PO Box 52
Holland Park 4121
18th January 2016

The Editor
Australian Financial Review
GPO Box 55 Melbourne 3001

J'accuse

Dear Sir

I refer to your editorial of 11/1/16 "Dragging the Greens towards Reality", which mainly relates to GM food. For the reasons outlined below, I consider your editorial to be nothing more than deceptive and untruthful pro-GM propaganda.

For many years, almost 60% of the Australian public who are not "comfortable" with GM (see below) have been betrayed by a combination of deception, mendacity, sneakiness, arrogance, hypocrisy, cowardice and verbal thuggery, of which your article is illustrative. No single organisation is responsible for this. Below I refer to the "pro-GM establishment", an octopus like structure which includes the CSIRO Food Futures Division, FSANZ, the OGTR, various state government agricultural bodies, biotech corporations involved in plant genetics, media outlets including some scientific glossies available in newspaper stands, organisations publically and privately funded such as the Biotechnology Council of Australia and the Grains Research Development Corporation, University researchers, some food producers and retailers, some politicians, and others. However, I am ashamed to say that my fellow scientists have been the driving force.

I am an analytical chemist with a number of publications in the world's leading journals on analytical chemistry, as well as several patents. Accordingly, I do not consider myself "irrational", a word that is widely used by the pro-GM establishment to brand anyone who disagrees with them, and is employed in your article.

My interest in GM is that, as an ethical and responsible scientist, I stand for the truth. I am not opposed to GM food *per se* because I believe consumers should have right of choice. The rights of the 40% of Australians who are "comfortable" with GM should be respected. Equally, the rights the majority of Australians who aren't should be respected, but they are not. I have become involved in this field because I am sickened by the ubiquitous deception and mendacity which characterises the pro-GM establishment. I am speaking out because I believe the credibility of science and scientists is under threat.

Beginning with your sentence "Genetically Modified crops account for about 12% of crops worldwide . . . " this deceitfully implies *all* crops are involved. According to the enclosed article, which refers to *primary* Global Crop Production, "Four cash crops continue to account for virtually all GM production." Obviously, if one included *all* crops, the figure would be very small.

The sentence continues "and are present in an estimated 70% of supermarket food products in Australia . . . ". This is completely untrue. The enclosed article shows this figure has been lifted from the US, which has the highest use of GM in the developed world, especially because GM corn syrup is the main sweetener. Australian manufacturers of processed food mainly use natural cane sugar or artificial sweeteners. Is this what you mean by "reality"?

The tactic employed above represents a dishonest and cowardly attempt to intimidate the public into submission. This fait accompli approach effectively says to those consumers who don't want to eat GM food "you might as well give up the struggle because we've won".

If 70% of Australian supermarket food products contain GM ingredients, why are there *no* food products labelled GM in Australia, given FSANZ's claim that Australia has "amongst the most stringent labelling laws in the world"? The reality is that Australia's feeble GM labelling laws are effectively worthless. This is because the pro-GM establishment has worked tirelessly to ensure Australian consumers are denied a right of choice. For example, cooking oil made from GM canola, the main GM crop in Australia, does not have to be labelled GM thanks to FSANZ trickery and hypocrisy. They would not get away with this in Europe, which does have stringent laws. The law in the UK is that "food derived from GM plants must be labelled GM". In the US, 90% of consumers want effective GM labelling but the ultra powerful pro-GM lobby fights tooth and nail to ensure there is none. Prior to his election, President Obama campaigned to push for GM labelling, but upon gaining presidency, his contribution to the GM debate was to sign the notorious "Monsanto Protection Act", which was subsequently rescinded. If the most powerful man on earth can be humbled by a corporation, what does that say about the power of that corporation and the industry generally? Several international studies have shown that the more stringent the labelling laws, the lower the public consumption of GM food. Obviously, if consumers don't know what they're eating, they're less likely to object. The pro-GM establishment in Australia is well aware of this.

It's a safe bet the authors of the "70%" (or any figure) would never reveal which products contain GM components and the percentages, because of fear of a consumer backlash against the products. If the 70% happened to be true, it means the majority of Australians who don't want to eat GM food have had it forced down their throats without their knowledge or consent by stealth, as in the US. So Machiavelli lives. This may be a factor (one of a plethora) in the collapsing confidence in democracy and public institutions in both countries, accompanied by increasing polarisation, alienation, resentment, rancour and

disillusionment. I suggest you read John Keane's highly acclaimed book *The Birth and Death of Democracy.*

Regarding "while extensive studies have failed to reveal any risks", I refer you to a book "Seeds of Deception" by Jeffery M. Smith, subtitled "Exposing Industry and Government Lies About the Safety of the Genetically Engineered Foods" (an International Bestseller), which contains a chapter *Deadly Epidemic.* This details the death of between 80 - 125 people and disabling of up to 10,000 (many permanently) from a contaminant in the food supplement L-tryptophan made from a GM yeast. It also discloses the desperate deflection by the FDA in a US senate inquiry because the GM friendly FDA realised the future of GM was on the line. Meanwhile, Showa Denko, the Japanese manufacturer, destroyed all the evidence, tried to blame their filtration system and paid USD 2 billion compensation to victims, mainly out of court settlements on condition the victims didn't talk to the media. (Google GM L-tryptophan disaster). When I asked the Australian Academy of Sciences how they reconciled this matter with their 2007 statement "GM products have been in several foods for many years and consumed without any substantial evidence of the effects of ill health", they refused to reply.

More recently, France, Russia, and a number of other countries have banned GM corn because the herbicide gylcophosphate (the main ingredient of roundup which used in conjunction with GM corn), has been classified as a class 2A human carcinogen by the WHO. This derived from the work of French researcher Dr Seralini, which generated much heated squabbling in the scientific community, resulting in the forced retraction of his publication; an action denounced by many respected scientists. Australian researcher Dr Judy Carmen has done much work in this field, but her findings have been ignored by the Australian media. The CSIRO GM pea project was abandoned because the GM peas caused inflammation in the lungs of rats and affected their immune system. More cases are provided in Smith's book. The pro-GM establishment has been forced into an untenable absolutist position in perpetuity because any admission that some GM food may not be safe would utterly destroy credibility given thirty years of hard-line denialism.

There are two explanation why the pro-GM establishment persists with deceptive and untruthful statements. One is that they consider the public too ignorant to see through their deceptions. I, for one, find this generalised assumption extremely offensive, but not inconsistent with the pro-GM mindset that the public is a tiresome bovine irrelevancy, and they are puzzled as to why most of us don't worship them. In any case, this assumption has been comprehensively demolished in *A Voice of Reason* by Ian Lowe, which contains a section *Science, trust and the allegedly ignorant public.* This refers to a paper presented by Lord May, former British Chief Scientist, at a UNESCO World Conference, which specifically dealt with attitudes to GM. The other explanation is that they are too arrogant to care.

According to a Swinburne University survey, only 40% of Australian consumers are "comfortable" with GM food, and this figure has not changed over a decade. To counter

this, a past federal government organised fraudulent surveys to inflate acceptance figures to up to 77%, by treating "benefits", "support" and "acceptance" as equivalent. Of course, they are unrelated. Conversely, the pro-GM establishment has repeatedly claimed that opposition to GM food is confined to "irrational minority groups" as stated by Dr Fisher, (an honorary fellow with CSIRO Plant Industry division) in an article published in the *Australian 20/7/12.* Dr Fisher's contemptuous reference to "minority groups" is a consequence of the fact that the majority of citizens opposed to GM don't have a voice. Whereas the pro-GM establishment has access to large sums of taxpayer money for their propaganda, opposition groups rely on public subscriptions.

Dr Di Natale's decision to break ranks with anti-GM green policy is not new. In 2013, Paul Lynas, an environmental journalist, stunned the world by converting from anti-GM zealot to pro-GM zealot. The pro-GM camp were delighted by this amazing and unexpected turn of events, and pushed it for all it was worth, including parading an Australian copy cat. The miracle of St Paul was enthusiastically reported by the *Australian* 18/1/13 in a full page article titled "An inconvenient truth". Regrettably, much of the article simply reiterated the pro-GM catechism, for example, the unsupported circular statement from European Commission chief scientist Anne Glover: "There is no substantial case of any adverse impact on human health, animal health or environmental health, so that's pretty robust evidence".

My initial interest in the GM debate was prompted by the breakfast cereal "Digestive First", which contains the CSIRO development BARLEYmax. The product claimed to be "Natural", made by "Traditional Breeding" and "Non GMO". It was actually developed by the genetic manipulation technique of targeted mutagenesis, whereby the DNA of natural barley was attacked by the highly reactive and toxic chemical sodium azide (the sodium azide is not present in the mutated product). The first recorded chemical used in this way on barley was mustard gas, the notorious vesicant of WW1. Subsequently, the "tradition" was handed down to a succession of "breeders", who employed a range of toxic and dangerous chemicals for their "breeding experiments". According to the CSIRO, the term has been used in plant breeding textbooks for sixty years, yet during its long history, there has been no attempt by plant geneticists to explain to the public exactly what this umbrella term means. The CSIRO can legally claim non-GMO status because an exemption for chemical mutagenesis was appended to the *Gene Technology Act 2000* as a separate piece legislation enacted on the same day as the *GTA 2000.* However, after a lengthy debate with the ACCC, I am pleased to see the "Natural" has been deleted from recent packaging. I wrote to your publication on several occasions concerning this matter, but received no response.

I could go on an on, drawing on the five inches of communication I have with a number of Australian organisations. However, I realise it's water on a duck's back to you. Accordingly, I am writing a book which details this communication and various statements from the pro-GM establishment, dutifully parroted in the uncritical, sycophantic mainstream media who put up a wall against my attempts to expose the truth about BARLEYmax. My book also

covers the implications of GM/GE technology, including specifically designed viruses for biological warfare. It is obvious these will make all military hardware redundant, because they are invisible.

As mankind is now in the process of hijacking the evolutionary process from nature, I also discuss this watershed in human history. Recently, a GM salmon has been approved by the FDA for human consumption. This is the breakthrough genetic technologists have been waiting for and many in the US are predicting this will open the floodgates. According to nutritionist Dr Mercola, 35 GM animals are now in the pipeline for approval. We should expect speedy approval, given the GM section of FDA is nothing more than the regulatory arm of the bio-tech industry, with senior executives of Monsanto installed to run it.

Obviously, human beings are next in line, as elimination of all diseases will prevent the predicted collapse of health systems around the world. The "editing" (what a quaint euphuism!) of human embryo genes has just commenced, and critics are already saying this is the "slippery slope to designed humans". Then a competitive race to construct superman will result in the ultimate goal of civilisation - perfectionism. Clearly, we should have zero confidence in regulatory control, given the precedent set by the dishonourable, sneaky plant genetics, who have demonstrated an extraordinary aptitude for preying on scientifically illiterate politicians and journalists, as well as corrupting regulators. Essentially, they have adopted the same amorality as Darwinism itself.

I hope to generate significant interest in my work with my contention that Darwin's term "Natural Selection" is wrong - it should be "Natural Attrition". Darwin's unfortunate term has been used by legions of deceivers (for example, Michael Specter in his book *Denialism*) to claim an association between the way nature randomly alters genes, and the way humans can manipulate and *design* genes. Designed organisms can be used for any purpose, both philanthropic and misanthropic, and we have just begun to scratch the surface. The difference is that nature has no *intent*, whereas mankind has. Where will mankind's *intent* take us with genetic *designs*? Do you care? To quote the old saying:

There are none so blind as those who will not see.

In his 1970 bombshell *Future Shock*, Alvin Toffler famously said "Technology cannot be permitted to rampage through society". He advocated the democratization of technological development so that citizens were actually involved in decisions about research, and ultimately, their future. Of course, we all know this will never happen. Our future is being decided by blinkered beavers in white lab coats who have no idea where we are going.

If the long drawn out battle between the octopus and the majority of Australians who don't want to eat GM food has, indeed, been won by the former, we might well reflect on the moral principle upon which victory has been secured. I wonder if you and your friends in the pro-GM establishment would agree with the following:

> "The function of propaganda is, for example, not to weigh and ponder the rights of different people, but exclusively to emphasize the one right it has set out to argue for. Its task is not to make an objective study of the truth, in so far as it favours the enemy, and the set it before the masses with academic fairness; its task is to serve our own right, always and unflinchingly".

These are the words of Adolph Hitler in *Mein Kampf*. Of course, Hitler's observation was not original. It is neatly summarised by the old truism:

In any battle, the truth is the first casualty.

I am considering a number of titles for my book, one being:

Faith in Scientists and the Darwinian Trajectory

Yours faithfully,

John Petty

Read more opinion and letters, and see more of **David Rowe**'s award-winning c

FINANCIAL REVIEW

Dragging Greens towards reality

Federal Greens leader Richard Di Natale is to be congratulated for making another effort to drag his party away from the cranky fringe and towards making a real contribution to policy formation by daring to soften its policy against genetically modified foods. Whether this effort, which involved little more than Senator Di Natale saying he was not philosophically opposed to such foods, survives the reaction by party hardliners remains to be seen. But at least Senator Di Natale is in there, and swinging against policies that are irrational, make his party hard to sell to the middle ground and obstruct the pragmatic deals that make politics work.

Genetically modified crops account for about 12 per cent of crops worldwide and are present in an estimated 70 per cent of supermarket food products in Australia, while extensive studies have failed to identify any risks. Yet this reality has not made any impression on a significant section of the grassroots membership which reaffirmed the party's opposition to GMOs at its 2015 national convention.

That decision in turn emphasised the fact that the Greens emerged as a party of protest rather than government; better suited to tearing down policies than to forming them. This was particularly evident under former leader Christine Milne, who was opposed to any policy supported by former prime minister Tony Abbott, even when that policy agreed with party policy – notably petrol excise indexation. Ms Milne was stridently opposed to GM foods and farming.

There are indications that Senator Di Natale's efforts to shift the party away from its protest base is having some success, with membership increasing by 30 per cent over a year to 13,400 last year. His shift is also making the business of government easier, with the Coalition managing to push a tighter means test for the pension through the Senate in June, thanks to support from the Greens.

In contrast, Labor tied itself in knots defending its opposition to reducing pension payouts to the wealthy.

Senator Di Natale's job as a voice for reason in the party is far from easy. But to observers of the political scene, the Greens make considerably more sense and seem more relevant than they did under his predecessor, and that is something to be grateful for in any political party.

Genetically Modified Crops Only a Fraction of Primary Global Crop Production

Product Number:
VST109

In 2007, farmers planted an additional 12.3 million hectares of genetically modified (GM) crops, bringing the total global area up 12 percent to 114.3 million hectares (See Figure 1.) Genetically modified crops (also called biotech crops) have been intentionally altered through genetic engineering—the elimination, alteration, or introduction of new genetic elements, including from one unrelated species to another. Although they have been on the market for a decade, they currently account for a modest 9 percent of total land used for global primary crops.2 (See Figure 2.) Four cash crops continue to account for virtually all GM production: soybeans (51 percent), corn (31 percent), cotton (13 percent), and canola (5 percent).3

Twenty-three countries were growing GM crops in 2007, including 17 high-income and upper-middle-income countries and 6 lower-middle-income countries.4 The global leader by far continues to be the United States, which accounts for half of all GM crop area.5 In 2007, GM crops were growing on 57.7 million hectares of U.S. land, an increase of 6 percent over the previous year.6 Beyond the four standard GM crops, farmers there also grow small amounts of GM papaya in Hawaii. Although that has been declining over the past few years, and GM alfalfa, which court rulings have suspended until further environmental review.7

The second and third largest countries for GM crop area are Argentina, with 19.1 million hectares in 2007, and Brazil, with 15.0 million hectares.8 Other primary South American growers include Paraguay with 2.6 million hectares and Uruguay with 500,000 hectares.9 The main GM crop grown in this region is soybeans, followed by corn and cotton.10
India is now ranked fifth in total GM crop area, with 6.2 million hectares in 2007 devoted to cotton.11 This includes 2.4 million hectares that were planted between 2006 and 2007, about the same amount of new area as added the previous year. Although China was the first country to grow a commercial genetically modified crop—transgenic tobacco in 1992—added crop area rates there have significantly trailed those of India.12 In 2007 China had 3.8 million hectares in GM crops, including 300,000 new hectares, about one eighth as much as India's new crop area for the same year.13 The main GM crop in China is cotton.14

Two GM crop traits continue to dominate worldwide: herbicide tolerance (63 percent) and insect resistance (12 percent), with a combination of the two traits (called "stacked") accounting for the rest.15 (See Figure 3.) For herbicides' most crops have been altered to tolerate direct application of glyphosate, commonly known by the trade name Roundup.16 While GM crops adopted during the initial years of commercialization were mostly single-trait crops, the recent trend has been for stacked traits that are a combination of herbicide tolerance and insect resistance.17 This trend has been most prevalent over the last four years, as stacked crops grew from 9 percent to 19 percent of traits.18

In the United States, GM crop production actually increased pesticide use by more than 4 percent between 1996 and 2004, despite early signs that GM use might be tied to an overall decline.19 Reports of glyphosate-resistant weeds, or "super weeds," have been on the rise since GM crops started gaining momentum, and these weeds now total 15 species—up from 2 in the 1990s—that cover hundreds of thousands of hectares in the United States alone.20 In response, farmers have been encouraged to diversify herbicide applications or increase glyphosate applications.21
Claims of potential benefits from GM crops include increased yields and nutritional value, although to date no commercially available crops have been modified for these purposes.22 Some studies have shown that GM crops reduce yield performance, including a 5- to 10-percent yield drag in GM soybeans.23 Media reports have linked the widespread collapse of GM cotton crops and reduced yields in India to increased suicides among poor farmers.24 And although nutrition-related traits have been promised over the last decade, they are still at least five years away from market.25

Several concerns surround GM crops, including the transfer of food allergens across crop species, the unintentional spread and gene flow of GM crops, contamination of organic and other non-GM crops, the development of weed and pest resistance, and toxicity to animals that may feed on or near the crops.26 One added concern is the use of genetic use restriction technologies (GURTs), which can prevent the appearance of a GM trait or cause the seeds to be sterile in order to keep GM crops from being replicated or saved and replanted by farmers for the next crop.27 Sometimes called "terminator seeds," GURTs pose environmental risks and have been restricted, although research into new varieties continues.28

The potential social benefits of GM crops for small farmers and consumers in developing countries have not yet been realized in part because large profit-driven agribusinesses have dominated research and development and hold intellectual property protections that make public research costly and time-consuming.29 In addition, most investment has been into a small number of crops and traits targeted toward large-scale commercial farming.30

The Food and Agriculture Organization has warned of a growing "molecular divide" between industrial and developing countries, advocating a new direction that would address the needs of the poor, including research into so-called orphan crops—sorghum, millet, and pigeon pea, among others—that have received little or no attention.31 Other critics maintain that GM research threatens local agricultural knowledge and experimentation, two important components of a sustainable agricultural system.32 These concerns raise questions about portraying GM crops as a second Green Revolution; whereas in the Green Revolution research was driven by public centers and focused on providing free technology and access to those most in need, the "Gene Revolution" is largely being driven by commercial profits.33

Monsanto exemplifies the growing influence of GM agribusinesses and seed companies: its GM crop traits are found in more than 85 percent of global GM crop hectares, and the company controls 23 percent of the global proprietary seed market.34 Monsanto has been a leading proponent of prohibiting farmers from saving seeds to plant as future crops, increasing the dependence of farmers on seed companies.35 The company has collected tens of millions of dollars from farmers charged with illegally saving GM seed, even in cases where accidental contamination was the likely culprit.36

Rising food prices worldwide have led to increased media attention on GM crops. In early 2008, GM proponents like Monsanto began promoting their technology as part of the global solution to an impending food crisis, even though there are no GM crops available to increase yields.37 Livestock producers and food makers joined the media fray, urging faster approval of GM crops and more widespread use of the technology.38 Yet a groundbreaking report by more than 400 scientists published in April 2008 and approved by more than 50 countries casts serious doubts about the role of GM crops in addressing food security and points to the existence of more-effective alternatives and solutions.39

Another area that is gaining attention is the overlap of GM crops and climate change. Some proponents have highlighted the use of GM crops in biofuels production, including 7 million hectares of corn used in ethanol and just over 4 million hectares of soybeans used in biodiesel.40 But there are no commercially available GM crops designed for biofuels, which are made equally well from conventional crops. Moreover, biofuels may result in higher lifecycle greenhouse gas emissions than conventional petroleum fuels.41

Also receiving attention are crops that may be able to adapt to changing climate conditions like drought and extreme temperatures—sometimes called "climate-ready."42 Several large agribusinesses have announced significant research investments into these crops, including one partnership with nonprofit and research groups, called Water Efficient Maize for Africa, to develop drought-tolerant corn.43 However, there are many substantial technical obstacles to successful development of these traits through genetic modification.44 Like earlier promises of higher nutrition, most of the "climate-ready" GM crops are not expected to be widely available for 5–10 years, even if they turn out to be viable.45

Even as these developments advance, tension is growing over the future of GM crops. The European Union is expected to offer new guidance on these crops by the end of 2008, a process that has already proved controversial, with allegations of secret meetings to sway the decision.46 France announced earlier this year that it was suspending GM crop production, but two other countries are expected to join the mix by the end of 2008: Egypt and Burkina Faso.47 New crops are also in development, including rice—one of the most important food staples for a majority of the world's poor.48 Yet a new scientific study funded by the Austrian government suggests that a popular variety of GM corn reduces fertility in mice, raising questions about GM safety.49 And with high-level critics like the Prince of Wales speaking out, GM crops are likely to remain controversial.50

Notes:
1. Clive James, Global Status of Commercialized Biotech/GM Crops: 2007, Brief 37 (Ithaca, N.Y.: International Service for the Acquisition of Agri-biotech Applications (ISAAA), 2007), p. 3. ISAAA is the only source tracking global GM crop area statistics; some critics have charged that its numbers are often inflated—see, for example, Friends of the Earth International (FOEI), Who Benefits from GM Crops? The Rise in Pesticide Use (Amsterdam: January 2008).
2. Worldwatch calculations based on 2007 "primary crops" grouping per each country in ProdSTAT section of Food and Agriculture Organization (FAO). FAOSTAT, at

fabstat.fao.org, updated 11 June 2008, and on James, op. cit. note 1, p. 5.

5. James, op. cit. note 1, p. 10.

4. Ibid., pp. 3–4. Country income levels based on World Bank classifications as of 15 November 2005, at web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html#Low_income.

6. Clive James and A. F. Krattiger, Global Review of the Field Testing and Commercialization of Transgenic Plants, 1986 to 1995: The First Decade of Crop Biotechnology, Brief 1 (Ithaca, NY: ISAAA, 1996), p. 23; James, op. cit. note 1, p. 5.

7. James, op. cit. note 1, p. 5; Clive James, Global Status of Commercialized Biotech/GM Crops: 2006, Brief 35 (Ithaca, NY: ISAAA, 2006), p. 6.

8. Sean Hall, "Papaya Production Taking a Tumble," Alaska Advertiser, 19 March 2005; Jim Christie, "Ban on Monsanto Genetically Modified Alfalfa Upheld," Reuters, 9 May 2007; U.S. Federal Register, Animal and Plant Health Inspection Service, "Notice: Environmental Impact Statement; Determination of Regulated Status of Alfalfa Genetically Engineered for Tolerance to the Herbicide Glyphosate," Docket No. APHIS-2007-0044, 7 January 2008, pp. 1198–1200.

9. James, op. cit. note 1, p. 5.

10. Ibid.

11. Ibid.

12. James and Krattiger, op. cit. note 5, p. 23; James, op. cit. note 1, p. 5; James, op. cit. note 6, p. 6; Clive James, "Global Status of Commercialized Transgenic Crops: 2005," Brief 34 (Ithaca, NY: ISAAA, 2005), p. 8; Clive James, "Preview: Global Status of Commercialized Transgenic Crops: 2004," Brief 32 (Ithaca, NY: ISAAA, 2004), p. 11; Clive James, "Preview: Global Status of Commercialized Transgenic Crops: 2003," Brief 30 (Ithaca, NY: ISAAA, 2003), p. 9.

13. James, op. cit. note 1, p. 5; James, op. cit. note 6, p. 6.

14. James, op. cit. note 1, p. 7.

15. Ibid., p. 11.

16. Jorge Fernandez-Cornejo and William D. McBride, with contributions from Hisham El-Osta et al., "Adoption of Bioengineered Crops," Agricultural Economic Report, no. 810 (Washington, DC: Economic Research Service (ERS), U.S. Department of Agriculture (USDA), 2002), p. 4.

17. James, op. cit. note 1, p. 11.

18. Ibid.; James, op. cit. note 6, p. 5; James, Global Status 2006, op. cit. note 12, pp. 34–35; James, Global Status 2004, op. cit. note 12, pp. 20–21; James, Global Status 2003, op. cit. note 12, pp. 17–18; Clive James, "Preview: Global Status of Commercialized Transgenic Crops: 2002," Brief 26 (Ithaca, NY: ISAAA, 2002), p. 12; Clive James, "Global Review of Commercialized Transgenic Crops: 2001," Brief 24 (Ithaca, NY: ISAAA, 2001), pp. 11–12; Clive James, "Global Status of Commercialized Transgenic Crops: 2000," Brief 23 (Ithaca, NY: ISAAA, 2001), p. 10.

19. Charles Benbrook, "Genetically Engineered Crops and Pesticide Use in the United States: The First Nine Years," BioTech InfoNet Technical Paper Number 7, October 2004, PDEI, op. cit. note 1; Fernandez-Cornejo and McBride, op. cit. note 16.

20. Chris Boerboom and Michael Owen, "Facts about Glyphosate-Resistant Weeds," The Glyphosate Weed and Crop Series, Glyphosate Stewardship Working Group, December 2005; Ian Heap, "Weed Science: Glycines (G/R) Resistant Weeds By Species and Country," online database, at www.weedscience.org/Summary/UspeciesMOA.asp?lstMOAID=12&FrmHRACGroup=Go, viewed 18 November 2008.

21. Boerboom and Owen, op. cit. note 20; Bob Hartzler, "Glyphosate Resistance in the Cornbelt," Iowa State University Weed Science Web site, at www.weeds.iastate.edu/mgmt/2005/perennpaper.shtml, viewed 27 October 2008.

22. James, op. cit. note 1, p. 11; Jorge Fernandez-Cornejo and Margaret Caswell, The First Decade of Genetically Engineered Crops in the United States, Economic Information Bulletin Number 11 (Washington, DC: ERS, USDA, 2006), p. 9; Roger W. Elmore et al., "Glyphosate-Resistant Soybean Cultivar Yields Compared with Sister Lines," Agronomy Journal, March-April 2001, pp. 408–12.

23. Elmore et al., op. cit. note 22; International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), Executive Summary of the Synthesis Report (Washington, DC: April 2008).

24. Chad Heeter, "Seeds of Suicide, India's Desperate Farmers," FrontlineWorld, Rough Cut, 26 July 2006.

25. James, op. cit. note 1, p. 12; Clive James, Global Review of Commercialized Transgenic Crops: 1998, Brief 8 (Ithaca, NY: ISAAA, 2001), pp. 34–37.

26. World Health Organization (WHO), Modern Food Biotechnology, Human Health, and Development: An Evidence-Based Study (Geneva: Food Safety Department, 2005), pp. 12–17; Philip J. Dale, Belinda Clarke, and Eliana M.G. Fontes, "Potential for the Environmental Impact of Transgenic Crops," Nature Biotechnology, June 2002, pp. 567–74; FAO, Report of the Panel of Eminent Experts on Ethics in Food and Agriculture, First Session (Rome: 2001); IAASTD, op. cit. note 23, p. 14.

27. FAO, Potential Impacts of Genetic Use Restriction Technologies (GURTs) on Agricultural Biodiversity and Agricultural Production Systems: Technical Study (Rome, 2002); Sergio H. Lence and Dermot J. Hayes, "Technology Fees versus GURTs in the Presence of Spillovers," World Welfare Impacts," AgBioForum, Vol. 5, nos. 2 & 3 (2005), pp. 172–86.

28. FAO, op. cit. note 27; "Terminator Gene Halt a 'Major U-Turn'," BBC News, 5 October 1999; Transcontainer, "Transcontainer & Controltecle Fertility," fact sheet (Netherlands, undated).

29. World Bank, World Development Report 2008 (Washington, DC: 2007), pp. 15, 177–78; FAO, "FAO Warns of 'Molecular Divide' between North and South Biotechnology, The Gap between Poor and Rich Countries is 'Widening'," press release (Rome: 18 February 2003).

30. World Bank, op. cit. note 29, pp. 15, 177–78; WHO, op. cit. note 26, pp. 53–55; FAO, The State of Food and Agriculture: Agricultural Biotechnology, Meeting the Needs of the Poor? (Rome: 2004), pp. 25–39, 87–93.

31. FAO, op. cit. note 29; FAO, op. cit. note 30.

32. IAASTD, op. cit. note 23.

33. FAO, op. cit. note 30, pp. 25–39.

34. Worldwatch calculations based on Monsanto, "Biotechnology Trait Acreage: Fiscal Years 1998–2008F," information sheet (St. Louis, MO: 26 June 2008), and on James, op. cit. note 1, p. 3, percent of seed market from ETC Group, Who Owns Nature? Corporate Power and the Final Frontier in the Commodification of Life (Ottawa, Canada: November 2008), p. 11.

35. Center for Food Safety, Monsanto vs. U.S. Farmers: November 2007 Update (Washington, DC: 2007).

36. Ibid.; Bernard Simon, "Monsanto Wins Patent Case on Plant Genes," New York Times, 22 May 2004; Donald L. Barlett and James B. Steele, "Monsanto's Harvest of Fear," Vanity Fair, May 2008.

37. Sarah Gardner, "Monsanto Makes the Case for GM Crops," Marketplace, 4 June 2008.

38. Andrew Pollack, "In Lean Times, Biotech Grains Are Less Taboo," New York Times, 21 April 2008.

39. IAASTD, op. cit. note 23.

40. James, op. cit. note 1, p. 12.

41. U.S. Environmental Protection Agency, Greenhouse Gas Impacts of Expanded Renewable and Alternative Fuels Use (Washington, DC: 2007).

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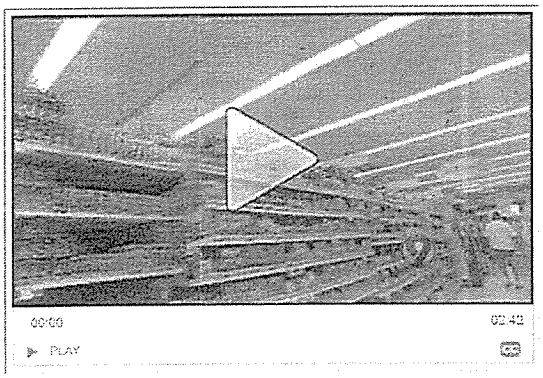
Included Trends:

Global Area of Genetically Modified Crops, by Country, 1996-2007; Genetically Modified Crops as Share of Primary Crops, Top 10 Countries, 2007; Genetically Modified Crop Traits, Share of Global Crop Area, 2007

Posted: 5:46 p.m. Wednesday, July 3, 2013

9 Investigates: 70 percent of processed foods have genetically modified ingredients



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By Tenikka Smith

WAXHAW, N.C. — Experts said 60 to 70 percent of processed foods on U.S. grocery store shelves have genetically modified ingredients.

Many major crops like corn and soybeans are grown using genetically engineered seeds.

Dr. Deborah Thompson, with the North Carolina Biotechnology Center, explained the process to Channel 9 anchor Tenikka Smith.

"We insert a piece of DNA that will create a protein that we think will improve the crop in some way," Thompson said.

The added genes can impact crops in a number ways. They can produce higher crop yields, allow crops to withstand severe weather and climate conditions, or make them resistant to herbicides, viruses and pests.

Vani Hari is a food blogger and organic food advocate. Hari wants the U.S. to require manufacturers to label genetically engineered food. Right now, the FDA lets companies do it on a voluntary basis.

"We have a fundamental right to know what's in our food," Hari said.

More than 60 other countries ban the foods or require specific labeling. Many of those countries are in Europe.

"United States food manufacturers reformulated their foods without GMO's so they could sell them to Europeans . . and still selling us this genetically engineered food -- and whose disease rates are going up, skyrocketing? Ours," Hari said.

Several major companies in North Carolina develop genetically engineered seeds, including Bayer CropScience and Syngenta. Thompson said these companies do extensive testing on the safety and nutrition of their modified plants, then give their findings to the FDA for evaluation before the foods are sold to the public.

"They are safe to eat," Thompson said, "Genetically engineered crops are nutritionally equivalent to conventionally raised crops."

But Hari wants to see more independent research versus testing done by the companies themselves.

Marianne Battistone owns Poplar Ridge Farm, a USDA-certified organic farm in Waxhaw.

"We are not allowed by law to use GMO seeds," she said. "We know it's a healthier product with more vitamins and minerals."

Battistone believes consumers should know exactly where their food comes from. "As a supporter of local organic farmers in your area, you will never have to face the GMO question."

All sides agree you should do your own research to determine the best option for what's on and in the menu for your family tonight.

Important links related to this story:

www.foodbabe.com

http://www.fda.gov/Food/FoodScienceResearch/Biotechnology/ucm346030.htm

http://afsic.nal.usda.gov/organic-production

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