Hatchard Report

Dr. Guy Hatchard

The Government has announced that during the next three months, it will take Cabinet decisions on new regulations to remove the ban on genetic engineering and enable the safe (???) use of gene technology in agriculture, health science, and other sectors (???). Following the Covid pandemic, the word '*safe*' has a very hollow ring to it. So what exactly will deregulated biotechnology look like, what projects will get the green light in New Zealand, who is involved, and is it safe?

What Will Deregulated Biotechnology Look Like?

America has a biotechnology industry that fiercely lobbies the government to forestall any regulation. Integrated DNA Technologies, for example, is a company that sells *"all of the reagents needed for successful genome editing"* with kits designed for delivery into human cells beginning at \$95. Over at a site called GeneCopoeia, a CRISPR Cas9 protein with a nuclear location signal starts at \$69. A multitude of US companies seem to offer everything to get you going editing and cloning at home.

If you don't fancy making designer babies, you might like to **order a deadly pathogen and see if you can make it any better** at its job. This is not a joke, everything is available mail order delivered right to your door. In deregulated America, a huge community of biohackers has grown up dedicated to doing anything that can be done to human life as we know it. It was in this environment that American scientists were able to divert US government grants to Wuhan to build lethal coronaviruses.

What Projects Will Get the Green Light in New Zealand, and Who Is Involved?

In the first instance, biotechnology deregulation will particularly impact our traditional food sources. Already, at least \$195 million has been funnelled into research to reduce ruminant methane emissions. The coalition government has pledged another \$400 million to AgriZero to fund ongoing research. AgriZero is a joint government/private partnership tasked with researching 'tools' that will drive down ruminant emissions.

Partners Are Fonterra, Ravensdown, Silver Fern Farms, Rabobank, Asb, Anz, Synlait.

The 'biotech solutions' researched so far include vaccines, boluses (pills), feed additives, and GE grasses. Biotech PR dreamers have sold the idea that all of these tools will reduce ruminant methane. Let's not forget that methane is produced from normal digestive processes from animals that have been roaming the planet in large numbers for thousands of years without warming the globe.

An entire industry including universities and biotech companies (complete with unaccountable and highly paid board members, CEOs, etc) has already been born, all holding out their hands to the government to secure a never ending income stream for biotechnology experimentation. This industry is born out of the vague promises of gene dreamers that it will be *'safe and effective'* and the discredited notion that animal methane emissions are at the heart of climate change.

The levy and advocacy groups (Beef + Lamb NZ, Dairy NZ and Federated Farmers) all enthusiastically and naively support the research and development of biotech tools. Beef + Lamb NZ is also receiving government funding for its CoolSheep program that is researching low methane genetics even though this is at the expense of true productive traits that farmers have bred into New Zealand flocks for decades.

Multiple other projects are in the pipeline. The government recently established an **RNA Platform** to identify and support opportunities for New Zealand in areas such as human health and the health of other animals. It builds on global progress in the use of these technologies, most notably the development of mRNA vaccines.

As part of a series of Fast Start projects funded through the RNA Platform, investment has been approved for **AgResearch** scientists to provide a proof-of-concept for the application of mRNA vaccines in livestock, specifically to address Bovine Viral Diarrhoea (BVD). Nor are RNA Platform programs limited to animal research; they include crop science and human mRNA vaccines. There is a very broad brush at work

Just stop for a moment and think; as we have reported before, consumers do not want food with tinkered genes. Artificial meat companies are failing overseas. Our export partners are buying our agricultural products relying on our clean green grass fed image. Why throw that away?

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AgriZero thinks otherwise. It believes that *biotech animals with a low methane profile will be an international selling point to our increasingly discerning (???) international customers.* Good luck with that. I used to work at Genetic ID, which built an international business out of GE free testing and certification. I can tell you that consumer suspicion of genetically modified food runs very deep indeed. You can only sell it widely if you are not required to label it. Something that the unregulated US market has embraced to the detriment of food traceability, safety, and consumer choice.

The AgriZero partnership is well aware of consumer disquiet; therefore, it operates behind a wall of secrecy. When asking detailed questions about safety, viability, efficacy, etc. you get short vague platitudes like this one from Rabobank:

"Please be reassured that Rabobank is continuing to work hard in the best interests of our clients and the wider sector."

ASB Bank replied that it supports AgriZero because it wishes to

"Accelerate the development of emissions reduction technology to get tools into farmers' hands sooner... that will reduce agricultural emissions by 30% by 2030...in order to satisfy our trading partners"

Do I detect an echo of the 'warp speed' Covid vaccine development program that ignored safety and efficacy issues?

You might also be interested to learn that the dollars being invested by our government are not just staying here in New Zealand. AgriZero has invested \$9.9 million into a US ag-biotech company ArkeaBio, a Bill Gates start-up, who are looking at methane vaccines. Why is New Zealand funding Bill Gates???

Representatives of BiotechNZ recently travelled to the BIO International Convention in San Diego and came home with the following wide ranging wish list for New Zealand biotechnology applications:

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- Acting as a feedstock for GMO fermentation processes.
- Addressing immediate needs, such as reducing methane emissions from cows or reducing agricultural waste
- Protecting products or industries at risk, like creating pest-resistant crop varieties or Bovine Viral Diarrhea (BVD) resistant cattle.
- Addressing animal welfare concerns, such as producing cattle without horns or improving cattle thermotolerance.
- Meeting consumer demands for specific traits, preferences for firmer fruit, longer lasting, or more nutrient-dense products.

I get the sense from the available correspondence that overseas interests are determined to dictate climate terms to our farming sector that will include the introduction of costly proprietary genetic technology. The costs and risks of this will fall on farmers, the high salaries will go to the technocrats, and the profits will go elsewhere. This has been the structure of US agriculture since the introduction of GM crops.

Is Biotechnology Safe?

If you have been following our websites HatchardReport.com and ;https://globe.global you will be well aware that research shows biotechnology applications have proved neither safe nor effective. The scientific findings need to be studied and absorbed at length. Off target effects and unanticipated outcomes are an inherent feature of gene editing. The proposed biotechnologies aimed at methane reductions and crop characteristics will contaminate our traditional foods with novel genetic sequences with as yet unknown consequences for animal and human health.

Fortunately there will be a wide ranging Covid inquiry starting in November that will provide a forum for discussions about safety, but in the meantime it is apparent from the government's biotechnology deregulation policy that they are determined to prejudge the issue and ignore the evidence of safety concerns.

The history of biotechnology in the US is very instructive in this regard. Jennifer Doundna, inventor of CRISPR gene editing technology, reported in a recent interview with Walter Isaacson that at first *"the idea of editing a child's genes felt unnatural and scary for humanity"*. But after a conference of biotechnologists in 2015, the idea began to recede in her thinking and was replaced with the thought *"that someday we may consider it unethical not to use germline editing"*. This kind of free market thinking dominates the sector. When biotechnologists get together their depth of self belief is astounding. Feeding off each other's wildest fantasies, the push to remove regulation and ignore the risks is overwhelming.

Our academic and commercial biotechnology sector is no different, past failures with animal welfare and crop science are forgotten and the lessons ignored, in the rush to attract investment.

The experience of the COVID-19 pandemic should be a wake-up call. A deadly pathogen created through gene editing escaped easily from a lab and infected the world's population. An mRNA COVID-19 vaccine was rapidly developed that proved neither safe nor effective. We are still grappling with the aftermath of millions of excess deaths. Biotechnology cannot be contained or recalled.

The events speak to a compelling need for the International Genetic Charter. Its simple terms spell out in a few sentences the safeguards necessary to protect human life from genetic degradation. Please take a couple of minutes to sign up to The International Genetic Charter here. Lobby your representatives to inform themselves fully of the risks.

Many thanks to Methane Science Accord for their research findings which have been very helpful in writing this article. You can review their website here.

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