

## section 3.11 |



appendix 2

### Outcomes of Consultation: Submissions from Interested Persons

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## 3.11 Intellectual property issues

### Introduction

The Warrant under item (f) called for information on:

the intellectual property issues involved, now or in the future, in relation to the use in New Zealand of genetic modification, genetically modified organisms, and products

In the context of genetic modification, intellectual property (IP) may become an issue when people who develop novel processes or products using genetic modification technology seek intellectual property protection, primarily through patents and Plant Variety Rights (PVR).

Thirty-eight submitters made substantial comment on intellectual property issues. Over half of these submitters were from organisations in the economic/productive sector (22 submitters). The principal sector focus of other submitters making substantive comment on this issue included the environmental sector (five submitters) and cultural/ethical sector (four submitters), with the remaining submitters being from a range of other categories. The most notable category, in terms of submitter type, was industry associations/networks with 13 submitters commenting on intellectual property issues. Other significant groupings of types of submitters commenting on this issue included research organisations (five submitters) and Maori organisations (five submitters out of a total of six Maori submitters).

With reference to the stance on genetic modification taken by the 38 submitters offering substantial comment on intellectual property issues, it was evident that more of these submitters were in favour of genetic modification than against. Half of the 38 submitters took a 'strongly for' stance on genetic modification, with far fewer (eight submitters) taking a 'strongly against' stance on genetic modification and the balance spread almost evenly among the intervening categories of 'tending to be for', 'neutral' or 'tending to be against'.

## Key themes

Submitters tended to address issues in relation to intellectual property around several key themes including:

- capture of innovation and development
- issues of public interest
- indigenous issues
- economic issues
- adequacy of current regulatory mechanisms.

These matters are addressed in the corresponding sections below.

## Capture of innovation and development

Submitters provided commentary on how information from innovation and development of genetic modification is captured in intellectual property. Submitters made specific comment on the nature of patents, identifying that they had time limits, that they required disclosure of information, and that a range of uses could be patented.

### Patents have a time limit

Association of Crown Research Institutes [IP22] pointed out that patents were only short term in nature and that “in general the intellectual property regime is designed to optimise the benefits by allowing exclusive private use for a limited period”. New Zealand Biotechnology Association [IP47] also mentioned that “a granted patent restricts the ability of other parties to utilise the invention” and that “a patent creates only a limited term monopoly”. Life Sciences Network [IP24] commented further, with respect to patents, that their “exclusive right is restricted in time to a maximum of 20 years and limited in scope to the invention disclosed in the patent”.

### Disclosure of information

Royal Forest and Bird Protection Society, Nelson/Tasman Branch [IP43] expressed the opinion that “intellectual property rights close up public processes and the availability of information” and noted concern that the public needed information to determine risks that “genetically engineered organisms” might have on the environment. However, Life Sciences Network [IP24] did not agree with this position and noted “patents require full disclosure and availability of the results of genetic modifications in return for the exclusive right granted”. New Zealand Institute of Patent Attorneys [IP71] expressed the opinion on the contractual

nature of patents that:

The grant of a patent has its basis in social contract ... in return for public disclosure of information about an invention ... the inventor receives a time-limited, exclusive right to commercially exploit the invention.

## What can be patented?

New Zealand Institute of Patent Attorneys [IP71] identified that “a gene in its natural state cannot be patented but once research is done to isolate the gene and identify its function this may be patented”. Monsanto New Zealand [IP6] commented: “Patents relating to gene technology are process patents rather than patents of genetic codes ... the ‘code of life’ is not patented, rather the process that expresses the code.”

Submitters provided examples of the use of patents across different industries. Researched Medicines Industry Association [IP55] expressed the view that intellectual property protection “is the cornerstone of the pharmaceutical and biotechnology industries” and “is essential to the availability of new medicinal therapies”. New Zealand Dairy Board [IP67] identified that “biotechnology patents are increasing exponentially worldwide”. New Zealand Transgenic Animal Users [IP45] made comment that “patenting of GM animals is a contentious and complex issue that is not yet fully resolved” as it raises issues of debate around the ethics and morality of “patenting life”. Another example of patenting of a genetically modified product was provided by Nelson GE Free Awareness Group [IP100], which noted that “Vitamin A [‘Golden’] rice developed ... by public sector worldwide research” was “covered supposedly by 70 patents”.

## Issues of public interest

A range of submitters, mainly from religious, environmental and Maori organisations, expressed views on what might be acceptable to be patented and what should not be able to be patented for ethical and moral reasons.

### Patenting of human genetic material

Fifteen submitters raised issues around the potential for privatisation of genetic material and seven submitters made specific comment on the patentability of the human genome.

Submitters, principally from religious, environmental and Maori organisations, expressed the view that human genetic material should not be able to be patented. Interchurch Commission on Genetic Engineering [IP49] remarked that its

members “affirm turning down patents for human genetic material, on spiritual grounds [because] we belong to God”. However, it did note that, although against patenting human genes, it would accept “patenting of specific applications using genetic information”.

A range of groups concerned with environmental issues (including Friends of the Earth (New Zealand) [IP78], Nelson GE Free Awareness Group [IP100], Golden Bay Organic Employment and Education Trust [IP104], and Safe Food Campaign [IP86]) were all of the opinion that life forms should not be patentable. Green Party of Aotearoa/New Zealand [IP83] also recorded “strong objection” to patenting of life and the Maori Congress [IP103] noted its fears that “patenting of life forms” may happen. Greenpeace New Zealand [IP82] supported these views and sought “a halt to the granting of any patents on life, its parts, products and processes”.

Federation of Maori Authorities [IP69] advocated that patents should not be able to be held on “organs, cells or proteins of naturally occurring organisms”. The Green Party [IP83] objected to patents on “genes, cell lines and new organisms” and considered that “only genetic processes should be patented”. In a similar context, Physicians and Scientists for Responsible Genetics New Zealand (PSRG) [IP107] stated that granting patents on genes was “totally unjustified or unjustifiable” and that such patents “threaten food security and violate basic human rights and dignity”. PSRG commented further: “Intellectual property law has been developing using a set of concepts and precedents [that] cannot be applied to living organisms or genes.”

## Moral aspects of patenting

Submitters from a range of organisations raised moral questions in relation to patenting. Friends of the Earth [IP78] believed that the “moral components of patents should be recognised”. Eubios Ethics Institute [IP96] was also of the opinion that the “morality of patents is one of the more controversial aspects of biotechnology”. Similarly, Maori Congress [IP103] noted that it was “unethical that intellectual property rights are being discussed in isolation of ... ethical and moral observations”. Association of Crown Research Institutes [IP22] considered that: “Most of the concerns about patenting GMOs are values-based [and] not benefit-based.”

Auckland Uniservices [IP23] commented that, although “there may be issues around the ownership of human DNA sequences ... this is an international, not a national matter to resolve”. Greenpeace New Zealand [IP82] also highlighted the fact that internationally many governments were looking more deeply at the implications of allowing the patenting of life.

Nelson GE Free Awareness Group [IP100] raised questions as to the ethics of some intellectual property issues relating to genetic modification. This group asked what access “may in future be granted” to the national “heel prick DNA data”.

New Zealand Institute of Patent Attorneys [IP71] concurred that “wide-ranging moral questions have been raised about genetic modification” and noted that “the issues are not specific to the patent system and are better addressed by legislative controls”. The Institute identified that section 17 of the Patents Act allowed refusal of a patent application “on the grounds that it is contrary to morality” and noted that “the administration of the patent system is not the appropriate place” for such decisions to be made. The Institute also commented that “action is needed to clarify ... patentability of humans and intellectual property rights of indigenous peoples”.

## Ethics versus economics

Public Questions Committee (Methodist, Presbyterian, Churches of Christ, Quaker) [IP93] noted concern about the “effect of the profit motive on genetic research and the development of genetic organisms” and expressed the opinion that “ethical criteria must always outweigh commercial considerations”. Maori Congress [IP103] also commented that “it is ethically wrong that genetic heritage could be owned by a handful of companies and government research institutes”.

## Indigenous issues

Submitters raised a series of intellectual property issues specifically related to indigenous species or of concern to indigenous peoples, including:

- patentability of indigenous flora and fauna
- the WAI 262 claim
- western views and indigenous views on property ownership
- international approaches to indigenous issues.

### Patentability of indigenous flora and fauna

Ten submitters raised issues relating to the patentability of indigenous flora and fauna.

Environmental Risk Management Authority (ERMA) [IP76] made the point that “the issue of ‘ownership’ of genetic information” is a matter of intense debate and rejection of the notion of ownership “is particularly deep within indigenous peoples”. Te Runanga o Ngai Tahu [IP41] observed that “intellectual property

issues in relation to genetic modification are [of] concern to iwi” and needed more attention before decisions were made. Royal Society of New Zealand [IP77b (social sciences)] commented that “Maori stated quite specifically that genetic information is owned by whanau, hapu and iwi”. The Society also noted that there “are substantive issues about whether scientific views of genetic information are relevant to Maori, who map their being through whakapapa, which can never be alienated”.

One of the principal concerns raised by Ngai Tahu [IP41] was that patenting traditional knowledge and use of products removes ownership from indigenous people. Ngai Tahu stated that:

While traditional knowledge and use, including medicinal use of indigenous flora, could provide economic benefit for indigenous peoples, the fact of patenting a process, or slightly modifying an indigenous species so that it is a new organism, serves to steal these opportunities and ownership away from indigenous people.

Federation of Maori Authorities [IP69] stated that it did not support “the claiming to ownership of species or varieties of naturally occurring organisms by individuals, companies or organisations” but did consider that the existing legislative framework “should include the protection of traditional knowledge of native flora and fauna by Maori”. An alternative view was presented by Royal Forest and Bird Protection Society, Nelson/Tasman Branch [IP43], which noted that it did not support any form of property rights for indigenous species. The Society commented “indigenous flora, fauna and fish belong here in their own right” and that “they do not belong to any person”. This group remarked further that “we have guardianship and the responsibility to keep nature intact for the future”.

Submitters raised a number of other issues on the patenting of indigenous flora and fauna. New Zealand Wool Board [IP30] considered that for indigenous species there was a need “to develop a just and efficient property right to cover the genetic material and scientific discoveries relating to it”. Safe Food Campaign [IP86] expressed “concern” about the possibility of intellectual property rights for indigenous species being held offshore. Association of Crown Research Institutes [IP22] expressed the opinion that “Maori concerns over GM exploitation of indigenous species can be met through the current legislation”.

## WAI 262 claim

Several submitters raised the issue of the WAI 262 claim<sup>1</sup>, which relates to the ownership by Maori of the genetic material from indigenous flora and fauna. WAI

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<sup>1</sup> The WAI 262 Indigenous Flora and Fauna Claim was registered with the Waitangi Tribunal in December 1991.

262 claimants, Ngati Wai, Ngati Kuri, Te Rarawa [IP89] outlined that “intellectual property issues are a primary focus of the WAI 262 claim to the Waitangi Tribunal”. The Claimants identified some of the “concerns” involved in the claim:

In New Zealand burgeoning industries such as pharmaceuticals have created concerns amongst Maori, and in particular WAI 262 claimants, about the proprietary rights being asserted over plant and genetic resources.

ERMA [IP76] noted that “in the New Zealand context, the WAI 262 claim is the strongest possible expression of Maori feeling toward ownership of native flora and fauna”. Ngai Tahu [IP41] considered that: “There is inadequate legal protection of traditional biodiversity-related knowledge.”

Royal Society [IP77b (social sciences)] also raised the issue of the WAI 262 claim, commenting that it was an important case relating to New Zealand’s biodiversity and outlined that the claim sought “to re-establish te Tino Rangatiratanga in respect of the knowledge of native plants and animals and cultural taonga”.

Landcare Research [IP12] noted that it had developed specific policies about intellectual property in New Zealand “which respond to the issues raised in the WAI 262 claim” and that such policies included “not seeking an ownership position in native flora- and fauna-based intellectual property until the WAI 262 claim is resolved”.

Interchurch Commission on Genetic Engineering [IP49] identified a key principle of the United Nations Convention on Biological Diversity (“that each country owns its own genetic resources”) which carried with it an obligation that “intellectual property rights be respected”. The Commission’s view differed from that of WAI 262 claimants, as the Commission was of the view that indigenous resources belong to all New Zealanders, and stated:

The genetic resources of New Zealand inherent in our indigenous flora and fauna belong to all New Zealanders under the partnership Treaty, and any granting of access to those resources must be done in accordance with Treaty obligations.

New Zealand Institute of Patent Attorneys [IP71] expressed the viewpoint that, although Maori were seeking clarification of the extent of their control over indigenous genetic resources through the WAI 262 claim, the Institute did not consider this approach to be compatible with the existing patent system. The Institute recommended that New Zealand took an active role in the World Intellectual Property Organization to attempt to develop “a separate international instrument on protection of traditional knowledge and folklore”.

An issue of concern raised by Greenpeace New Zealand [IP82] was that Government intended to reform the Patents Act 1953 but that the timetable for this review pre-empted the WAI 262 claim which was lodged in 1991.

## Western views and indigenous views on property ownership

A range of submitters, mainly Maori and environmental organisations, discussed the differing perspectives of indigenous people and western approaches to property ownership. The following viewpoint provided by Ngai Tahu [IP41] outlines the differing approaches to property ownership:

At the core of such intellectual property issues there is a fundamental difference between the western based “private ownership approach” and that of indigenous communities such as iwi. The intellectual property approach adopts the inappropriate application of the term property to traditional resources of indigenous communities. This concept of ownership and the ability to transfer ownership which are fundamentally common law notions of property are foreign and incomprehensible to indigenous people such as iwi.

WAI 262 claimants [IP89] commented further that “the western intellectual property rights (IPR) legal system has increasingly found itself on a collision course with the cultural and intellectual heritage rights system of indigenous and traditional peoples” and noted that there were “fundamental differences” in the ideological underpinnings of these two approaches. The Claimants noted: “The IPR system is concerned with private economic rights whilst those of indigenous peoples are collectively based ...”

Federation of Maori Authorities [IP69] made the point that “traditional knowledge of New Zealand’s taonga should be recognised as taonga in itself and receive protected status”. Greenpeace New Zealand [IP82] commented that the patent system does not recognise traditional knowledge of indigenous peoples. Along the same lines, Safe Food Campaign [IP86] expressed the view that intellectual property rights “belong within a reductionist paradigm that fails to take account of the interconnectedness of life”. In addition, Ngai Tahu [IP41] pointed out that “indigenous knowledge is transgenerational and communally shared”.

Royal Society [IP77b (social sciences)] made reference to “the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples” which recognised “that indigenous peoples are the guardians of their customary knowledge and ... have the right to create new knowledge based on cultural traditions”. With regard to this declaration, WAI 262 claimants [IP89] expressed the view that this “Draft Declaration on the Rights of Indigenous Peoples is the most important statement of basic principles for protection of their rights”.

Nga Wahine [IP64] commented that “anything created in Aotearoa will be subject to Maori claims for ownership as kaitiaki”. Nga Wahine commented further “we will continue to exercise our rights as Maori and prevent the

introduction of GM and GMO experimentation into Aotearoa”.

## International approaches

Submitters made comment on a number of international treaties and conventions that affect indigenous people and indigenous resources. Biotenz [IP25] commented: “New Zealand should continue to argue internationally for IP laws which continue to give indigenous people access to their traditional uses of biological products.” Maori Congress [IP103] expressed concern in relation to international treaties that might result in patenting of indigenous resources and stated:

... international treaties such as WTO and the Convention on Biological Diversity legally codify the right of gene hunters to seize and patent the bodies and resources of indigenous people and it restricts the ability of governments to control or to regulate the process.

Pacific Institute of Resource Management [IP84] noted that a United Nations human rights body had called into question the impact of the World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) “on the human rights of peoples and communities, including farmers and indigenous peoples worldwide”.

## Economic issues

Submitters, principally those who were users of biotechnology raised certain economic issues on intellectual property including:

- investment costs and returns
- cost to access intellectual property.

### Investment costs and returns

New Zealand Biotechnology Association [IP47] made comment that “patents are property and can be bought and sold”. New Zealand Dairy Group [IP88] identified an increasing interest in “the role of intellectual property in wealth creation”. AgResearch [IP13] also made the point that intellectual property rights allowed investors to obtain an economic return from their investment, and noted that the granting of patents covered “not only production processes but the products from those processes”. From a differing perspective, Dairy Board [IP67] commented that “the ability to patent intellectual property is the commercial driver that leads to new scientific discoveries”.

Monsanto [IP6] highlighted the magnitude of investment, noting that its intellectual property is the “outcome of billions of dollars of investment in biotechnology” and made the point that although it selectively protected its

intellectual property, it “currently shares, free of charge, a substantial amount of intellectual property”. Similarly, Agcarm [IP29] estimated that data packages required as part of the Environmental Risk Management Authority’s approvals process “can cost well in excess of \$100 million to generate and are of considerable commercial value”. Researched Medicines Industry Association [IP55] outlined the significant investment in medical industry intellectual property and commented that “without solid IP protection, companies could not afford to invest the average of over \$US500 million per product that reaches the market”.

## Cost to access intellectual property

Lincoln University [IP8], in an accompanying witness brief, made the point that, although “key GM techniques are freely available throughout the world”, increasingly “applications of the technology are becoming proprietary in nature”. Dairy Board [IP67] commented that intellectual property in many areas of genetic modification “is already closed off” and gaining access meant paying royalties. It noted that “currently the Roslin Institute in Edinburgh owns most of the intellectual property involved in the production of cloned or transgenic animals”. The Board also identified that “there is a strong likelihood that the New Zealand dairy industry will be forced to carry additional costs to access the benefits of intellectual property”.

Friends of the Earth [IP78] observed that biological scientists “no longer publish their preliminary results or freely discuss experiments” and identified concerns in relation to costs associated with patents, commenting:

London Hospital, which provided cystic fibrosis tests for free, must now pay a royalty to the University of Toronto [which owns the patent on the cystic fibrosis gene] each time it tests a person for the disease.

A number of submitters raised the “freedom-to-operate” issue with respect to licence arrangements for intellectual property. AgResearch [IP13] noted: “Increasingly, the ability to apply new technologies in New Zealand will be subject to obtaining freedom-to-operate licence arrangements from the owners (often international) of intellectual property covering genes and transgene technologies”. AgResearch also believed that the “ability to trade New Zealand-owned technologies will be an increasingly important means” of being able to obtain freedom-to-operate licence agreements.

## Current trends in intellectual property

Submitters identified a series of current trends in intellectual property including:

- the ‘race’ to capture intellectual property

- the ‘use it or lose it’ trend
- the need for access to global intellectual property
- ownership and control of intellectual property.

## The ‘race’ for intellectual property

Submitters, principally those from the productive sector, highlighted issues around “the race” that is on to secure intellectual property derived from genetic modification applications. The following quote from New Zealand Wool Board [IP30] provides an example of sentiment on this “race” for intellectual property:

If biotechnology is regarded as a race to assemble a “hand of cards”, then IP is the formal name for what we are creating. As a new form of economic currency, the ability to buy, sell, trade and leverage gene knowledge (that may or may not involve GM) is crucial for advances in biotechnology, the technology that is expected to be one for the foundations for economic success in this century. As a biologically dependent economy this is especially so for New Zealand.

HortResearch [IP5] exemplified how this “race” for intellectual property might affect important crops:

Around the world there is intense activity in high throughput sequencing of plant genes. The race is on to sequence the genes of important crops, determine the functions of important genes, and then to patent their utility. Once patented, the application ... is controlled by the patent holder, who may demand high licence fees for applications of the gene.

New Zealand Biotechnology Association [IP47] agreed that New Zealand “must remain competitive in the race to patent gene sequences” otherwise “it will be unable to compete on an international level [and would] have to pay licence fees”. Safe Food Campaign [IP86] identified that since the advent of genetic modification the “use of patenting has expanded”.

## The ‘use it or lose it’ trend

Eight submitters raised issues around “biopiracy” in relation to intellectual property arising from genetic modification technology. University of Canterbury [IP7] observed a “disturbing trend” in the “loss” of intellectual property from New Zealand. The University stated that intellectual property was “flowing to countries with enlightened policies in teaching and research”.

Meat New Zealand [IP31] and New Zealand Game Industry Board [IP33] stressed that “we must protect against others gaining intellectual property” and “use it or lose it”. New Zealand Wool Board [IP30] agreed with this stance and commented “unless New Zealand captures, creates and utilises our own IP in gene knowledge,

other countries will simply take what they want”.

HortResearch [IP5] made a similar point, noting “there is an urgent need to sequence and protect genes in crops of importance to New Zealand”. HortResearch also commented that if New Zealand did not do this, “competitors elsewhere will beat us to patenting genes from crops important to New Zealand” and “industries will be asked to pay high licence fees ... and lose the opportunity to exercise their autonomy and extend their competitive advantages”.

## Access to global intellectual property

Crop and Food Research [IP4] noted that “access to global IP is also key for New Zealand’s economic development”. Crop and Food Research identified difficulties in gaining access to global intellectual property, including where “major multinational biotechnology companies are restricting access to certain genes and tools of biotechnology through patents and other methods” and where the use of the intellectual property is for “commercial products” rather than for research. AgResearch [IP13] also commented “New Zealand will increasingly need to obtain rights to intellectual property held by international partners”. In addition, AgResearch noted “access to key underpinning genomic patents will be essential if New Zealand is to be able to practise genetic modification technologies”.

Federated Farmers [IP34] noted concern that farmers need access to intellectual property and that “as technology becomes increasingly privatised and patented internationally it is vital for New Zealand to develop its own intellectual property”. Meat Industry Association [IP32] expressed the opinion that to date, in the pastoral industries, New Zealand had developed intellectual property as a result of New Zealand research. The Association was worried that “if New Zealand does not conduct the necessary research, it will either not be done, or will not be available for New Zealand to utilise”. Dairy Board [IP67] also made the point that New Zealand must be able to obtain intellectual property from its research so that it could “protect and enhance its competitive advantage, ... acquire royalties or licence fees, ... acquire access to intellectual property”.

Other producer groups, such as New Zealand Vegetable and Potato Growers’ Federation/New Zealand Fruitgrowers’ Federation/New Zealand Berryfruit Growers’ Federation [IP75], agreed that “the ability to access and use protected intellectual property is critical”, particularly as New Zealand is a small country to which “many key patents may not be extended”. The Federations noted further that New Zealand researchers “must be able to maintain the ability to develop and protect their own IP” which they can use “as a bargaining tool to gain access

to multinational IP”.

New Zealand Life Sciences Network [IP24] outlined what genomic information is in the public domain, stating that:

Recent developments overseas suggest a new international consensus is developing which will accept that basic genomic information is in the public domain but that research organisations will be able to patent applications developed from that knowledge.

## Ownership issues

Fifteen submitters discussed issues around the monopoly control of intellectual property by genetic modification patent holders. Environmental and other advocacy groups tended to express concern about the trend of increasing global control of gene technology. Friends of the Earth (New Zealand) [IP78] noted that “the patent system supports the development of international cartels” and that “six major industrial groups ... control most of the technology which gives the freedom to undertake commercial R&D in the area of GM crops”. Safe Food Campaign [IP86] highlighted the reliance of New Zealand farmers on transnational agrochemical companies and noted that five “gene giants” had “control over GM foods globally”. Nelson GE Free Awareness Group [IP100] identified that, in 1999, “patents on life forms ... reached a total of nearly 700, 56% of them American owned”.

Specific ownership issues relating to indigenous resources have been addressed in the indigenous issues section.

## Future opportunities for New Zealand

Submitters, principally from producer and research organisations, identified a range of opportunities that might result from the development of intellectual property. Twenty-three submitters noted specifically that New Zealand needed to capture its own intellectual property.

### Intellectual property opportunities in the productive sector

Wrightson [IP3], in an accompanying witness brief, submitted that intellectual property would be “developed and traded” and that “acquisition of intellectual property is crucial to Wrightson’s commercial success” and “provides the revenue necessary to undertake further research and development”. New Zealand Veterinary Association [IP28] also identified opportunities for “creating value from intellectual property acquired during domestic research, development and

manufacture of GM-based animal remedies” and noted that such opportunities should be “preserved and if possible enhanced”.

HortResearch [IP5] observed that New Zealand “has some of the best germplasm collections for kiwifruit, apples and berryfruit in the world” and that “HortResearch has established a genomics programme which aims to identify and protect genes/functions/products in these key crops”.

New Zealand Wool Board [IP30] identified New Zealand’s knowledge and expertise around the sheep genome as an opportunity “which needs to be captured and utilised for the benefit of the country”. The Wool Board also commented that the “creation and defence of IP around gene knowledge ... will be a major strategic issue for the sheep industry”. Similarly, Meat New Zealand [IP31] identified that New Zealand’s “genetic resources in the form of sheep and beef genomes provide a unique window of opportunity to secure a strong position in developing large animal genomics programmes”.

New Zealand Game Industry Board [IP33] made the point that “genetic resources in the form of the deer genome” provide opportunities, particularly as New Zealand “leads the world in identifying the deer genome”. Both Meat New Zealand [IP31] and New Zealand Game Industry Board [IP33] commented that New Zealand “must establish a priority position in the ownership of critical IP”. Dairy Board [IP67] identified the potential of “selling intellectual property to increase milk production in protected markets” as “one way of overcoming trade barriers”.

Biotenz [IP25] and Agritech [IP73] both commented that “New Zealand must continue to develop intellectual property to ensure that we have the freedom to operate in the future” and that “failure to develop intellectual property will mean significant costs for New Zealand in the future”.

## Opportunities to trade intellectual property

In an accompanying witness brief, Lincoln University [IP8] expressed the opinion that the “potential for New Zealand to reap financial and social benefits from the development and ownership of [genetic modification] technology is great”. Other opportunities to be derived from intellectual property identified by the witness brief were that “the development of such desirable technologies will permit New Zealand to trade this intellectual property on the international market” and that intellectual property “will represent the forerunner of Biocurrency, the currency of the future”. Monsanto [IP6] also observed: “A potential impact for countries like New Zealand is that intellectual property may impact international trade patterns.”

AgResearch [IP13] made the point that New Zealand must be able to trade in patented products, for example transgenic animals, otherwise it “will be locked out of international markets”. Crop and Food Research [IP4] also noted that it had been able to use its own protected intellectual property as “a bargaining tool” to gain access to multinational intellectual property that might otherwise have been denied.

## Regulation of intellectual property

Submitters raised issues around the regulation of intellectual property including:

- international agreements
- adequacy of the current regulatory framework
- future approaches to intellectual property.

### International agreements

Submitters made reference to New Zealand’s involvement in international intellectual property treaties and agreements, in particular the Agreement on Trade-Related Aspects of International Property Rights (TRIPS Agreement). New Zealand Life Sciences Network [IP24] pointed out that:

New Zealand, as a member country of the World Trade Organization, is obliged to provide intellectual property right protection to the standards set in the Trade-Related Intellectual Property Rights (TRIPS) part of the WTO Marrakesh Agreement.

Life Sciences Network commented further that “New Zealand’s intellectual property rights laws do meet these minimum standards”. A range of other submitters, including Meat New Zealand [IP31], New Zealand Game Industry Board [IP33] and New Zealand Feed Manufacturers Association/Poultry Industry Association of New Zealand/Egg Producers Federation of New Zealand [IP35], all made reference to the fact that “New Zealand is party to international patent and other IP agreements” and noted that “it is important to protect our assets and leverage benefit from other IP owned outside of New Zealand”.

Friends of the Earth (New Zealand) [IP78] expressed the opinion that the TRIPS Agreement “has shifted the balance too far in favour of property owners”.

### Current framework is adequate

A range of submitters considered the current regulatory system for intellectual property in New Zealand to be adequate. Carter Holt Harvey/Fletcher Challenge Forests [IP17] identified the current intellectual property regime as “sufficiently robust to protect true innovation and subsequent commercial advantage” and

noted that this regime included the “Trade Marks Act 1953; Patents Act 1953, Designs Act 1953; Fair Trading Act 1986; and Copyright Act 1994”. Association of Crown Research Institutes [IP22] was also of the opinion that the current intellectual property regime “is effective”. New Zealand Institute of Patent Attorneys [IP71] expressed the view that “the patent system has proven a robust form of intellectual property protection in the technological age”.

### Current framework is inadequate

Twenty-eight submitters considered that intellectual property issues relating to genetic modification were not adequately addressed. Submitters commented on operational difficulties with the current approval process for genetic modification applications processed through the Environmental Risk Management Authority (ERMA), as well as several other problems that legislation or regulation did not adequately address.

Seven submitters made specific comment on the loss of intellectual property and/or patentability because of the disclosure of confidential information during the review process. AgResearch [IP13] expressed concern at the level of information disclosure required for ERMA applications and was of the opinion that if the information were made publicly available then the “novelty” might be lost and intellectual property protection might not be able to be achieved. Meat New Zealand [IP31] and New Zealand Game Industry Board [IP33] also raised the issue of the requirement to provide descriptive information in ERMA applications and the possibility that the applicant “may lose the quality of novelty and thereby forfeit patent protection”. Similarly, New Zealand Biotechnology Association [IP47] was of the opinion that “disclosure of information to ERMA ... may result in intellectual property protection being unavailable”.

On the issue of information disclosure, Agcarm [IP29] noted that “a better balance needs to be struck between competing interests” and that “applicants need to be able to better quantify their chances of success with an application”.

New Zealand Institute of Patent Attorneys [IP71] agreed with the above submitters and noted that:

... the protection for confidential information in regulatory approval processes for genetic modification and genetically modified organisms are inadequate and need to be urgently addressed.

Environmental Risk Management Authority [IP76] also expressed concerns that the Official Information Act and the Hazardous Substances and New Organisms Act (HSNO Act) did not “provide sufficient protection of commercially sensitive

information” and that “the mere identification of the organism on the public register could compromise commercial interests”.

On a similar note, Agcarm [IP29] commented that unfair commercial use of information could arise from “cross-referencing by regulatory authorities ... [and by] release to competitors, either directly, or indirectly by release to the public” and suggested that a data protection provision was needed in the HSNO Act. Agcarm also expressed concern regarding the provision under the Official Information Act where a decision to withhold information could be overturned by the Ombudsman, and noted the impacts this had for the release of information in ERMA applications. Agcarm suggested that the commercial information provisions of Australia’s Gene Technology Bill 2000 (section 45) could present an example to follow. This Bill provides that the:

Regulator must not use certain information in considering licence application If: (a) a person (the first person) applies for a GMO licence; and (b) the first person provides information to the Regulator for the purposes of the Regulator’s consideration of the application; and (c) the information is confidential commercial information; the Regulator must not take that information into account for the purposes of considering an application by another person for a GMO licence, unless the first person has given written consent for the information to be so taken into account.

AgResearch [IP13] commented that the length of time required to complete the HSNO process caused a considerable reduction in the period for which patent protection was available.

Wrightson [IP3], in a witness brief, voiced concern regarding the Plant Variety Rights system and stated that the system put the protection of the company’s intellectual property at risk. New Zealand Arable-Food Industry Council [IP56] was of the opinion that “New Zealand plant breeders can obtain protection for their cultivars under the Plant Variety Rights Act (1987)” but that this Act “requires revision to allow protection of GM cultivars”. The Council raised the question “of whether GM cultivars and products can be protected by a patent in New Zealand”. Friends of the Earth [IP78] provided an alternative view that New Zealand plant breeders’ rights are “adequately protected” by the Plant Variety Rights Act.

Crop and Food Research [IP4] raised the issue that current patent laws mean that New Zealand cannot export products to jurisdictions in which the intellectual property is patented, noting:

As NZ is a small jurisdiction with little market power, we have found that many key patents are not extended to New Zealand. While this gives us unfettered rights to use the

knowledge for our own purposes within New Zealand, this is of limited use for an exporting country. Current applications of patent law mean we cannot export the products made with the protected IP to the jurisdiction in which that IP is patented.

Monsanto [IP6] made the point that “adequate legislative protection of intellectual property is fundamental” to its “participation in the New Zealand market”.

## Future approaches to intellectual property

Crop and Food Research [IP4] and Biotenz [IP25] made the point that whatever approach New Zealand adopted to intellectual property for genetic modification it must be consistent with the rest of the world. New Zealand Life Sciences Network [IP24] noted: “Intellectual property rights protection systems are internationally accepted as effective and essential economic tools.”

University of Canterbury [IP7] raised the issue that “it is important that regulations minimise disincentives to the beneficial use of knowledge derived from GE”. Dairy Board [IP67] also commented that it was “essential that New Zealand’s policies and intellectual property laws enable the New Zealand dairy industry to capture the benefits of biotechnology research, including GM research”. New Zealand Veterinary Association [IP28] noted that it did not want to see domestic research and development harmed by “unreasonable regulation and control”. Life Sciences Network [IP24] commented that “New Zealand’s intellectual property laws ... should not be limited as a result of this Commission’s enquiry”.

New Zealand Institute of Patent Attorneys [IP71] noted that “the patent system in New Zealand currently meets international minimum requirements for intellectual property protection” and stated that “such protection should not be eroded”. Dairy Board [IP67] concurred that “the Commission should not make any recommendations that would erode the current level of [intellectual property] protection that can be obtained”.