Should NZ grow GM crops?

What are the benefits, if any? And is it inevitable? Two views from opposite sides of the argument.

YES

Hold back science is robbing us of gains

Graeme Peters

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his is no doubt that New Zealand
will one day grow GM food. The
time question is when. It won't be any time soon because New Zealand has rules so tight that no one is allowed to plant a single GM seed in an open field. Of less concern, for now, is that this impossibly regulatory hurdle has stopped GM food production here.

Far more damaging is that local scientists can't test new seeds developed using GM technology. Their innovative germplasm will benefit New Zealand by raising crop yields, boosting milk and meat production, lowering greenhouse gas emissions, and helping plants combat drought, pests and diseases.

The fact that these researchers can't field test and therefore commercialise their contributions to New Zealand agriculture is a crime against science, and makes us all poorer.

But first let's correct the misperception that New Zealand is 'GM free'. Food Standards Australia and New Zealand's FSANZ website says it has approved 39 applications for genetically-modified foods, which means they can be legally imported and eaten in New Zealand. FSANZ says it won't approve a GM food unless it's safe to eat. So far it is not identified any safety concerns with any of the foods that it has assessed. Other credible national regulatory authorities that have reviewed the same products have reached the same endpoint.

Applications include categories of soybean, canola, corn, potato, sugar beet, rice, lucerne, and wheat—staples of the world diet and grown in vast quantities globally. Indeed, the total amount of biotech crops grown worldwide last year was 160 million hectares, equivalent to six times the total land area of New Zealand.

The actual quantity of these 41 GM ingredients imported into New Zealand is anyone's guess, and could be quite small, but that's not the point. More salience is that a science-based regulator says they can be, because it is safe to eat.

Biotech foods have had the regulator's tick of approval since 2000. So far we've been allowed to eat them in their corn chips and breakfast cereals for over a decade, what's the problem with growing the raw materials here?

The answer should be absolutely nothing. But none is grown because super-cautious rules established after a Royal Commission Inquiry into Genetic Modification (2002) have too high.

For example the Environmental Protection Authority, which considers applications to field test biotech crops, has to ask for a risk analysis and a benefits analysis for each application. A risk analysis is a common requirement internationally, but a benefits analysis is unusual and can't be done without completing a field trial under New Zealand conditions.

This has created a Catch 22. Researchers can't complete a benefits analysis without a field trial. But they can't get approval for a field trial without completing a benefits analysis. This is clearly madness. Any review of the flawed Hazardous Substances and New Organisms legislation must address using the need for a benefits analysis.

Those who oppose GM say that leading biotechnology companies, which are spending hundreds of millions on biotechnology research overseas, can't wait to plant GM crops in New Zealand.

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North America, but these aren't ideal because they don't replicate New Zealand conditions.

In conclusion, we must continue to give people a choice. Consumers can avoid GM produce if they want. FSANZ specifies that food containing more than 0.1 per cent of GM ingredients must be labelled.

Growers should also have a choice — the right to plant biotech crops or not. At present apple andkiwi fruit growers exercise their choice and see no advantage to adopting GM, and go on them. But it would be unfair for anyone to say that the door is closed for eternity.

The group in most need of choice are researchers who want to test their products in field conditions. But they can't because of legislation written in the early and overly risk-averse days of biotech adoption.

An agricultural revolution is going on worldwide. New Zealand, an agricultural trading nation, needs to loosen the unacceptably tight shackles on biotechnology, or risk being left behind using yesterday's technology.

The case for GM crops is wanting. We could instead be building an alliance with the many other GM-free countries with which to trade in seed for the future.

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cience makes enormous contributions to agriculture. Developing public and private policies around the use and promotion of biotechnology make enormous contributions to genetic engineering.

When overseas chefs say go GM or fall behind, it's a threat and marketing gambit, not fate.

Their companies don't just promote GM seed, they have monopoly control.

In the United States one farmer owns 82 percent of the corn and 93 percent of the soybean seed supply. Just four companies control 29 percent of the entire global seed supply. This is a major reason GM crops are grown worldwide.

GM is part of an industrial innovation model where intellectual property is the primary goal, rather than benefit to farmers or sustainable agriculture.

Innovations for production sustainabil-ity don't make as much licensing revenue for developers and it gives them more control to the farmer and the consumer. They improve soil health and reduce consumption of water and agro-chemicals. That does not fit the ideology of big companies and certain governments, but it promotes small business.

If we develop GM pasture grasses we will put the high-value markets of Europe and certain Asian nations in jeopardy as they place a premium on GM-free produce. GM benefits have proven illusory, unsustainable and not unique.

US pesticide use

By year, 000 tonnes

200

1998

1996

Hercules

Bacillus

Biocontrol

Monsanto

Ciba

Bayer

Agri-Research

US

Canadian

International

Syngenta

Agriculture

Organisation

Figures from the UN Food and

Agriculture Organisation (see graphic above) show US pesticide use is about the same as GM. The US has 80 per cent of the world's agricultural land but uses 22 per cent of all pesticides (25 per cent of all pesticides are used in the US).

Since adopting GM crops in 1999, South African GM-free countries have increased 40 per cent. The way pesticides are applied to GM crops has created new weeds in the Americas. companies are returning more toxic herbicide cocktails and tillage. They control them through insecticide use has decreased since GM, but it also decreased in similar proportions in GM-free countries.

North America. But those not using GM varieties. To cover this they must GM-free farmers collect a share of the US$17 trillion in agricultural subsidies.

Will GM feed the world? Before the adoption of GM crops in Argentina, food security — available dietary energy, protein and fat — was increasing by about 1 per cent per year. Since adoption, food security has decreased by 0.1 per cent to 1 per cent per year. GM Paraguay has similar statistics. Brazil doesn't fit these trends, but it was slower to scale up GM.

GM-free countries Chile, Columbia, Peru and Venezuela have increased food security. While it is an oversimplification to blame GM crops for these losses, it is simplistic and misleading to market GM as necessary to feed the world.

The case for GM crops is wanting. We could instead be building an alliance with the many other GM-free countries with which to trade in seed for the future, and investing in a changed way to farm for our own food and economic security.

'Go GM or fall behind', is a threat, not fate.

Jack Heinemann

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