

Submission to

**House of Representatives
Inquiry into Primary Producer
Access to Gene Technology**

**Lodged on Behalf of the Organic Industry by the
Organic Federation of Australia Inc**

Enquiries to Scott Kinnear, Chairperson

Summary

The organic industry in Australia and throughout the world is opposed to genetic engineering of foods. Major problems associated with the technology include:

- Environmental impacts
- Health impacts
- Social impacts
- Impacts on developing countries

We also believe that the food regulatory system in Australia is not adequate to protect the community and the environment from these impacts.

We therefore call for the following actions in relation to genetic engineering:

- Impose a freeze on the import, sale and growing of genetically engineered foods in Australia.
- Implement government funded research into the nutritional and environmental effects of genetically engineered foods.
- Implement a policy of support for "GE-free" farming, certification and labeling.
- Implement a policy of support for organic farming.
- Increase in R&D support for organic foods.
- Tax environmentally hazardous inputs used in chemical intensive agriculture and give assistance to farmers to convert to organic.
- Hold community forums around the country (both rural and urban) to debate the issues of food and our environment, considering the impact of genetically engineered food and the benefits of organic foods.

In making your assessment of genetic engineering we urge you to very carefully consider who benefits from this technology, who takes the risk, and who pays if there are problems. At present considering the lack of research into environmental and nutritional effects, we find that there are no grounds for continuing to allow these foods to remain on the market or be commercially released in Australia.

Organic farming offers a far more appropriate and sustainable path for Australian agriculture, which avoids the hazards of genetic engineering, and also addresses many of the serious environmental and social problems currently facing agriculture in Australia. The US National Research Council's report "Alternative Agriculture" found that organic crops can be grown over time, with comparable yields, lower costs and significantly reduced environmental impacts.

We must also protest the limited and biased terms of reference for this inquiry. It appears as if a positive result has been already decided.

Environmental Impacts

It is often claimed that genetic engineering will reduce chemical use in agriculture by creating pest and disease resistant varieties. Often, the opposite is true. Much of the current work on GE crops is focusing on creating varieties which are resistant to herbicides, thus allowing farmers to use more herbicides. There is even recent evidence suggesting that insecticide usage has increased in the US since the introduction of Bt resistant crops. In addition a spray of last resort to organic farmers, that of Bt, is under threat as resistance will be encouraged by wide spread plantings of Bt crops. Early studies in the US are showing that this fear is being realised.

Genetic engineering has other serious and far-reaching environmental impacts. Possible impacts include the effect on non-target organisms from engineering pesticides into plants. One example of unforeseen environmental impacts is the Monarch butterflies dying from eating GE pollen. Other beneficial insects will surely be effected and the whole web of life could be altered. By killing off the beneficial insects, who may provide important functions to native plants and other crop plants (for example pollination), we may unintentionally alter our environment in a way that is difficult or impossible to reverse. That the US can plant 50-100 % of their crops (roundup ready soy and Bt corn) without exhaustive environmental trials is of extreme concern.

Introducing viral resistance into plants may also have unknown long-term effects. Super viruses may form through selective pressure that attack indigenous plants, organic and GE-free crops. A UK Government report found that there is insufficient research to determine the long term effects of introducing viral resistance.

Biodiversity of plant and animal life is threatened by genetic engineering. The very fact that we allow patenting of genetic information and plant variety rights must be reviewed in the context of biodiversity and public good. We are dependant on biodiversity for providing many natural remedies and pharmaceuticals and for the basis of a healthy diet. Genetic engineering has the potential to effect biodiversity through stopping farmers from saving seed and adapting seed to suit local conditions. Third world countries are especially concerned about the use of the "terminator" technology which would see seed sold as sterile and unable to produce seed for the next generation.

Health Effects

We do not know the long-term health effects of eating genetically engineered foods. It was many years before the epidemiological evidence against smoking caused governments to take action.

Already soy allergies in the UK, as studied by the York Nutritional Laboratory, have been reported up by 50% in one year (records have been kept for 17years). In a recent study by the Swiss Federal Institute of Technology, industrial enzymes (many of them genetically engineered), when eliminated from diets gave significant relief or cure to 90% of asthma and 80% of allergy sufferers.

The use of anti-biotic resistant marker genes is dangerous and has drawn appropriate critical responses from medical and health associations around the world (British Medical Association). There is a risk that the resistance could spread to populations of bacteria in humans thereby rendering us vulnerable to uncontrollable infections should we become injured or sick.

We believe that generational (20-50 years worth) of testing should be performed on genetically engineered foods before they are allowed on the market. Monsanto has recently admitted that the scant nutritional testing done on the roundup ready soy beans, was on laboratory soy beans that had not been exposed to the high levels of roundup that they would get in the field. Much of the testing appears to be on small numbers of rats (10 for Bt cotton) for a number of weeks.

The public has a legislated right to "safe food". The use of risk assessment, rather than exhaustive testing, by regulatory agencies when putting foods on the market, could be considered immoral and unethical. Little or no account is made for the synergistic effect of chemicals in foods. There is a mounting body of evidence in the US to show that negative health effects occur with chemicals acting together but not on their own (Warren Porter et. al., Toxicology & Industrial Health (1999) 15(1-2) pp 133-150). Who knows what strange chemical results will occur with genetic engineering. Our cells are a veritable mixing bowl of chemicals and altering gene sequences could have unknown chemical results even more dangerous than chemical residues in our food.

Social Issues

Many farming communities in Australia are already in crisis. A large proportion of farms are not economically viable, and many farmers are either depending on off-farm income, or leaving farming altogether. The average age of farmers in Australia has been increasing for many years. There are two core issues driving this crisis. Firstly, farmers' profit margins have been steadily dropping as commodity prices have dropped, and the cost of farm inputs has increased. Secondly, our land is becoming exhausted due to the extractive nature of industrial farming.

Genetic engineering technology takes us further along the path, which has already brought our farmers to this crisis. It makes farmers more dependent on inputs, by making the inputs an integral part of the seeds themselves, in the case of seeds engineered for pesticide resistance. Genetic engineering perpetuates

the paradigm that we can control and manage nature. Instead we should be looking to nature to show us how to rebuild our damaged soils.

Genetic engineering may bring short term economic benefits to those farmers who use it. This will most likely force commodity prices lower putting small farmers and farmers in the third world more at risk (see below). Rural communities are in crisis with rising health problems, mental illness, suicide, unemployment and bankruptcies.

Impacts on developing countries

It is often claimed that genetic engineering is essential if we are to feed a growing world population. This argument is disturbing to say the least. Twenty African nations have now gone on record strongly opposing the use of this statement to justify genetic engineering. They state that food security is threatened by taking away the right for a farmer to save seed. Countries where hunger is a problem are often net exporters of food, where wealth and poverty extremes exist side by side. Lack of land and money are the main reasons why people go hungry. Unfortunately many of our political and farming leaders appear to be misinformed and have picked up the use of this rhetoric in order to gain public support.

The Food Regulators

In Australia, GMAC and ANZFA and in the US, the EPA and the FDA appear to be captured by industry with trade and the search for profit, the major determinant in decision making. To give industry the option of doing its own risk assessment is incomprehensible. The past history of the transnational corporations is terrible. Chemicals known to be dangerous have been peddled in the third world long after western nations have banned them. The onus of proof required for an individual to prove that a particular cancer came from a particular exposure to a chemical is nearly impossible to meet.

Our regulators in Australia claim to carry out "rigorous assessments" of new foods. This means literally a "desk review" of the application from the applicant. If the food has the tick of the FDA then it seems to merely get the rubber stamp from our regulators at ANZFA. It is obvious that the staff at ANZFA is doing their best within a difficult under-resourced framework. We need to review the whole foundation of food regulation in this country to remove the pressures applied by companies eager to increase trade.

Rigorous strict terms of reference for well funded regulators will ensure good decisions are made. Decision-making must include representation from all stakeholders, whereby the needs of consumer, government, science, environmental, health, social, ethical and industry interests are all EQUALLY met.

Genetic Pollution

A specific issue of concern to organic farmers is the risk of spread of genetically modified DNA from GE crops to organic and "GE-free" crops. National and international organic food standards prohibit the use of GE materials, therefore an organic crop which becomes contaminated is unmarketable. In Europe \$200,000 worth of organic corn chips were randomly tested by the EU and found to contain genetically engineered corn. The chips were destroyed. After two months of investigation the corn was traced back to pollen drift from a genetically engineered crop 6 miles from an organic corn farm in Texas. A recent UK study from the John Innes Centre in Norwich, states that pollen transfer can be as far as nine miles with bees and 100 miles with wind. The risk of widespread pollution of farmers crops who wish for marketing reasons to be "GE-free", is huge, and will result in legal action. Organic and "GE-free" farmers will take action to protect themselves and this may take the form of injunctions to stop a farmer planting a GE crop nearby and seeking damages if pollution does occur. If the farmer cannot identify the polluter, is the government or the inventor of the particular technology liable? Why should any farmer be allowed to use a technology that effectively crosses his boundary to effect the livelihood of others?

Liability

The issue of liability is not just about genetic pollution damaging other business, but also has to be considered in the context of releasing foods onto the market which have an impact on human or environmental health. The mining and tobacco industry is now partially accepting responsibility for the impact of their products. Unfortunately the proponents and owners of the 75,000 chemicals on the market (of which only a few percent have been tested for carcinogenicity and even less for other impacts like endocrine disruption), largely do not accept liability for their actions.

It is important for government to make the biotech transnationals liable for the damage they may cause and not ask society to pick up the pieces. What percentage of the current health budget of \$23 billion, is due to the actions of chemical use, either voluntary (smoking) or involuntary (motor car exhaust, chemical residues)?

Getting the polluter to pay, when the government has allowed genetic engineering, through murky and questionable legislative processes, will be difficult. It is easy to imagine future class actions against government regulatory agencies, for failing to perform their role, regardless of how under-funded they are in the current push for smaller government and associated deregulation.

Market for "GE-free"

Recent consumer pressure in Europe has seen every supermarket chain in the UK go "GE-free" for home brand products. Unilever, Nestle (UK) & Cadburys followed suit soon after, along with supermarkets and other processors across Europe. Japan is also showing strong signs of following suit and many Australian processors. Organic sales overseas and in Australia have seen steep rises in the last few months. This has opened up a unique opportunity for Australian organic and "GE-free" product. The price premiums paid for "GE-free" will be from 10-40% above conventional. The US is attempting to segregate and will have to go through costly testing to ensure their "GE-free" product is genuine. In Australia there will soon be certification and labeling for "GE-free". This will be easy and cost effective in relation to the premiums received and could be a windfall for Australian farmers and a salient lesson in market economics. We can choose to fully take advantage of this opportunity that will benefit Australia and allow us time to research the impacts of GE food. It will necessitate Australia saying no to any further commercial releases of GE foods.

The organic alternative

Organic farming offers a far more appropriate and sustainable path for Australian agriculture. Organic farming is based on working with nature to create productive and sustainable agricultural ecosystems. Organic farming avoids the hazards of genetic engineering discussed above, and also addresses many of the serious environmental and social problems currently facing Australian agriculture.

While millions are spent on biotech research, organic R&D barely rates a mention in Australia. A recently set up R&D program within the Rural Industries Research and Development Corporation receives \$250,000 per year. Late last year \$1.4 million worth of applications were received for the scarce money available. In the whole of Australia, only one out of approx 10,000 staff legislated to assist agriculture in this country, is full time assisting organic farmers. Denmark has just announced \$500 million over the next five years assistance to organic agriculture. They see the future in food production that produces high value exports and is safe for the environment and for people to eat!

Actions

On the basis of the points raised above, we call for the following actions:

- Impose a freeze on the import, sale and growing of genetically engineered crops in Australia.
- Implement government funded research into the nutritional and environmental effects of GE food. This must be performed for up to 50 years to guarantee there will be no long-term generational problems that only show up in epidemiological evidence.
- Implement a policy of support for "GE-free" farming, certification and labeling. The demand from Europe, Japan and domestic consumers, will bring increased returns and increased markets to Australian farmers who are suffering the effects of globalisation and falling commodity prices.
- Implement a policy of support for organic foods at the Federal, State and Local Government levels. Set up dedicated teams in each State Dept of Ag to co-ordinate organic programs.
- Support R&D for organic foods. Set up an organic R&D corporation with funding of \$50 million per year for a start. Other countries are doing this and we will reap the rewards of a high value export market with no liabilities for government, environment or the health of consumers.
- Tax inputs used in chemical intensive agriculture which cause problems, for example fertilisers and pesticides, and give assistance to farmers to convert to organic. This is becoming common in Europe and has assisted Denmark to achieve 3.7%, Austria 10% and Switzerland 7.8% production as organic.
- Give assistance to agriculture, tax payer funded, and maintain this valuable sector of Australian life. In Europe farmers are highly protected not just to produce food, but to protect the very fabric of society. This will help take the pressure off our farmers. Many want to explore alternatives such as organic, but find they can't afford to change. They are caught in a vicious cycle of falling commodity prices demanding higher yields with their health and our food quality and environment suffering. Such assistance will greatly help revitalise rural communities.
- Conduct community forums around the country (both rural and city) to debate the issues of genetically engineered food, organic food, our health and environment.