



appendix 2

Outcomes of Consultation: Submissions from Interested Persons

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## 3.18 Areas of public interest: economic matters

### Introduction

The Warrant under item (j) (iii) invited submissions on “economic matters (including research and innovation, business development, primary production, and exports)”.

Most submitters commenting on this item were involved in the production sector. Most were strongly in favour of using genetic modification. The principal sector focus for the 58 submitters making substantial comment on areas of public interest was the economic/production sector (33 submitters). A majority (31 submitters) were assessed to be ‘strongly in favour’ of genetic modification, with a further seven ‘tending to support’ the use of genetic modification.

Economic information dominated much of the material in written submissions from all Interested Persons, with 53 submitters making substantial comment on economic issues. Some of this information was included in response to Warrant item (j) (main areas of public interest), but much of the economic material was included in other areas, especially Warrant item (1) (strategic options available to New Zealand) and also under Warrant item (i) (opportunities from the use or avoidance of genetic modification) as described previously in the relevant sections. Witness briefs also contained considerable economic argument that is not discussed in this report.

Most submitters saw the ‘public interest’ in economic matters in terms of the economic benefits that biotechnology would bring to New Zealand’s production sector (including primary and secondary production, and research and development). Improved performance in this sector was seen as the key source of economic benefit for the country as a whole. Those submitters opposing the widespread use of genetic modification technology generally raised issues of economic benefits arising from avoidance of the technology, such benefits deriving from fostering New Zealand’s “clean green” image and organic production. They also expressed concerns about moral constraints on the pursuit of economic advantage.

# Economic advantage from use of genetic modification

The key issues raised by submitters who saw economic benefits for New Zealand in the use of genetic modification technology were generally grouped around two themes:

- benefits in terms of business development
- opportunities from research and development.

## Business development

Business development opportunities available through the use of genetic modification technology were frequently evidenced as a source of economic advantage to New Zealand, particularly by submitters from biotechnology companies and organisations with affiliations to the production sector. Typical of such comments were those of Wrightson [IP3], which listed the economic advantages of “improved yields, increased productivity and improved product quality” from the use of biotechnology.

Genesis Research and Development [IP11] highlighted encouraging “wealth creation”, maintaining a “competitive economy” and attracting “foreign investment” as key reasons for choosing genetic modification technologies. This view was shared by New Zealand Biotechnology Association [IP47], which considered that genetic modification had the potential “to lift New Zealand’s economic performance and quality of life”.

Industry representatives noted several industry-specific benefits as economic matters of public interest. Production areas for such benefits included trees, food and fibre. For example, New Zealand Cooperative Dairy Company [IP88] cited “reducing the cost of milk production” and “reducing farm inputs” as potential benefits from using genetic modification. Monsanto New Zealand [IP6] saw future benefits in “healthier food” and “nutraceuticals in food”. AgResearch [IP13] saw opportunities for economic benefits in food production with “high value niche opportunities in export markets”. New Zealand Forest Industries Council [IP9] noted several “economic opportunities” including the potential to “improve the health of our forests and ... improve the management of insect and other pests”, as well as “by growing trees that require the use of less and fewer herbicides”. Carter Holt Harvey/Fletcher Challenge Forests [IP17] specifically mentioned the potential benefits of improvement in wood yield and improvement in wood quality.

New Zealand Veterinary Association [IP28] argued that without the use of genetic modification technology to control and eradicate animal diseases New Zealand's "chances of success" would be "severely limited". New Zealand Game Industry Board [IP33] advanced economic net benefits through "gains from increased parasite host resistance", "potentially lower agricultural inputs" and "improved nutritive value of food". New Zealand Feed Manufacturers Association/Poultry Industry Association of New Zealand/Egg Producers Federation of New Zealand [IP35] cited general economic benefits arguing that the "economic benefits resulting from GE technologies will be significant, with a reduction in cost inputs". In manufacturing, Federation of Maori Authorities [IP69] identified "wealth created by food and fibre industries" as an economic advantage.

## Research and innovation

Opportunities for New Zealand to advance its production capacity through the use of knowledge-based technology were frequently referenced by submitters. (See also discussion of Warrant item (i), "Opportunities from the use or avoidance of genetic modification".)

Research and development using genetic modification was seen as a "the key strategic option for the New Zealand dairy industry" (Cooperative Dairy Company [IP88]). In the research sector, economic benefits were noted for New Zealand "as a producer of pharmaceuticals, nutraceuticals, medical and veterinary treatments" using genetic modification technology (New Zealand Biotechnology Association [IP47]). Researched Medicines Industry Association of New Zealand [IP55] emphasised how biotechnology would "boost New Zealand's knowledge-based economy".

Submitters noted several industry-specific economic benefits, especially benefits from innovative research using genetic modification techniques. They saw particular advantages to be gained from the development of new and innovative products, as well as the potential for providing new management tools. For example, AgResearch [IP13] saw economic advantages from the development of "novel pesticides". Carter Holt Harvey/Fletcher Challenge Forests [IP17] saw economic benefits from the opportunity "to diversify into end products" such as "new pharmaceuticals and liquid fuels — products currently outside the range of forest companies". Feed Manufacturers Association/Poultry Industry Association/Egg Producers Federation [IP35] saw "the ability to produce a consistent product is of significant advantage to the Intensive Livestock Industry where it is traditionally difficult to produce the same product every season".

Research institutions (especially in the health sector) and biotechnology companies (such as Genesis [IP11]) also noted the general economic benefits of immediate job creation, follow-on employment effects and a highly skilled workforce.

But the greatest economic benefit seen by many submitters (from the research sector and primary and secondary production sectors) was to be gained “from the continued development of biotechnology and the full range of its tools” (New Zealand Life Sciences Network [IP24]). Again, “our best economic interests ... reside in the continuing development of a strong and vibrant innovative culture in the field of GM” (New Zealand Association of Scientists [IP92]). These views were typical of the submitters’ opinion that defined progress in terms of new paradigms. While increased yields, increased productivity and improved product quality were important, submitters noted that even more important was the new technology itself whose full potential had yet to be realised.

## Economic advantage from avoidance of genetic modification

The key issues raised by submitters who did not see economic benefits for New Zealand in the use of genetic modification technology were generally grouped around two themes:

- the negative impact of use of genetic modification, especially on New Zealand’s “clean green” image
- the positive impacts of “GE-free” production, especially organic produce.

These submitters also raised issues of moral constraints on the pursuit of economic advantage.

### Negative impact on “clean green” image

Several submitters had concerns about the risks of any commercial release of genetically modified crops to New Zealand’s “clean green” image. Typical of such concerns were the comments from New Zealand Vegetable and Potato Growers’ Federation/New Zealand Fruitgrowers’ Federation/New Zealand Berryfruit Growers’ Federation [IP75], which noted:

... there is potential for the first commercial releases of GM crops in New Zealand to have an impact on the marketing leverage of our exporters using New Zealand’s “clean green image”. We are not implying that GM is necessarily “un-clean and non-green” however consumer perception currently links these issues. “Clean and green” is a real marketing

tool and the market reality is that it may be affected by association with GM crops in New Zealand.

Submitters' views on the compatibility of organic production and genetically modified crops are discussed more fully in relation to Warrant item (i), "Opportunities from the use or avoidance of genetic modification".

### Positive impacts of "GE-free" production, especially organics

Submitters who saw economic advantage from avoidance of genetic modification perceived economic benefits to be gained from New Zealand adopting a "clean and green" environment. They saw benefits in the positive advocacy of a "GE free" environment. Several advanced the economic benefits of organic production. Representative of this standpoint were the comments from Environmental and Conservation Organisations of New Zealand [IP102], which noted "growing demand, world wide, for organic food, GE Free food". Nelson GE Free Awareness Group [IP100] also noted that "clean green exports of GE Free primary produce and organics ... will guarantee premiums for New Zealand [primary producers]" (These arguments are covered in more detail in discussion of Warrant item (i), "Opportunities from the use or avoidance of genetic modification".)

### Moral constraints on pursuit of economic advantage

Submitters not favouring genetic modification often stressed the importance of totally different paradigms and values. For example, Te Runanga o Ngai Tahu [IP41] asked: "... are we to be manipulated by economics, rather than ethics and value systems that have served us well ... ?" Royal Forest and Bird Protection Society, Nelson/Tasman Branch [IP43] raised similar concerns in its comment that: "Economic matters must never override the ethical responsibility and guardianship ... [New Zealanders] have in respect to the natural environment ... Decisions on GM activity must not be economically driven." Friends of the Earth (New Zealand) [IP78] commented that issues with very large environmental and sociopolitical risks were often ignored because they were "difficult to monetise" and that "as a rule, profits are privatised and costs are socialised".