriginal help to identify plant-based medicines, and tropical Queensland fast-forwarded incentives to attract biotech research and development. Melbourne University has also taken an aggressive lead.

Even so, in a climate of global competition for GM profits, the federal structure allows industry to play off one state against another in a kind of divide and rule. Thus, by late 2004, those with a moratorium on GM releases started creating ad hoc exemptions. South Australia stated that canola trials were now for commercial purposes. Victoria followed in 2005, admitting that it had secretly allowed Bayer to grow canola, despite a ban in place till 2008.

An Enclosure Movement

In New South Wales, as an uneasy public pressed the Environment Minister for cultivation details, Bayer pulled back on canola crops planned to grow in tandem with natural varieties. Industry favours mixed production — 'designated GM and non-GM areas' on adjacent land. But it is widely known that engineered pollen or seeds can be wind, water, butterfly or tyre borne for many kilometres. Thus, a policy of GM and non-GM 'coexistence' sets the scene for legal debacles like the case of non-GM farmer Percy Schmeiser in Canada, now facing a massive compensation payout to his neighbour, Monsanto, after their GM seed was found on his side of the fence. For the fact is that an area designated for GM production turns into a corporate enclosure in the biological sense, and adjoining lands soon follow.

At the time of writing, the main commercial release in Australia is Roundup Ready (herbicide tolerant) cotton, but other cultivars are: Victoria — canola, Indian mustard, grapes; ACT — clover; New South Wales — cotton, Indian mustard; Queensland — cotton, sugarcane, pineapple, papaya; Northern Territory — cotton; South Australia — peas, canola, Indian mustard; Western Australia — cotton; Tasmania — canola, clover, Indian mustard, poppy.

The Regulator recently approved drought-resistant wheat, and bovine herpes vaccination for cattle is on the books. The OGTR website (<www.ogtr.gov.au>) indicates a plethora of biomedical experiments not intended for release; the curious browser is warned that the downloadable document listing them runs to 600 pages.

By Common Law, Australian GM farmers are liable for unintentional contamination of non-GM land, canola and corn being especially active cross pollinators. But the victim has to establish indisputable proof of harm. Certainly, compensation should be due if non-GM farmers in a 'coexistence region' cannot guarantee delivery of organic vegetables, or non-GM and pesticide-free honey or dairy produce. But the Commonwealth Department of Agriculture judges the likelihood of recovery by a non-GM farmer as very slight.

A strict legal liability regime, covering producers, growers and distributors, is needed for GM in Australia, similar to the one covering medical pharmaceuticals.

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It is no coincidence that a policy principle supporting the coexistence of 'designated GM and non-GM areas' emerged during negotiations over the Australia-US Free Trade Agreement. Its emphasis on 'marketing' could give states an edge against federal regulatory powers and tighten the WTO aegis, which defines nationally imposed protections as trade barriers. These protections include import tariffs, quarantine programs, producer subsidies, environmental laws and Occupational Health and Safety standards. Arguably, for neo-liberals committed to deregulation, such a principle

could have the benefit of blurring the ambit of federal control over GM at the local level, and confusing the reach of federal powers at the international level.

Non-GE Farmers, Greenpeace, GeneEthics Network and other NGOs are currently looking at how to reconcile state and federal GM regulations. The preference seems to be for 'a one-stop-shop' to overcome the many loopholes that exist under the Gene Technology Act. But whatever happens, it is important to ensure that any WTO-directed harmonisation of law between federal, state and local governments is not allowed to drop standards to the lowest common denominator. At the same time, if there is any flow-on effect of WTO mandates into constitutional relations between federal and state governments, this needs to be spelled out.

To realise the stated object of the Act, which is to protect people's health and environments by 'identifying and managing risks' associated with GM, governments will have to deepen their democratic reach. This is critical as industry moves into the next wave of innovation — cloning and xenotransplantation. But deliberative politics should mean more than a consumer-focused PR exercise; rather, it should enlist the broadest possible citizen guidance from below in accord with what democracy activists call the Participatory Principle. At the same time, practical difficulties in the implementation of GM risk assessment mean that responsible government will adhere to a strict reading of what

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environmentalists recognise as the Precautionary Principle. Beyond this, an ethical government will ensure that liability follows the Polluter Pays Principle in a way that addresses social justice. A good Gene Technology Act would embody these principles and give them force.

As a first step towards democratisation, the Commonwealth Government should sign on to the Biosafety Protocol and collaborate with the broad majority of countries building strong environmental law. The Protocol is precautionary and preserves prior informed consent and the right of a nation to reject imports like terminator seeds. However, the Australia-US Free Trade Agreement pre-empts any move to sign, favouring the shallow, economic WTO regime. This enthusiasm for free markets leads governments to externalise ecological and human costs. But GTEC should be attending to this, as well as to the colonising aspects of technology transfer: the corporate bribery and the environmental racism that sometimes goes with it.

Let People Be Heard

In embracing citizen inputs, there are many publics; even intergenerational ones. And given Australia's active trading role in an era of globalisation, it is appropriate to weigh up outcomes of our GM industry on overseas communities as well. The principle of food sovereignty developed by the alternative globalisation movement is central. It is applicable where the Australia-US Free Trade Agreement undercuts consumer standards, and it applies in poor African nations where unwanted GM product is dumped as aid.

A good Gene Technology Act would be socially responsive, establishing representative citizen juries to judge corporate product applications upfront, on a 'do we need this?' basis. These panels might even balance cultural diversity with biodiversity by looking into alternative economic futures, inspired by non-Western communitarian templates. The ethic of mutual obligation offers a healthy counterpoint to the absentee rule-making of the liberal state. So too there are many sources of technical expertise in managing nature. Lay assessments of risk developed by farmers working hands-on with ecosystems are often finely honed and multifactorial — something not always appreciated by practitioners of a reductionist laboratory science.

The skills and insights of women who are primary carers of human bodies offer another standpoint that merits equal representation at the political table — remembering always that such women actually constitute a majority of workers worldwide, not a minority perspective. It is empirically established that women oppose GM risk-taking more strongly than men, and reasons for this are explored in the ecofeminist literature. But the expertise and ethical judgement of care givers is undemocratically suppressed when committees are steered into the technico-legal discourse of the liberal state — the language of human dissociation from nature, no less.

And there are other citizen voices silenced by the Act as it stands. Following National Health and Medical Research Council guidelines, First Nation peoples are addressed in the third person as collectives. Yet, given corporate patenting of indigenous intellectual discoveries, Aboriginal members speaking for their traditional values and knowledge of biodiversity should be indispensable advisors to government on GM.

The Act does not cover patents and intellectual property rights, but it is difficult to discuss the ethics of GM without consideration of these rights or of Regional Agreements covering commercial dealings on indigenous country. The review of the Act could perhaps acknowledge Aboriginal rights by linking to the ILO Convention 169 on Indigenous Peoples. Then again, the transmutation of a people's knowledge for economic gain can unravel their unique cultural identification with country. This is not fair trade.

A Coherent Ethic

The *Gene Technology Act 2000* asks GTEC to deliver an ethical formula on GM acceptable to business leaders, scientists, policy planners and publics. This is quite an ask, though one

thing is plain: the search for ethical principles in a rapidly globalising world has to move beyond the rehearsal of Greek philosophy, Christian sentiment, humanist platitude and the recitation of voluntary individual competencies like honesty and courage. Against the suppositions of some professional bioethicists, disconnecting ethics from the context of power or its socio-economic and cultural outcomes does not enhance objectivity. An ethics committee that disregards the political economy of GM is a contradiction in terms, no matter how rich its professional base.

The most inclusive ethic for GM is an ecological one. Conscious of the 'intrinsic value of biodiversity' as expressed in the Convention on Biological Diversity (<www.biodiv.org>), this dialogue will treat human needs nested inside an ecological frame, thus:

Ecological Sustainability: provisioning ourselves without compromising the survival of ecosystems, other species, other societies or future generations;

Socio-Economic Justice: realising our global material interdependence with secure and equitable livelihoods for all;

Cultural Autonomy: valuing people's differences and reinforcing the diversity of social practices.

These integrative objectives should be benchmarks as the Act is reviewed. Better still, federal and state governments could adopt this framework in a long-term appraisal of the desirability of committing Australia to a GM future.

All this said, the fact is that until scientific uncertainties arising from the immature state of genetic science are ironed out, the only coherent ethical action for Australian governments is a moratorium on further GMO releases. At the close of 2004, a Bangkok gathering of the International Union for Conservation of Nature arrived at just such a position.

Practical Australian activists will most likely work in both directions simultaneously, pursuing a moratorium with a thoughtful review of the Act as a fallback.

On a deeper level, we might use this moment to reflect on the old illusion that humanity is somehow over and above nature rather than part of it.

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