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appendix 3

Outcomes of Consultation: Submissions from the Public

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2. Public Meetings: summary of outcomes

As part of the Commission's public consultation programme, a series of Public Meetings was held in 15 cities or regional towns throughout the country during September, October and November 2000. These meetings provided an opportunity for the Commission to hear the views of the public in an informal setting. The Public Meetings were additional to Formal Hearings, Hui and written submissions, and a public opinion survey.

The purpose of the meetings was to allow the Commission access to the views and opinions on genetic modification of a wide cross-section of New Zealanders.

Each meeting had two parts, which were conducted by independent bilingual (English and Maori) facilitators. The first part involved a welcome followed by a workshop on issues and questions surrounding genetic modification. A series of questions was developed to facilitate discussion. The questions were intended neither to be definitive nor to indicate any particular viewpoint. The second part included workshop participants reporting back to the Commissioners on the issues identified during the workshop, and directing questions and comments directly to the Commissioners, thereby allowing for public comment on any issues not included in the workshops. This process is described in more detail in Appendix 1, "Processes of the Commission" ("Public Meetings: the process").

The process was developed to give each person present an opportunity to express themselves, and to facilitate discussion rather than adversarial positions. The key themes to emerge are presented below. The questions used in the meetings were posted on the Commission's website ("Public Meetings Questions" document), so are presented here in a shortened form. The summary of all questions relating to a topic is listed first, followed by representative responses from across the country indicative of some of the major points raised, relevant to any question of that group. This is because responses often addressed general issues rather than being directed towards a particular question. Full summaries of the workshop part of the public meetings were placed on the Commission's website.

The Commissioners reviewed the workshop cards, and tapes of the report back sessions were included in the initial review of material. The findings below summarise the workshop cards. A wide range of views was expressed in the responses to all questions. Responses were grouped under commonly recurring

themes which generally reflected the questions posed. Exceptions to this included the raising of animal rights issues and legislation.

Respondents' use of "GM" (genetic modification), "GMOs" (genetically modified organisms) and "GE" (genetic engineering) is retained in the summary of responses. Names of organisations whose abbreviated form has been retained in the summary of responses are listed in the glossaries at the end of this volume. The responses have been lightly edited for grammar and style consistency but are otherwise presented as a series of quotations.

Participants primarily expressed an opposition to the general release of genetically modified organisms and to any genetically modified products in the food chain. Other issues commonly raised included ethical, cultural and spiritual matters, economic concerns, agricultural and crop issues, and research, environmental and medical issues. These major concerns were felt consistently throughout the country. One exception was Hamilton, where issues surrounding research were raised more than in other centres.

Human health issues

Questions

What are the health issues associated with the use or avoidance of genetically modified:

- foods (production and consumption)?
- crops (production and consumption)?
- pharmaceuticals (production and consumption)?
- medical procedures?
- nutraceuticals?

Responses

Most of the discussion involved perceived negative health effects of genetic modification. The major areas of discussion included that high levels of uncertainty surround uses of genetic modification in food, that presently unknown allergies may develop, that transgenics are generally not favoured, that New Zealand could be the victim of an experiment, that personal choice will be reduced and that testing is not adequate. There was a lack of trust in those wanting to develop genetically modified food. Some participants highlighted that genetic modification may offer cures for diseases and should be permitted for this reason.

Much is unknown about GM/GE and how it changes biological processes. Contamination from GE crops is unpredictable. Transgenic uses must be banned.

GE food has not been tested on human beings, therefore it is wrong.

What about the effects of exposure to proteins never previously present in foods?

Transnational industries can not be said to have good health as an objective.

Why are we funding GE when the world trend is towards organics?

Long-term negative effects of GM are unknown and may include allergies and viruses crossing species.

Consumer choice/Labelling issues

Questions

What rights do individuals have regarding their use or avoidance of genetically modified:

- food?
- crops?
- pharmaceuticals?
- medical procedures?

What are the issues associated with labelling genetically modified products, such as:

- the adequacy of an existing or new labelling regime?
- measuring and determining GM content?
- the containment of GM products?

Responses

Points commonly raised included consumers' rights to choose what they are eating, the level of possible contamination of non-genetically modified food with genetically modified food, the importance of food labelling to those with allergies and that New Zealand should convert to organic agriculture.

It is important to label GM medicines clearly.

Consumer sovereignty and personal right to choose what one ingests is an important human right. With that, I think it is important to label foods with any genetically engineered organism, whether whole or processed.

These GE foods have not been tested — we are the test sample. ANZFA does not test these foods but takes the word of the companies that are pushing them. We do not believe this protects consumers.

When a consumer chooses to buy organic food it is a very great concern that these will eventually be contaminated by the GE crops grown nearby! With cross-pollination occurring, how can we be sure seeds saved from organically grown plants are true to type?

It takes away our choice.

There will not be labelling of foods in restaurants/cafes, so how do we know what we are eating?

There is inadequacy of GE food labelling by ANZFA and difficulty in avoiding GE food. Consumers may purchase, for example, GE soy cooking oil, as it will not be labelled as genetically engineered.

The monopolisation of the food industry by a small number of corporations leads to less consumer choice and an uneven power balance, including control of prices and safety issues. We support local industry and not the globalisation of the food industry.

The myth that New Zealand is 'clean and green' we want to be real. Why not go organic New Zealand 100 percent organic?

Yes, let's label GM foods but, at the same time, let's ensure we label foods for other issues, such as: "soil erosion techniques (cultivation) used in the growing of this crop"; "diesel oil burnt, to grow this crop".

After six years of GE products on the market, with no damage/health risks being identified, what is the problem?

Cultural and spiritual issues

Questions

What are the cultural, spiritual and religious issues for Maori associated with the use or avoidance of genetically modified:

- food (production and consumption)?
- crops (production and consumption)?
- pharmaceuticals (production and consumption)?
- medical procedures?

What are the cultural, spiritual and religious issues for non-Maori associated with the use or avoidance of genetically modified:

- food (production and consumption)?
- crops (production and consumption)?
- pharmaceuticals (production and consumption)?
- medical procedures?

How and should spiritual, religious and ethical concerns be weighted against societal/economic benefits?

Responses

Responses generally showed concern with sovereignty over cultural and intellectual property, the possibility of ‘genetic discrimination’, human rights and freedom of choice.

We are Maori and we should have the right to know what GE is all about. We need honest answers.

The Treaty of Waitangi promises to protect our cultural and intellectual property. It is currently all being sold. We need to know that our properties are guaranteed to our Maori iwi and this nation.

Under the partnership of the Treaty of Waitangi, both Maori and Pakeha should have the right of veto over important decisions like GM. Partnership means taking both views into account.

GE is against the principles stated in the Treaty of Waitangi under Taonga, and the genealogy of Maori Whakapapa. To allow GE is to break the Treaty.

Animals and plants have a right to be themselves just as humans have. Humans have an absolute right to freedom of choice — to know what they are eating.

Environmental issues

Questions

What are the environmental risks and benefits associated with the use of genetically modified:

- crops?
- foods?
- biological pest controls?
- herbicides/pesticides?
- pharmaceuticals?
- medical procedures?

Responses

The prime points raised in discussion were that general release of genetically modified organisms into the environment should not be permitted because of uncertainty about the effects, as well as concerns about the integrity of soil biota, that research should be permitted only in containment, that genetic modification technology is irreversible, that nature knows best and that it may be prudent to wait until further research is carried out.

We are only stewards of this land. We do not have the right to change what nature intended. It has taken millions of years for the planet to evolve. Are the unspoken

generations yet to be born going to thank us, or curse us, for GE? A referendum is needed.

MAF is at present showing a huge lack of control over the entry of insects into our country. How can it monitor GE trials safely? I want the right to grow organic food for me and my family with no cross-pollination of GE.

We were of the view that the Commission must accept that the precautionary principle should be adhered to. The table was unanimous in this thinking.

Remember previous scientific mistakes — Mururoa Atoll, Agent Orange etc. There was scientific assurance but it still went wrong.

A tree creates 600,000 chemicals to control its environment naturally. Man can only synthesise 25,000. We cannot beat nature; nature knows best.

Our existence as human beings is possible through our coexistence with animals, vegetation and plant life. To tamper with and put genes of foreign entities (and viruses) into beings is unnatural and will lead to further foreign viruses developing.

GE pharmaceuticals and pesticide-resistant GM crops result in water pollution.

With respect to the question of burden of proof, the onus should be on promoters to prove it safe, rather than on consumers to prove it unsafe.

GE plants can be used for absorbing heavy metals as part of toxic waste reduction, ie, as bioremediation vehicles.

The strategic approach would be to wait. We can always introduce it if it is proven safe.

Please consider and take a holistic approach to all things Maori, who live and breathe the natural world of New Zealand.

Economic issues

Questions

What are the economic risks and benefits (regional, national and international) associated with the use of genetically modified:

- crops?
- foods?
- pharmaceuticals?
- pest controls?
- nutraceuticals?
- medical procedures?

Who should fund research into genetic modification technology?

Responses

Participants commonly raised such issues as that the risks of genetic modification in the environment and human body cannot be predicted, that testing for genetic modification content will not be expensive, that if New Zealand produces more organic food it will have an advantage over the rest of the world, that it is becoming difficult to obtain genetic modification-free ingredients and that there is large international demand for genetic modification-free food. There was also concern over who would bear the risks of the new technology and the dangers of cross-pollination.

As a primary producer and tourism destination, the New Zealand economy depends on ecology. The Commission does not include an ecologist and should emphasise this when reporting on the effects of GE to our ecology and our economy.

The cost of having two separate systems — GE and organic — should be borne by those who change the status quo. The cost of separation of the two systems is a loss to the economy.

GE crops are capital intensive; they require a scarce resource. Organic crops are labour intensive; they utilise an abundant resource.

Paying for modified seeds will erode our balance of payments yet the GE products do not command premiums on the world markets. Organic foods can be produced with minimal import cost and already command a premium.

Future use issues

Questions

What are the potential future uses of genetic modification technology in:

- New Zealand agriculture?
- New Zealand horticulture?
- New Zealand's pharmaceutical industry?
- New Zealand's medical industry?
- New Zealand's scientific industry?
- New Zealand foods?

Responses

Responses generally reflected that the Commission's recommendations will have a significant effect on the future of New Zealand, that being genetic modification-free is an opportunity, that world demand for genetic modification-free food is high and that biodiversity will be threatened. Other views were also expressed,

such as that the new technology may offer as yet unforeseen opportunities and that it may be used to generate higher prices for exports.

GE may turn out in 30 years to have been a big mistake. Five years of testing to date cannot establish 30-year effects (asbestos, smoking, thalidomide) and no GE release should occur before contained testing for 30 years has occurred.

Within each generation there is the general assumption that we know it all, only to find out in the next generation that we didn't. GM is likely to be seen as one of those huge mistakes leaving behind and in front of it a path of destruction.

As New Zealand did with the nuclear issue, so this is again a chance to be a forerunner in showing we don't have to go down a negative road. We could easily become the envy of the world — a place where real food grows. We do not need to be fooled by scientists. It must be exciting for them, but the negatives outweigh the positives.

I want all field trials denied in New Zealand. Aotearoa will not be able to grow organically or have the potential to grow safe food if we allow genetically engineered trials to occur in New Zealand.

I am a student of ecology. GE will disrupt the natural processes and balance of earth's natural systems. These include dangers of viruses crossing over between species, mutations, and cross-pollination.

As a remote nation with the opportunity to grab the organic market worldwide, why would we even consider the possibility of GM?

Recommend as a first step to promote a thorough, honest education for every household in New Zealand. An information package should be assembled by every interested group or section of the population and sent to everyone in the country. It could utilise a question-and-answer format and call for feedback.

Be open but controlled in what R&D is taking place in New Zealand on GE.

New Zealand must examine all the options, using real data (not emotions) to determine its direction. Perhaps we should hold off public release of GMOs to give time. We can't have either/or organic/GE.

Global development issues

Questions

What global developments might influence the way in which New Zealand utilises genetically modified:

- crops?
- foods?
- pharmaceuticals?

- nutraceuticals?
- medical techniques?

What are the international environment, economic (including trade), political and social implications for New Zealand should it choose to use genetically modified organisms and associated products?

What are the international environment, economic (including trade), political and social implications for New Zealand should it choose not to use genetically modified organisms and associated products?

Responses

The wide variety of views expressed included that global development should be holistic, that new therapeutic products should be researched, that caution is necessary, that a spiritual approach is important, and that genetic modification is not the answer to world hunger.

There should be a compensation process for unpredictable outcomes, eg through use of a bond.

There'd definitely be threats and pressure and probably sanctions etc from pro-GM interests and pro-GM countries — much more than when we took a nuclear-free stance — but there'd be huge acceptance by a rapidly growing demand for organic food etc.

There is growing demand for therapeutic approaches that are non-toxic, holistic and contain no side-effects. New Zealand would be wise to research, develop and promote holistic alternatives and strong preventative approaches to health.

Ethical issues

Questions

Questions of risk and liability introduced a wider debate on ethical issues.

Who should take responsibility for the risk associated with utilising genetically modified organisms and associated products?

Who should take responsibility for the risk associated with not utilising genetically modified organisms and associated products?

Responses

Responses included concern over a common inheritance which should not be patented, that genetic modification technology is profit-driven, that there is a loss of independence and choice, that there is need for a balanced decision and that the benefits of genetic modification should be available to all.

Patent rights being allowed on naturally occurring gene codes is a theft from the common inheritance.

The application of genetic engineering is ethically flawed since it presupposes that all organisms can be employed for the benefit and profit of only one species, namely *Homo sapiens*. Therefore, GE goes against the very evolutionary processes that have shaped our planet. Remember, these have not been exclusively for the benefit of man — all forms are interdependent. By employing GE we are abusing our power over other species. With power comes responsibility.

There are ethical issues of using animals and humans as guinea pigs. Risks include passing genes on to non-target organisms and contamination; GM crops colonising and altering heritage crops; reduction of biodiversity, by contamination or GE species out-competing our native flora and fauna. This threatens our ability to become an organic nation.

The GM debate does not acknowledge a spiritual belief that all beings are interconnected — it experiments in isolation. The scientific lack of awareness around interconnectedness is dangerous.

Modern science has a mind set that is largely incapable of recognising the idea that life is sacred. It is therefore ill equipped to check its own activities from an ethical perspective.

Will we be the generation that future generations point to in anger and pain for being responsible for creating — in the name of profit — the greatest and most far-reaching man-caused disaster ever in the history of this planet?

There is need for an ongoing ethics forum to take debate out of political, economic area.

Is it ethical to export GMO products from New Zealand if New Zealanders don't want GMO products for their own consumption?

Questioning the ethics of the technology itself, technology is not value free. It has its own agenda.

What effect will GM have on people who have taken an ethical decision to become vegetarian? How will they be able to avoid eating foods containing animal genes?

Other issues commonly addressed at workshops

Legislation

In general, participants called for more regulation, and for independent testing for the presence of genetically modified ingredients.

ERMA approvals are keeping on going, with at least three during the Commission hearings so far. What of future uses if our regulatory agencies are so permissive?

Food labelling should have thorough coverage with no exceptions. Consumer choice has to

be honoured. It was agreed by Australasian Health Ministers two years ago but there is still no action for the patient public.

Animal rights

Concern was expressed about animal suffering, the large numbers of animals used in experiments and pollution from “GE pharms”.

Animals used for xenotransplantation would be kept in a sterile environment and would be unable to perform their basic natural behaviours. There are also dangers of new diseases infecting humans and other animal species through xenotransplantation.

There have been many problems with the GE of animals that have been modified so far. For example, unexpected results such as GE salmon with deformed heads, or negative results, such as pigs modified to be heavier having joint and cardio problems.

Why is there no inclusion of animal rights and welfare issues in the terms of reference?

The improvements in production of GE animals are unlimited, unlike the changes and improvements made through the process of natural selection.

There is a lack of understanding of DNA. There is not enough knowledge of animals’ DNA to experiment with GM. GM takes a reductionist view of organisms. Genes function in a complex and unpredictable way. Genes cannot be taken in isolation. We can never predict the consequences of the GM of animals.

Pharming is completely unethical. Because of possible cross-species disease transference, animals are kept in sterile, lifeless conditions. These animals are completely denied basic freedoms.

Will transgenic meat be clearly labelled and publicised? Will this practice be permitted in New Zealand?

Intensive farming of genetically altered animals for research or farming practices also creates a risk of environmental and human damage from run-off from farms and factories. Who will be responsible for controlling this? Will this be reported when it happens?