

## The competitiveness of traditional crops

### Introduction

4.1 The relative competitiveness of traditional and GM crops will be determined by the benefits and risks of growing them, and how primary producers and the market weigh up these benefits and risks. The interactions of consumer and producer views that determine preferences for GM produce are illustrated in four scenarios shown in Table 4.1.

**Table 4.1 Factors influencing the uptake of GM crops**

Benefits to consumers	Benefits to producers	
	Yes	No
<b>Yes</b>	Higher quality, cheaper to produce – rapid uptake  Example: better tasting strawberry resistant to berry rot	Consumer benefit but same or higher production costs – uptake depends on farmers' market judgement  Example: product with high antioxidant levels
<b>No</b>	No different to conventional food but producers benefit – uptake depends on consumer attitudes to GMOs  Example: pest and disease resistant and herbicide tolerant varieties	Not considered for uptake

*Source: Centre for Legumes in Mediterranean Agriculture, Submission no. 14, pp. 1-3; Cooperative Research Centres Association, Submission no. 40, pp. 6-7.*

## Negative views

- 4.2 Most submissions to the inquiry took the view that the economic and environmental advantages provided by GM crops would ensure that they were adopted increasingly. The Cooperative Research Centres Association (CRCA) stated that 'it is generally accepted that, in time, traditional varieties will not be competitive, in the same way that old varieties produced conventionally are no longer competitive'.<sup>1</sup> The Academy of Science took a similar view:

In the longer-term, it seems likely that most agriculturally important organisms will be genetically manipulated in some sense or another, just as they have been manipulated in conventional breeding systems.<sup>2</sup>

- 4.3 In the face of declining world prices for primary produce, the lower costs of production anticipated from GM crops are seen as strong incentives for adopting them. With future research expected to yield more products of better quality than traditional crops do, it is likely that GM varieties will be more competitive than conventional varieties, and will be essential for maintaining competitiveness, for example, in the grains industry.<sup>3</sup> The gap in performance between the two types of crops is expected to increase over time.<sup>4</sup> Furthermore, non GM varieties may eventually prove to have higher production costs and higher pesticide residues, and to be less environmentally friendly.<sup>5</sup>

- 4.4 Representatives of the food industry told a national science and industry forum in 1999 that 'the horse has already bolted',<sup>6</sup> and 'there is an inevitability to gene technology ... the issue is not whether there will be this technology, rather when'.<sup>7</sup> The Queensland government agreed:

The economic and environmental benefits of gene technology to primary production have been so obvious that most industries now acknowledge that it [is] not a question of if they will take up this technology but when.<sup>8</sup>

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1 Cooperative Research Centres Association, Submission no. 40, p. 5.

2 Academy of Science, Submission no. 62, p. 2.

3 Grains Research and Development Corporation, Submission no. 47, p. 6.

4 Novartis, Submission no. 26, pp. 4-5.

5 Cooperative Research Centre for Tropical Plant Pathology, Submission no. 21, p. 2; Western Australian State Agricultural Biotechnology Centre, Submission no. 10, p. 2.

6 Professor Hudson of Goodman Fielder, 'How industry adopts new technology', *National Science & Industry Forum Report*, Australian Academy of Science, April 1999, p. 8.

7 M H Hooke, 'The food industry as honest broker', *National Science & Industry Forum Report*, Australian Academy of Science, April 1999, p. 2.

8 Queensland government, Submission no. 79, p. 1.

- 4.5 It was also suggested to the committee that control of the seed market by the life sciences companies that own GM varieties and the alliances between these companies and others in the food chain might result in farmers being forced into growing GM crops.<sup>9</sup> If this were to eventuate, the choice of growing non GM food for the mainstream market could be limited.
- 4.6 Notwithstanding these views, it was generally recognised that a market for traditional varieties will continue to exist, just like the market for organic produce.<sup>10</sup> Some submissions to the inquiry indicated that this market was expected to be small and to shrink over time,<sup>11</sup> unless a major catastrophe with GM varieties occurred.<sup>12</sup> The ABA suggested that:
- On a small scale, some producers might be able to establish niche markets for premium-priced organic/non-genetically modified foods, but this is likely to be a minor component of the national agri-business industry.<sup>13</sup>

## Positive views

- 4.7 Other submissions painted a more positive future for traditional crops, at least in the short term. Some conventionally bred varieties offer equal value to GM varieties, as AgrEvo pointed out:
- Despite over 75% of Canada's canola market utilising herbicide tolerant varieties, derived from both genetic modification and traditional plant breeding, 9 new conventional varieties were introduced into the market place in 1999.<sup>14</sup>
- 4.8 Furthermore, in some cases, the use of GM crops may be restricted by regulation, for example, to minimise the development of pest resistance. The area of cotton that may be planted to Bt cotton, for example, is limited to 30 per cent of the total area. In addition, as discussed in Chapter 5, the market for minor crops may not be sufficiently large to attract the development of GM varieties and traditional varieties will continue in use. Another factor that might favour the retention of traditional varieties by

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9 The O'Hallorans, Submission no. 17, p. 3.

10 CSIRO, Submission no. 56, p. 3.

11 Australian Food and Grocery Council, Submission no. 59, pp. 8-9; Queensland Fruit and Vegetable Growers, Submission no. 42, p. 2; Queensland government, Submission no. 79, p. 2; South Australian government, Submission no. 81, p. 5.

12 Cooperative Research Centre for Tropical Plant Pathology, Submission no. 21, p. 2.

13 Australian Biotechnology Association, Submission no. 39, p. 5.

14 AgrEvo, Submission no. 55, p. 3.

reducing the attractiveness of using GM varieties is better development of integrated approaches to crop management.<sup>15</sup>

4.9 It is clear that consumer sentiment will also affect the demand for non GM food, and this has altered since the middle of last year when most of the submissions summarised above were written. Many consumers are now wary about GM products. If GM foods were labelled, consumers might well show their preference for non GM foods.

4.10 Several submissions drew attention to incidents that reflected negative consumer sentiment towards GM foods in European markets to which Australia exports:

- some European food processors and supermarket chains are excluding GM ingredients from their brands; and
- a shipment of North American corn chips was rejected when the chips were found to contain foreign genetic material.<sup>16</sup>

In addition, Asian markets, especially that in Japan, are showing signs of consumer resistance to GM food.

4.11 As the Australian Barley Board (ABB) pointed out, 'if consumers are divided on the GMO issue then markets for GMO free products should be available to the producers'.<sup>17</sup> The Victorian government conceded that:

It is now evident that consumer acceptance of GM varieties in some markets will be slow in coming and, in some cases, substantial markets can be expected to develop in the short term for products which are 'certified' as being non-GM.<sup>18</sup>

4.12 There is already some evidence that this is happening. In January 1999, the largest orders ever for non GM canola were placed with Australian suppliers.<sup>19</sup> In addition, AWB was reported recently as having received requests for certified non GM wheat.<sup>20</sup> It has been possible to guarantee that virtually all Australian produce is non GM because GM cotton is the only GM crop commercially grown in Australia and then in only certain parts of the country. These circumstances have enabled Australian produce to be cheaply and easily certified as non GM, and gives Australian producers a marketing advantage over competitors from countries where GM crops are grown.

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15 Mr Wayne Hancock, Submission no. 6, p. 3.

16 Go Mark Food Systems, Submission no. 33, pp. 14-15; Organic Federation of Australia, Submission no. 24, p. 6.

17 Australian Barley Board, Submission no. 60, p. 6.

18 Victorian government, Submission no. 67, p. 2.

19 NSW Grains Board, quoted by Go Mark Food Systems, Submission no. 33, p. 16.

20 J Madden, 'Farmers face GM dilemma', *The Australian*, 1 April 2000, p. 22.

- 4.13 In addition, organic practices preclude the use of GMOs and are expected to continue to do so for the foreseeable future. Non GM varieties will therefore be in demand in the context of the organic market as well as simply for their non GM status. The Queensland government predicted that 'substantial markets in Europe and Japan, together with niche markets in many other countries (Australia and the USA included), will ensure the viability of "organic" enterprises'.<sup>21</sup>
- 4.14 AGN suggested that:
- A potentially lucrative, definitely sustainable, food industry based on growing domestic and export markets for conventional/organic produce is available. The GE-free options (conventional/organic) are growing strongly and could absorb all our production.<sup>22</sup>
- The price premiums for non GM food could be 10-40 per cent higher than for conventional crops.<sup>23</sup>
- 4.15 However, as the NFF observed, the size of the markets for non GM food remains to be seen.<sup>24</sup> Market signals are uncertain, with the size and duration of these markets depending on public rejection of GMO produce. CSIRO suggested that consumer distrust may subside once confidence in the regulatory systems in Europe is restored and a more rational approach to the technology develops.<sup>25</sup>
- 4.16 Another view is that the mixed market signals 'may be more about trade than technology'.<sup>26</sup> Professor Aynsley Kellow from the University of Tasmania pointed out that 'the GMOs debate has provided less efficient European producers of beef, soybeans and so on with an opportunity to try to nobble their more efficient US competitors'.<sup>27</sup> The existence of the market for non GM produce is well recognised by Australia's trading competitors and competition will be fierce.<sup>28</sup>
- 4.17 A further problem for the non GM industry was suggested by the Australian Academy of Science which predicted that 'over time it will become more difficult for producers to escape the use of GM material at

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21 Queensland government, Submission no. 79, p. 2.

22 Australian GeneEthics Network, Submission no. 71, pp. 5-6.

23 Organic Federation of Australia, Submission no. 24, p. 7.

24 National Farmers' Federation, Submission no. 36, p. 5.

25 CSIRO, Submission no. 56, p. 3.

26 Agriculture Western Australia, Transcript of evidence, 27 July 1999, p. 10.

27 A Kellow, 'Risk assessment and decision-making for genetically modified foods', *IPA Biotechnology Backgrounder*, No. 1, October 1999, p. 9.

28 Queensland government, Submission no. 79, p. 2.

some point in the production chain'.<sup>29</sup> Quite apart from the possibility of escape of GM material into non GM crops which is one of the main concerns at present, other GM material is already in use. For example:

Many vaccines and other products are produced by gene technology, and as use of these become widespread, they will be difficult to avoid. For example, if it were a requirement that all poultry required immunisation against a particular virus and the most effective vaccine was a gene technology-derived vaccine, most poultry would then be produced by a GMO-influenced route.<sup>30</sup>

## GM free farming

### Ensuring non GM status

- 4.18 GM free farmers need to satisfy the demands of consumers who do not wish to eat GM foods. Organic farmers face the same requirement as the definition of organic food is that it is not GM. Up to now, as noted above, Australian produce has been certifiable as non GM because very few GMOs are grown in the country. However, large trials of GM canola were conducted in most states during the 1999-2000 season, raising fears that GM pollen may have spread to non GM canola growing nearby. The issue for organic, non GM farmers, and for others who wish to have the choice of which type of variety they plant, is therefore how to ensure the integrity of their crops.
- 4.19 There are several possible approaches to preserving the identity of non GM crops. A short term solution is to institute a moratorium on the use of GM crops, preserving the status quo and the present basis on which the non GM status of crops is certified. Taking advantage of Australia's clean green image which is associated with its isolation:<sup>31</sup>

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.<sup>32</sup>

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29 Australian Academy of Science, Submission no. 62, p. 2.

30 CSIRO, Submission no. 56, p. 3.

31 National Association of Sustainable Agriculture Australia, Submission no. 74, p. 3.

32 Organic Federation of Australia, Submission no. 24, p. 7

AGN claimed that the market acceptability of Australia's non GM produce 'will be severely compromised or lost completely if Australia adopts GEOs'.<sup>33</sup> Noting consumer concerns in Australia's export markets, Ian Donges, President of the NFF, recently supported the need for delay in embarking on 'full-scale production' of GM crops.<sup>34</sup>

4.20 Another option for separating GM and non GM crops that has been suggested recently is to declare certain areas of the country as non GM. Recent media reports indicated that pressures were mounting for such a move in Tasmania and certain local government areas in Western Australia.<sup>35</sup> The Gene Technology Bill does not include an explicit opt out clause, because such a clause would raise constitutional problems and breach Australia's obligations under international agreements. However, state and territory land management powers may allow for certain areas to be declared GM free.<sup>36</sup>

4.21 Where both GM and non GM crops are grown in close proximity or in successive harvests, a number of measures will need to be in place to ensure the status of crops is maintained. OFA listed a number of requirements that it saw as necessary. It stated in this context that:

The Organic Industry in Australia believes it is important to clearly and urgently state the minimum conditions whereby our industry will be protected and able to prosper in the face of widespread production of genetically engineered crops.<sup>37</sup>

4.22 The conditions nominated by OFA included:

- environmental impact assessments before GMOs are released;
- establishing appropriate buffer zones;
- monitoring of such matters as adherence to the conditions imposed on growing GM crops;
- rapid response by a regulatory authority to 'an environmental or economic hazard';
- 'a quality management system approach ... from paddock to plate, certified, audited and regulated';

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33 Australian GeneEthics Network, Submission no. 71, p. 6.

34 D McKenzie, 'No rush for genes mix', *The Weekly Times*, 5 April 2000, p. 5.

35 'Council calls for genetic crop ban', *The Western Australian*, 20 March 2000, p. 5; A Barbeliuk, 'Protests modify genetic push', *The Hobart Mercury*, 21 April 2000, p. 9.

36 Interim Office of the Gene Technology Regulator, Proof transcript of evidence, 5 April 2000, p. 288.

37 Organic Federation of Australia, Supplementary submission no. 73, p. 1.

- mandatory notification of the planting of GM crops; and
- establishing liability for economic and environmental damage and a compensation fund.<sup>38</sup>

## Conclusions

- 4.23 The committee is aware of the current strength of the market for non GM produce. Very different estimates have been made of the time for which this strong demand will endure; they range from two or three years to 20.<sup>39</sup> Even if demand does drop, it is firmly expected that a niche market for non GM (and organic) produce will remain.
- 4.24 The committee views support for this market as important. In Chapter 2, it recommended that the Commonwealth government ensure its funding for gene technology does not crowd out funding for other effective means of promoting agricultural productivity and sustainability. In light of the increasing demand for non GM (and organic) produce, this is one of the sectors that must not be disadvantaged by competition for funding for GMOs.
- 4.25 The committee received several submissions that called for greater government assistance for organic farming, as well as for non GM farming. The submissions suggested that this assistance should be directed to, among other issues, certification.<sup>40</sup> By comparison with research on GM crops and by comparison with some other countries, such as Denmark, organic farming in Australia receives very little funding.<sup>41</sup>
- 4.26 The committee recognises the importance of ensuring the integrity of non GM and organic crops. However, as discussed in Chapter 2, it does not favour a blanket moratorium on the use of GMOs. It will therefore be very important to establish a strong, well researched regulatory regime, dealing with such issues as those listed by OFA above. The committee discusses these matters in more detail in Chapter 7 and makes a number of recommendations.
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38 Organic Federation of Australia, Supplementary submission no. 73, pp. 2-3.

39 Two to three years was estimated by Ian Donges of the NFF, quoted by D McKenzie, 'No rush for genes mix', *The Weekly Times*, 5 April 2000, p. 5; 20 years was predicted on the basis of Danish research.

40 Australian GeneEthics Network, Submission no. 71, p. 11; Go Mark Food Systems, Submission no. 33, p. 3; Heritage Seed Curators Australia, Submission no. 30, p. 2; Mr Anderson, Submission no. 4, p. 1; Ms Lyssa, Submission no. 5, p. 2; Organic Federation of Australia, Submission no. 24, p. 2; Transcript of evidence, 13 August 1999, p. 70.

41 Australian GeneEthics Network, Submission no. 71, p. 6; Organic Federation of Australia, Submission no. 24, p. 7.



4.27 With respect to the option of declaring certain areas of Australia GM free, the committee considers that this will be a matter for state and local authorities. The integrity of the crops growing in these areas will, however, be safeguarded by the Commonwealth government's regulatory regime for GMOs wherever they are grown near non GM crops. The issue of certifying the non GM status of agricultural produce is discussed further in Chapter 7.