

National Genetic Awareness Alliance

c/- Unit 3, 23 Turner Road, Highett, Victoria, 3190

Tel: 03 9532 5089 Fax: 03 9889 1399

E-mail: margaretjackson@thegreenline.com.au

Mr Ian Dundas
Committee Secretary
Standing Committee on Primary Industries and Regional Services
House of Representatives
Parliament House
CANBERRA ACT 2600

28 June 1999

Dear Mr Dundas,

Inquiry into Primary Producer Access to Gene Technology

Please find attached submission from the National Genetic Awareness Alliance calling for a minimum five year freeze on primary producer access to gene technology.

The National Genetic Awareness Alliance is running a campaign for a five year freeze on genetic engineering and patenting in food and farming.

The Alliance includes the following organisations to date:

Australian Lactation Consultants Association Victorian Branch
Australian Vaccination Network
The Body Shop
Country Women's Association of Victoria
GeneEthics Network Northern Rivers
The Green Line
Jurlique International
Stoney Creek Oil Products
Wellbeing

Also enclosed is a disk copy in Word 6.

I trust that this submission will meet with your acceptance.

Yours sincerely,

Margaret Jackson
Convenor

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INQUIRY INTO PRIMARY PRODUCER ACCESS TO GENE TECHNOLOGY

SUBMISSION

Summary

There should be no further access to gene technology unless exhaustive research has analysed the risks and it has been shown that the technology is perfectly safe to producers, consumers, and the environment. We believe that at this stage, this is not the case. Launching into this innovation without knowing the risks may result in another man-made disaster such as we have seen with DDT, cane toads, thalidomide and the like.

Biotechnology companies and other vested interests claim that gene technology will 'improve' our food, increase crop yields and even reduce the use of chemicals on farmland. But the future value of the technology is entirely hypothetical and so far there is no convincing evidence of any 'benefits' other than the profits being made by the industry.

In fact, gene technology raises many fundamental environmental, social, health and ethical concerns. There is already evidence of contamination of conventional crops and wild plants, and potential damage to wildlife. The effects on human health of ingesting these foods are unknown. Vital research on these issues is either incomplete or has not even been identified. The public has not been properly involved in decision making processes.

More research into the environmental impact of GE crops is needed. It is regrettable that the Government has not seen fit to fund ecological research to the same extent as the gene technology itself. Further research on agricultural ecology and pollen distribution could be done with conventional crops without the need to plant GE crops. Also, more research, led by farmers, into sustainable alternatives is recommended.

Much more time is required to assess the need for and implications of using gene technology in primary production. We are therefore recommending that the Government introduces a minimum **five year freeze** on

1. The growing of genetically engineered crops for any purpose;
2. Imports of genetically engineered foods and farm crops;
3. Exports of genetically engineered foods and farm crops;
4. The patenting of genetic resources for food and farm crops.

It is imperative that there is a freeze on gene technology in primary production until all the implications for consumers, primary producers and the environment have been assessed.

The following concerns will need at least five years to be thoroughly implemented.

1. Assessment of the social and economic impact of gene technology on primary producers;
2. Assessment of the implications of patenting genetic varieties;
3. Legislation for strict legal liability for adverse effects on people or the environment from the release and/or marketing of genetically modified organisms or products;
4. Prevention of genetic pollution of the environment;
5. A system where people can exercise their rights to choose products free of gene technology;

6. Public involvement in decisions on the perceived need for and the regulation of gene technology.

There is increasing agreement that we should be moving toward a system of primary production which is healthy for people and good for the environment. Gene technology for primary producers should be considered in this context and assessed against sustainable alternatives such as organic farming.

1. Impact on primary producers

Biotechnology companies are promoting gene technology to primary producers on the basis of increased performance. Producers are led to believe that gene technology will expand yields but there is increasing evidence that this is not the case and there have been instances where yields have been lower. These crops are new and unreliable. Geneticists know that any interference with the genetic composition will usually result in an organism with weaker adaptation to the overall environment.

Cross-pollination or gene transfer from GE crops is a potential threat to the livelihood of organic farmers. There is currently no legislation to protect organic farmers from loss of income if their organic certification is removed due to contamination from GE crops. Cross-pollination also threatens to deny conventional primary producers the choice to grow non GE crops and the supply of GE free food could become impossible.

GE crops are not suited for small scale production due to the high level of inputs required and because they often tie the farmer into contracts with a private company to continue to buy both seed and chemicals, and even if they own the seeds, producers still need to buy the chemicals. The cost to patent or have seeds listed on a seed register would be prohibitive for small producers and would lead to further reduction in agricultural biodiversity.

Producers need to look at alternatives, such as organic farming, which use fewer chemicals resulting in less soil degradation and pollution of waterways with their associated costs to the community.

Biotechnology companies are now developing the so called 'terminator' technology. This is designed to prevent harvested seed from germinating to give a commercial incentive to companies by preventing producers saving seed with no thought about what producers, consumers and the environment actually need. This technology could also spread sterility to other crops and wild species.

Biotechnology companies claim that their research will lead to new crops that will 'feed the world' and that they need patents to protect their investment in such research. However, complex social, political and economic forces are the real causes of the hunger and malnourishment suffered by people in developing countries and GE crops will not address them. Drought resistant crops are a long way off. The process is complex and they don't know how it works, let alone how to engineer it. It is a promise that is a long way down the track. The GE crops being developed are particularly suited to a monoculture system therefore leading to further erosion of agricultural biodiversity.

A new export market in GE free foods to Europe, Japan and other countries is an exciting potential waiting to be realised.

2. Implications of patenting

Patents provide a commercial monopoly for 20 years that enables companies to control markets and maximise profits. Together patents and gene technology will help to deliver the basic components of nature and primary production into the control of private corporations. Once a company has a patent it can then charge a fee to anyone who uses it. A particular concern is that producers will be forbidden to carry out the traditional practice of saving seeds to plant in the following season and instead will be pressured into buying patented seeds each year.

Patents also promote 'biopiracy' - the appropriation of genetic resources from other countries for private exploitation and profit. For example, Monsanto has a patent on wax and oil from the Indian Neem tree for fungicidal and insecticidal uses. These properties have not been discovered by the company - the Neem tree has been used in India for centuries. The patent is being challenged. Rice-Tech has been granted a patent on Basmati rice by the USA patent office - this has been challenged by India and Pakistan. In such cases no share in ownership rights is given to the originating community or country.

For many people objections to patenting genetic material are based on moral or spiritual grounds because of the way it treats life itself as a commodity.

3. Adverse effects and legal liability

At present there is no legal protection for organic farmers who may have their crops contaminated by GE production and it is unclear who would be liable if this happens.

Concerns from medical quarters, such as in the recent report from the British Medical Association¹, centre around the introduction of new substances into our diets and the use of antibiotic-resistant marker genes which could result in antibiotic resistance in pathogenic organisms.

There is currently no legislation to ensure strict legal liability for any adverse effects on people or the environment from the release and/or marketing of GE organisms and their products. With so much uncertainty about the health effects and increasing evidence of significant environmental impact it is essential that the 'polluter pays' principle is applied to gene technology.

Furthermore, strict provisions for liability must be applied for the movement of GE organisms across national boundaries. That 166 nations signed the biosafety protocol in Cartagena in February 1999 demonstrates international concerns about GE organisms. Australia is one of only six countries, including the USA, which refused to sign the protocol.

4. Prevention of environmental damage

A further concern about the introduction of GE crops is that they will cross-pollinate with wild plants that are closely related to them. The so called 'terminator technology' could spread sterility to other crops and wild species.

Most GE crops being considered for Australia are resistant to a particular herbicide. The herbicides are designed to kill off all plants except the crop so they could eliminate all wild plants from arable fields. Decline of wild plants deprives insects and birds of the food they rely on. Furthermore, there is no guarantee that GE herbicide-resistant crops will be an effective means of weed control. In fact they can make matters worse in that problem weeds may naturally develop resistance to the new herbicides, leading to even more reliance on chemicals and more pollution of the environment.

The pollen from GE canola has been shown to be capable of travelling to milk weed which is food for monarch butterflies and affects the butterfly larvae². Another concern is that GE crops which are poisonous to insects (e.g. Bt cotton) will harm beneficial predator insects if they eat insects that have been feeding on these plants.

More research into the environmental impact of gene technology is needed. Basic information could be obtained without the need to plant GE crops. For example, further research on farmland ecology and pollen distribution could be done with conventional crops, combined with computer simulation and modelling techniques.

Any field tests should be designed specifically to assess ecological impact as well as economic factors and must be properly contained to avoid any escapes of GE material into the environment. Containment must be strictly enforced and the evidence of pollen dispersal suggests that containment cannot be controlled in an open environment.

To date the Government has not questioned the need for gene technology and has not made comparative assessment of gene technology against alternatives such as organic farming. The risks are unknown, so why take them? There are plenty of alternatives that will work just as well.

5. The right to be informed

Manufacturers and retailers are finding it difficult to secure a supply of food and raw materials which can be guaranteed to be GE free to meet consumer demand. GE products should be segregated at source, to enable identification and traceability.

Avoiding GE food can be more difficult for certain sectors of society. Low income consumers rely on cheaper processed foods which are more likely to contain GE ingredients. For example, GE soy may be found in bread, biscuits, sausages, pies and crisps.

Children in child care centres, elderly people who rely on meals provided by social services, prisoners, and patients in hospitals cannot choose to avoid GE food in their diets. Some local authorities (e.g., Waverley and Moreland Councils) have GE free food policies for the meals they provide and others will be following suit.

Another public concern is that gene technology allows scientists to take a gene from one species and insert it into a completely different species with which it could never naturally breed. For example, in experiments a gene from a fish has been inserted into potatoes and tomatoes to enhance their resistance to frost. Vegetarians may not wish to eat something which has a fish or animal gene inserted and there may also be a fundamental problem for people whose belief system precludes eating certain meats.

Concerns about animal welfare centre around the development of transgenic animals and animal experiments. In the case of transgenic animals there is already evidence of harmful effects. Research into the effects of GE food often involves laboratory animals. The validity of findings involving animals such as mice and rats to inform us of potential health effects on humans is very questionable on both scientific and ethical grounds.

6. Public Awareness

Public opinion shows deep concerns about genetically engineered products, yet they have already been introduced without adequate public consultation to address these concerns.

For public participation to be meaningful there must be Government commitment to implement the outcome. Community education must be conducted at local, regional, state and national levels, be well funded and have access to appropriate expertise.

To participate in these processes people will need access to information about all the potential effects of gene technology and crops, and about the alternatives. Furthermore, the so-called benefits of gene technology need to be thoroughly examined before trying to educate anyone. We would regard it as a dereliction of duty not to present both or all sides of these important issues.

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¹ The Impact of Genetic Manipulation on Agriculture, Food and Health - An Interim Statement, British Medical Association - Board of Science and Education, pages 9-10, 17 May 1999.

² Transgenic pollen harms monarch larvae, Nature, Vol 399, page 214, 20 May 1999.