



**Senate Select Committee on  
Agricultural and Related Industries**

**Inquiry into Food Production in Australia**

**Submission of MADGE  
(Mothers are Demystifying Genetic Engineering)**

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A handwritten signature in black ink that reads "Frances Murrell". The signature is written in a cursive, flowing style.

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Founder, MADGE

## 1. Introduction

MADGE thanks the Committee for the opportunity to contribute to this Senate Inquiry.

MADGE (Mothers are Demystifying Genetic Engineering) is a network of consumers who are concerned about what is currently happening to our food supply. The network has around 450 members.

The network is particularly focused on genetic engineering (or genetic modification) as an issue that is currently changing the landscape of food production in Australia. We are concerned about the lack of attention paid to the interests of consumers in current government policy and regulatory frameworks surrounding genetic modification. Our network informs consumers about the issues surrounding genetic modification and advocates on their behalf to voice their concerns to stakeholders in government and the food industry.

**This submission does not focus specifically on our issues and concerns surrounding genetic engineering**, but on the vision of our members for:

- Food production that is sustainable – economically, socially and environmentally
- Food and agricultural policy that **balances the current focus on supporting food markets with a focus on protecting the interests of consumers, promoting good public health and environmental sustainability**

## 2. Summary

As a network of consumers, our submission focuses primarily on consumer interests relevant to federal government agricultural and food policy. We have addressed two of the three terms of reference:

- (a) How to produce food that is affordable to consumers, and
- (c) How to produce food that is of sustainable impact on the environment

We have also addressed relevant issues related to food security and consumer involvement in creating a sustainable future in food production.

In our submission, we request that the Committee consider the following in its inquiry:

- **The indirect or external costs related to ‘affordable’ food production as well as the direct costs.** These indirect costs include the health-care costs of diet-related illness, and the increasing costs of environmental impacts (see sections 3 and 6). These costs are too great to continue supporting policy that has as its primary focus the aim of producing ‘cheap food’
- The need for a **clear statement of the Federal Government’s vision** and objectives for food production in Australia (see section 3)
- The need to balance the current focus of food and agricultural policy on supporting markets with a **greater emphasis on protecting the interests of consumers, promoting good public health and environmental sustainability** (see section 3)
- The need for a **‘joined up’ approach to food policy** that involves all relevant Federal Government departments in the development of policy and implementation strategies (The Department of Health and Ageing; the Department of the Environment, Water, Heritage & the Arts; and the Department of Climate Change, as well as The Department of Agriculture, Fisheries and Forestry)
- The need to **provide consumers with clear, evidence-based information about the health and environmental impacts of their food choices** (see section 4)
- The **need for “a national conversation”** about the future vision for our food system, facilitated rather than led by Government (see section 4)
- The **need for genuine dialogue with consumers** about their concerns **relating to new food technologies**, such as genetic modification, nanotechnology, nutrigenomics and nutrigenetics (see section 4)
- The need to **examine carefully the evidence base** for claims relating to the role of GM crops in achieving food security (see section 5)
- The **urgent need for Australian-specific data on the environmental impacts** of our food system (see section 6)
- The **need for systematic trials in Australia to explore the potential of organic and biological farming systems** in mitigating the environmental impacts of food production (see section 6)

### **3. Affordability of food to consumers**

In considering the ‘affordability’ of food to consumers, we believe strongly that the Committee should **consider the indirect costs to consumers** of our current system of food production as well as the direct costs.

The **indirect costs of food**, which are not currently reflected in the retail price, include the health care costs of diet-related illness, the economic impact of lost productivity due to diet-related illness and the increasing costs of environmental

impacts (see section 6). These costs are too great to continue supporting policy that has as its primary focus the aim of producing 'cheap' food.

**The cost of poor diet to the Australian healthcare system** is estimated to be around \$1.5 billion per year, or \$2.2 billion per year when the cost of low productivity is also included (Lester, 1994; Mathers, Vos & Stephenson, 1999; cited in the National Cancer Prevention Policy, 2007).

The costs of poor diet to the Australian healthcare system include:

- The **cost of diet-related cancer**, which has been estimated at \$61 million in direct costs and \$132 million in indirect costs (Crowley et al, 1992)
- The health-related costs of **consuming more than one serve of red meat** a day which have been estimated at \$8.6 million of the total cost of colo-rectal cancer (Marks et al. 2001)
- The cost to the Australian healthcare and welfare system of **Type 2 diabetes**, which was estimated in 2002 to be about \$6 billion (DiabAustralia, 2003)

The obesity epidemic and increasing incidence of associated illness in Australia is generally seen as a problem of individual dietary behaviour, but there is increasing recognition among nutrition and food policy experts that obesity and its associated illnesses cannot be addressed by focusing solely on individual behavioural change (e.g. Egger & Swinburn, 1997), because they are so strongly influenced by a range of **environmental and system factors**. These factors include the decisions and actions of food manufacturers and retailers, and of farmers.

In view of the increasing impacts of diet-related illness on the healthcare system and the economy, it is incomprehensible that the "Creating our Future" report (Agriculture & Food Policy Reference Group, 2006) on agriculture and food policy makes no reference to the health of the nation in its recommendations for future agricultural and food policy. Re the role of government in food policy, it states that:

"Governments' main role in agriculture and food is to secure the best operating environment for markets. This means encouraging competitiveness and minimizing intervention and regulation".

We also note that there is currently **no comprehensive statement on federal government policy on agriculture and food production**. Our research for this submission involved a difficult exercise of piecing together federal government policy on agriculture and food from a variety of different strategies and policies that exist in many different documents.

We believe that there should be a clear statement of the federal government's vision and objectives for food production in Australia, and that the vision and objectives should balance the current focus on supporting markets with a **greater**

**emphasis on protecting the interests of consumers, promoting good public health and environmental sustainability** (see section 6). Agricultural and food policy are inextricably linked to health impacts, as well as to environmental impacts and should not be considered in isolation of these.

We would like to direct the Committee's attention to the recently released report from the Strategy Unit of the UK Cabinet Office, *Food Matters: Towards a Strategy for the 21<sup>st</sup> Century* (July, 2008). This report proposes an integrated framework for food policy in the UK that has many of the elements that we would like to see adopted in federal government food policy in Australia:

- Its four strategic policy objectives include the areas of **food safety, public health and the environment** as well as open and competitive markets
- The strategic objective concerned with open and competitive markets is focused on achieving "fair prices, choice, access to food and food security *through open and competitive markets*"
- The concept of 'fair pricing' *includes* "efficient pricing of inputs (such as water) and of the external costs and benefits of production (such as the costs of environmental pollution)"
- The establishment of a cross-government Food Strategy Task Force, which brings together officials from relevant departments to ensure a '**joined up**' approach to food policy that considers **environmental, health, education and international development issues**, as well as issues related to food markets
- The policy framework has been influenced by a **genuine dialogue with consumers** about their vision for a sustainable food system, and includes provision for on-going dialogue (see section 4)

To keep food as affordable as possible, while also meeting health promotion and environmental sustainability goals, we would like to see the Federal Government invest in **research into the food supply chain to explore where productivity can be raised and efficiencies gained** through better integration between different parts of the food chain and stripping away waste. Similar research in the UK, which examined 33 supply chains from farm to fork, found that on average, 20% of costs in the food chain added no value (Food Chain Centre/IDG, 2007).

Even with the most effective policies aimed at keeping food as affordable as possible, **food prices are likely to rise** with the introduction of an Emissions Trading System (ETS) because so much of our system of food production is tied up with industries that will be affected by the ETS, such as transport and chemical production (Larsen et al, 2008). Higher food prices will make it difficult for some sectors of the community to access sufficient nutritious food and **it is vital that the Federal Government invest in programs to assist people who are food insecure**. However, we do not support measures that aim to artificially

lower the price of food to a level that consumers regard as 'affordable', but that does not reflect the true costs (both direct and indirect) of food production.

## 4. Informing and involving consumers

### Informing consumers

To create a system of food production that is economically, socially and environmentally sustainable requires a collective effort on behalf of Government, primary producers, the food industry and consumers.

The **biggest impact that most individuals have on the environment is through the food that they eat** (Larsen et al, 2008). Around 28% of an urban household's greenhouse gas (GHG) emissions has been estimated to be due to food consumption (ACF, 2007), and around 50% of their water use (Lenzen, 2002).

Consumers need clear, **evidence-based information about the health and environmental impacts of their food choices** so that they can play their part in creating a sustainable food system, and we believe that the Federal Government should take the lead in this.

In the UK, the British Government is taking the lead in this area, and the Food Standards Agency will in future expand its focus beyond nutritional information and food safety to provide consumers with information about the sustainability of food production and consumption (Cabinet Office, 2008).

MADGE currently has significant concerns about inadequate labelling of genetically modified food and its impact on consumers' ability to make an informed choice, but we are also concerned that food labelling be expanded in future to **allow consumers to make informed purchasing decisions related to the broad health impacts and environmental sustainability of food**.

**Consumer research** should also be undertaken to understand the extent to which Australian consumers expect government and the food industry to 'edit out' environmental problems related to food production (by restricting choices) before products reach our supermarket shelves.

### Involving consumers

MADGE is concerned that to date there has been **little genuine dialogue with consumers about the future vision for our food system**. Federal and State Governments have tended to take a strong lead in decisions regarding the food

system, even when there is evidence that it may not have majority consumer support.

**Decisions surrounding the introduction and regulatory framework for genetically modified foods are one example of this.** The decision was taken earlier this year by the Victorian State Government to allow commercial growing of GM canola crops in Victoria, despite a Biotechnology Australia consumer survey showing that only 44% of consumers in Victoria would support this (Eureka, 2007). A Choice survey in 2003 showed that 94% of consumers support comprehensive labelling of all foods containing GM ingredients, and that 75% disagree with current laws which exempt GM canola oil from labelling.

MADGE believes that consumer concerns about these and other issues surrounding food production in Australia should be taken seriously and, indeed, research undertaken to understand why consumers hold these concerns and how they should be addressed.

MADGE requests that the Committee consider adopting the position taken by the UK government in its food policy framework (Cabinet Office, 2008) that **there should be “a national conversation about how to go about transforming the food system”**. We would like to see a genuine two-way conversation with consumers about the future of food production in Australia.

As the UK Food Matters report (Cabinet Office, 2008) states “...open discussion of ‘difficult issues’ can help expand the scope of current understanding, unpacking controversial food-related issues ‘ahead of the curve’. *The role for the Government is to facilitate these debates rather than necessarily to lead them*” MADGE supports this view that **Government should ‘facilitate’ genuine debate.**

MADGE would like to see debate about the future of food production in Australia take place through a series of **citizens’ juries and citizens forums**. We would also like to see the Federal Government investing in in-depth consumer **research that explores consumers’ perceptions around key issues related to food production**, such as sustainable agriculture and food consumption, food safety and new food technologies (such as nanotechnology, genetic modification, nutrigenomics and nutrigenetics).

## **5. Food security**

There has been increased concern about food security in Australia and globally as a result of recent shortages of key food commodities, and resulting price rises. This has led to **claims** widely reported in the media (e.g. Nossal, 2008) **that Australia must move quickly to widespread planting of genetically modified**

**crops** if it is to produce enough food to feed its own population and to contribute towards feeding the growing world population.

We request that the Committee consider the following evidence when evaluating the potential role of GM crops in achieving food security:

- The **UN IAASTD report** (IAASTD, 2008), which involved over 400 international scientists in a review of the future of food production, **did not conclude that GM crops had a significant role to play in addressing food security** in the face of climate change. Instead, they favoured an 'agro-ecological' approach
- Review of GM crop trials shows that **GM crops yield about the same as non-GM crops**, and sometimes less (Soil Association, 2008)
- DAFF and Monsanto's GM R & D crop pipelines do not suggest that drought tolerant, 'climate change' or nutritionally-enhanced GM crops will be available within a ten-year time frame. **Monsanto's main R & D focus remains herbicide-tolerance**, and its focus is soy, corn and cotton rather than wheat or rice (Monsanto, 2008).
- **Conventional methods of plant breeding have proven successful** in developing crop varieties to meet the challenges of climate change. For example, Victorian scientists have already developed drought-tolerant canola (Victorian State Government, 2006)
- GM crops **require large amounts of fertiliser and chemical inputs** (the cost of both have risen significantly), and farmers **must buy seeds each year**, rather than save seeds from one year's crop to sow the following year. These costs can result in subsistence farmers, who grow the majority of food in developing countries cycling further and further into debt and force many off the land into cities to find work – a situation that promotes food insecurity rather than food security.

## 6. Impact of food production on the environment

Our current system of food production is having a significant effect on the environment – through the generation of greenhouse gases, the impact of food waste, loss of biodiversity and land degradation – and the environment is also impacting on food production through the effects of volatile weather patterns associated with climate change (Larsen et al, 2008).

A US study (Tegtmeier & Duffy, 2004) estimates the **externalised costs of agricultural production** (in natural resources, wildlife, biodiversity and human health) to be between \$5.7 and \$16.9 billion annually (this does not include the cost of GHG emissions). This is a broad estimate, it is not Australian-specific, nor restricted specifically to agriculture, but it does highlight the need to understand the environmental impacts of agriculture better in the Australian context.



It is estimated (Victorian Greenhouse Gas Inventory, 2007) that **at least 23% of Australia's GHG emissions are due to food production** (including biological emissions from agriculture, energy, transport and waste). Some suggest that emissions due to agriculture may actually be nearer 30% of Australia's total emissions (Larsen et al, 2008).

There is evidence to suggest a worrying **long-term trend in Australia towards using more energy for food production** across the supply chain (Wood et al., 2006). Larsen et al. (2008) argue that this is due to:

- Increased use of fossil-based inputs such as fertilisers, pesticides and herbicides
- Increased use of heavy agro-machinery
- An increase in food processing
- Transport of food across long supply chains

Larsen et al. (2008) emphasise that there is an **urgent need for Australian-specific data on the environmental impacts of our food system**. International efforts to understand and mitigate these impacts are underway in the USA, UK and other parts of Europe (e.g. Foster et al, 2006; Morgan et al, 2006; JRC European Commission, 2007), but there is very little Australian-specific data.

MADGE believes it is **vital that the Federal Government fund research** into the environmental impacts of food production in Australia. In particular, there is an urgent need to generate **Australian-specific lifecycle data** for the water and carbon footprints of key food products, and to disseminate this information to consumers, primary producers and the food industry. The British Government and the European Union have established initiatives to provide a **common platform for lifecycle analysis of products** (JRC European Commission, 2007; Cabinet Office, 2008; cited in Larsen et al., 2008). In Denmark, a database of lifecycle analysis for common food products has been set up, which is accessible via a website ([www.lcafood.dk](http://www.lcafood.dk)). MADGE urges the Federal Government to consider similar initiatives.

MADGE requests that the Committee **compare the relative environmental impacts and mitigation potential of 'alternative' agricultural methods** (such as organic and biological systems) **with conventional methods** during its Inquiry. While conventional, intensive agricultural methods have raised productivity, there is mounting evidence that they are resulting in significant environmental damage (summarised in Larsen et al., 2008), reducing land productivity and are unsustainable in the long term. The damage includes:

- Soil erosion
- Soil contamination
- Soil nutrient depletion
- Loss of biodiversity
- Salinity

MADGE is also concerned that **environmental damage from GM crops in Australia will threaten the sustainability of our food system**, and requests that the Committee consider the environmental and health impacts of GM crops in its Inquiry:

- There is mounting evidence that GM crops result in an increase in pesticide use – USDA data shows that pesticide use has increased 15x in the US since the introduction of GM crops (Friends of the Earth, 2008)
- GM crops can result in the development of herbicide-resistant ‘superweeds’ through gene transfer to wild relatives (most GM crops are engineered for herbicide resistance). GM superweeds have been found in the US, UK and Canada (Brown, 2005)
- Co-existence of GM crops with conventional crops has proven impossible – the GM Contamination Register (Genewatch UK/Greenpeace International, 2007) has now recorded 216 instances of contamination in 57 countries worldwide

MADGE is concerned that environmental damage caused by intensive agricultural methods (Larsen et al., 2008) puts at risk Australia’s ability to support its future food production needs. We ask the Committee to consider the growing body of international evidence (ITC/FiBL, 2007; Badgley et al., 2007; Alfoeldi et. Al., 2002); cited in Larsen et al., (2008) that **organic and biological farming systems have the potential to generate yields at or close to those of conventional agriculture** for many crops, as well as sustaining land productivity, reducing negative environmental impacts and mitigating GHG emissions. MADGE joins Larsen et al. (2008) in calling for systematic trials in Australia to explore the potential of these farming systems.

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