Mr Paul Lindwall,
Presiding Commissioner
Regulation of Australian Agriculture Productivity Commission
Locked Bag 2, Collins Street East Melbourne Vic 8003

Dear Sir,

Submission to Productivity Commission

This submission specifically concentrates on

“Regulation of technologies and agricultural and veterinary chemicals”

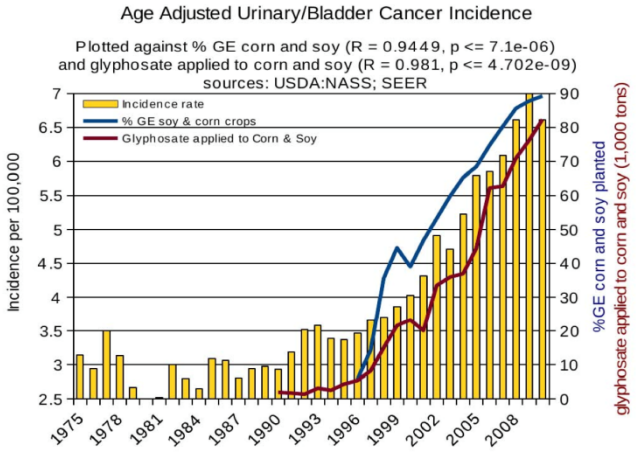
I am a farmer and operate a consultancy "Grazing BestPrac" in the central Queensland region. I am concerned about the health of my family, community and the agricultural industry if the Australian Government continues down the easy path of less regulation of our poisons and novel technologies industries. I am also concerned about the one sided debate about GMO farming compared to conventional and organic methods. Farmers need to become sustainable, with healthier soils as the key goal to manage climate change and improve productivity. To do this farmers need to learn how to manage soil nutrition, microbiology and plant health before even considering the silver bullet concept being promoted by the bio-tech industry. If it is proven to be safe in the future, it can be added as a tool.

The OGTR assesses GMOs for health and safety and environmental impacts

- The health of the community is directly linked to the food which is both produced within Australia and imported from other countries. "We are what we eat". Therefore, governments need to concentrate on the bio-security needs of Australia and Australians in regards to new technologies, GMO, chemicals and GMO moratoriums and the safety of our food supply.
- The commission specifically needs to sideline the views of the large multinational chemical manufacturers, as they are primarily focused on company profit, and not the profitability of farmers or the health of the community.
- In 2016, there are more scientific questions unanswered in regards to safety of any and all GMO crops and products than the reduction of red tape.
- Government does not want to make it easier to approve products if the products are going to harm Australian families.
- Independent health based scientists need to agree that the products are safe before being released into the environment and the community. (The public does not trust FSANZ or CSIRO GMO scientists)
- A group of 300 scientists compiled a scientific peer reviewed paper in 2015 outlining the lack of agreement about the safety of GM foods (1)"A*n expert panel of the Royal Society of Canada issued a report that was highly critical of the regulatory system for GM foods and crops in that country. The report declared that it is ‘scientifically unjustifiable’ to presume that GM foods are safe without rigorous scientific testing and that the ‘default prediction’ for every GM food should be that the introduction of a new gene will cause ‘unanticipated changes’ in the expression of other genes, the pattern of proteins produced, and/or metabolic activities."...and .. Concerns about risks are well founded, as has been demonstrated by studies on some GM crops and foods that have shown adverse effects on animal health and non-target organisms (1)*
- The important question is how do we agree to measure the safety for human consumption, as many of the existing protocols for testing are simply not designed to measure the long term chronic toxicity problems which are being seen in other countries. ... (2) "*no epidemiological studies in human populations have been carried out to establish whether there are any health effects associated with GM food consumption".*
- However the correlation between the escalating disease incidence and the rollout of the super bio-technologies in the USA is highlighting a major correlation. As an example, a study conducted in the USA, in 2014 using all government

data, "Genetically engineered crops, glyphosate and the deterioration of health in the United States of America" demonstrated an extremely high correlation between major chronic diseases and an increase in a combination of glyphosate and genetic engineering.

- *(3) A huge increase in the incidence and prevalence of chronic diseases has been reported in the United States (US) over the last 20 years..... Evidence is mounting that glyphosate interferes with many metabolic processes in plants and animals and glyphosate residues have been detected in both. Glyphosate disrupts the endocrine system and the balance of gut bacteria, it damages DNA and is a driver of mutations that lead to cancer.*
- *In the present study (3), US government databases were searched for GE crop data, glyphosate application data and disease epidemiological data. Correlation analyses were then performed on a total of 22 diseases in these time-series data sets. The Pearson correlation coefficients are highly significant (< 10-4) between the percentage of GE corn and soy planted in the US and hypertension (R = 0.961), stroke (R = 0.983), diabetes prevalence (R = 0.983), diabetes incidence (R = 0.955), obesity (R = 0.962), lipoprotein metabolism disorder (R = 0.955), Alzheimer's (R = 0.937), Parkinson's (R = 0.952), multiple sclerosis (R = 0.876), hepatitis C (R = 0.946), end stage renal disease (R = 0.958), acute kidney failure (R = 0.967), cancers of the thyroid (R = 0.938), liver (R = 0.911), bladder (R = 0.945), pancreas (R = 0.841), kidney (R = 0.940) and myeloid leukaemia (R = 0.889). The significance and strength of the correlations show that the effects of glyphosate and GE crops on human health should be further investigated....*



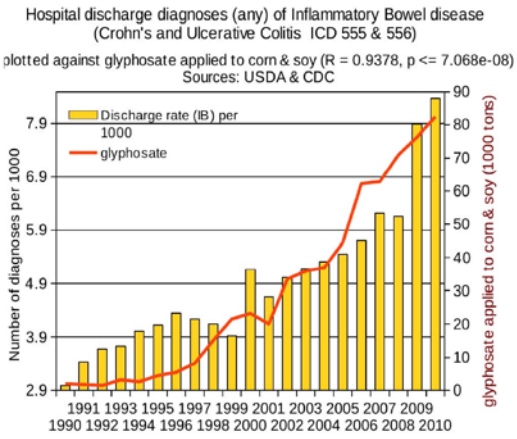


Figure 1 and 2 USA Urinary/ Bladder cancer incidence and Inflammatory Bowel Disease

- And for glyphosate, it was similar - *The Pearson correlation coefficients are highly significant (< 10-5) between glyphosate applications and hypertension (R = 0.923), stroke (R = 0.925), diabetes prevalence (R = 0.971), diabetes incidence (R = 0.935), obesity (R = 0.962), lipoprotein metabolism disorder (R = 0.973), Alzheimer's (R = 0.917), senile dementia (R = 0.994), Parkinson's (R = 0.875), multiple sclerosis (R = 0.828), autism (R = 0.989), inflammatory bowel disease (R = 0.938), intestinal infections (R = 0.974), end stage renal disease (R = 0.975), acute kidney failure (R = 0.978), cancers of the thyroid (R = 0.988), liver (R = 0.960), bladder (R = 0.981), pancreas (R = 0.918), kidney (R = 0.973) and myeloid leukaemia (R = 0.878).*
- And the importance of recent (within 5 years) independent research which highlights the inadequacy of past research from the previous decade that has mostly been conducted for and by biotech companies.
- It is clear to see there is no consensus in regards to safety.*(1) "Over recent years, a number of scientific research articles have been published that report disturbing results from genetically modified organism (GMO) feeding experiments with different mammals (e.g. rats [4], pigs [5]). In addition to the usual fierce responses, these have elicited a concerted effort by genetically modified (GM) seed developers and some scientists, commentators, and journalists to construct claims that there is a 'scientific consensus' on GMO safety".*

- However, the evidence is demonstrating that GMO products are simply not proven safe and in many experiments are downright harmful to treatment animals.
- It is the media driven by the GMO industry and career scientists who are connected to the industry who are promoting the industry to sell GMO products, so they keep their jobs. And they probably do not consider the long term health of the Australian community.
- Australian Government will open the flood gates to potentially unsafe and unproven Genetically Modified Technologies that will put Australian farmers and communities at even greater bio-security risk of potential GM incursion, negative human health effects and will put at risk long term clean green markets around the world.
- GM Free produce - In a time when our island nation can really begin to promote its independent clean green image and market products world-wide as a number one trading nation, governments and big corporate businesses want to push farmers into following the American model and destroy Australia's potential.

Science of Biotechnology Safety

- It has taken many years for good science to overtake the old antiquated science that has supported the GMO industry for the past 20 years.
- The science of the 1980's - 90's was developed on a theory that inserting a single gene has a single impact and is not connected to other functions in the genome. At that time it sounded plausible and many scientists staked their reputations on the theory.
- However, the science of the past 5 years has proven the technology to not be proven safe and so demonstrated the total opposite scenario where the genome is a far more complex array of structures that have looped connections that mostly perform a myriad of roles.
- Therefore, the application of one insertion somewhere in the DNA will probably have a chain of unintended effects that may lead to long term health implications.
- This knowledge supports the outcomes of many scientific experiments in the past 5 - 6 years and at the very least requires serious longer term analysis of existing and new GMO crops.
- The FSANZ claims to be following the "Precautionary Principle", but lacks the application of this principle to protect Australia. https://www.independentsciencenews.org/health/gmo-regulators-hidden-viral-gene-vi-regulators-fail/
- There are a number of exciting new high quality peer reviewed scientific papers presented in the past 5 years demonstrating the potential harm of either GMO technologies (biotechnolgy) or a combination of GMO and agricultural chemicals (4&5).
- None of the GMO broadacre crop technologies are enhancing positive traits such as drought tolerance, seed quality or yield as do organic farming techniques.
- Broadacre GMO crops are all designed to either be sprayed with poisons or to emit poisons into the environment, potentially causing more harm to both the environment and the human population.

FSANZ - Lack of action - testing new and old GM products for health impacts

- The Office of Gene Technology Regulator (OGTR) and Food Standards Australia and New Zealand (FSANZ) are regulators of the GMO products and foods.
- In reality, OGTR is seen more like a promotional body for releasing GMO's in Australia and has no interest in restricting their uptake, while the other body FSANZ ignores new science and instead accepts flawed science to show that GMO's are all good and don't really need testing as it would be too hard to do properly.
- Pers Com FSANZ staff (feb 2016) – *It would be too difficult to properly test for health affects in GMO's*. From direct discussions with senior staff, *FSANZ does no testing of foods with GMO ingredients.* FSANZ submission – Dec 2015 - *...The principal function of FSANZ is to develop food standards, which provide objective indications of safety for domestically produced and imported food commodities....*
- The biggest issue with GMO releases into Australia and the management of labelling once products enter Australia is FSANZ as an organisation.

- FSANZ has no accountability to the public or the farmer or the community at large.
- FSANZ staff demonstrate no transparency with GMO safety testing, are unwilling to learn as staff will not communicate with the public, GMO testing standards do not exist, there is no long term testing of any GMO line to demonstrate safe for human consumption and staff cannot explain the target/ standard that each crop has to achieve to be approved.
- It is safe to conclude the standards are created after the new GMO product review is undertaken as It is impossible to have FSANZ staff explain or provide a standard.
- A standard to a farmer is the ppm of each nutrient (max/ min) or a level of protein that a conventional vs GMO contains.
- When requesting the standards for GMO being released into Australia, there are none to compare to.
- There is no transparency with the actions of FSANZ as they apply a double standard and treat the public and scientists who challenge their work with arrogance while approving GM crops with no more than in-house, non peer reviewed reports.
- When considering the health and safety of Australian citizens, at the very least the body of evidence that is submitted for a GMO crop approval needs to be: (below)
- Peer reviewed in Australia and replicable with comparison between the parent line and GMO line grown side by side in Australia in the same year and under the same conditions.
- At least real science standards should be adhered to prior to approving a GMO. The standards they accept would not be acceptable in any university.
- From personal contact with FSANZ staff, the role of FSANZ staff is to read the unpublished, non peer- reviewed in-house industry papers from the chemical company who are developing the GMO and to ensure all negative scientific papers are discredited. This is not acceptable for Australia in the 21st century. Our community deserves professional ethical standards where scientific staff are able to debate openly to change or improve practices. However, FSANZ simply ignores any questions.....
- pers com (email) from FSANZ Feb 2016 - "*FSANZ firmly stands by its approach to GM food safety assessment, which is the same as the approach taken by all the other GM food regulators in the world, then there is little point in arguing and we should just agree to differ*".
- FSANZ simply copies its approach from other regulators who may be making mistakes and causing enormous long term harm to their communities. The Australian regulators need to be the best in the world, learning from past experience with other regulators, learning and updating scientific testing protocols and leading the world, not simply following the other nations and copying their mistakes. Australia does not want the problems of the USA disease epidemic.
- GMO testing needs to include: long term lifetime toxicological animal feeding studies (in Australia/ paired trials) that are independent and funded by the corporate entity, then include human trials once fully proven.

Moratorium on GMO crops is essential

- A large proportion of the farming community do not wish to be contaminated by the decision of a minority of farmers who are choosing to grow GMO crops.
- The majority of non GM group includes graziers, conventional farmers, organic farmers and horticultural industries as well as fruit and vegetable industries.
- Non GM businesses should not have to be affected by the impact of GMO plants or pollen moving onto the land as in the case of “Marsh vs Baxter” in 2014.
- The Australian law needs to be changed to include damages caused by a GM grower over an organic or conventional grower.
- Corporate litigation needs to be disallowed from prosecuting growers for accidental infestation of GM material.
- Growers need to be able to prosecute the corporate entity for any GM incursion on their land.
- Australia has the largest area of land under certified organic management of any nation of the world with 17.3 million hectares worth $1.7Bn gross annually, while USA has only 3 million hectares.

- This has created an enormous potential world market that will be at risk if the Australian government allows unproven GMO technology to increase without firstly proving it is safe for human consumption.
- In a 2016 Organic Agriculture in the 21st Century Research paper - *(6)* I*t is the first study to analyze 40 years of science comparing organic and conventional agriculture across the four goals of sustainability identified by the National Academy of Sciences.....Organic farming systems produce lower yields compared with conventional agriculture. However, they are more profitable and environmentally friendly, and deliver equally or more nutritious foods that contain less (or no) pesticide residues, compared with conventional farming. ... initial evidence indicates that organic agricultural systems deliver greater ecosystem services and social benefits.*
- (6) "In severe drought conditions, which are expected to increase with climate change, organic farms have the potential to produce high yields because of the higher water-holding capacity of organically farmed soils,"
- *Australian growers are on track to produce half a million tonnes of maize this year (non GM)* $100 / tonne price premium for non-GM over GM (7) http://www.abc.net.au/news/2015-03-18/australian-corn-maize-production-better-than-expected/6328468
- Comments from a seed exporter on ABC radio 18/3/2015 - *In fact, maize is competitive with cotton, especially if we keep non-gm. We do not have any commercial reason for growing GM corn*
- *Mr Cogswell said growers were receiving at least a $100 premium/ t over maize from the United States, because of Australia's GMO-free status.*
- If all If all cotton and all Canola in Australia were to be GM, it would only be 16% of the broadacre area in Australia. (ABARE stats - http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/7121.0Main%20Features32014-15?opendocument&tabname=Summary&prodno=7121.0&issue=2014-15&num=&view=

Register for managing bio-security concerns

- If this commission continues to support the approving GMO technology, then the increase in GMO usage will require the establishment of a register of land contaminated with GMO plants so that an organic grower does not inadvertently purchase the land unknowingly.
- A register of farmers who have chosen to grow GM derived crops will need to be established for bio-security purposes, similar to registering disease status.
- An organic grower cannot impact on a conventional or GMO grower, but a GMO grower has impacted and will continue to impact on all organic growers.

Bio-security Breach

- Consider the introduction of GMO's in a similar way to that of the Cane Toad in northern Australia and the long term implications that were not understood, causing environmental and ecological damage.
- Once the bio-security breach has occurred, it is impossible to simply stop the spread of altered Genetic Organisms, just as has happened in America in the past decade, with a new GE lawn grass escaping
- (8) *ONTARIO, Ore. — During a contentious meeting March 1, farmers and irrigation district officials challenged USDA's recent agreement with Scotts Miracle-Gro Co. to manage a genetically engineered creeping bentgrass that escaped from field trials in 2003..... Erstrom, chairman of the Malheur County Weed Board, and others said that because the grass is genetically engineered to resist Monsanto's Roundup weed killer, it is hard to eradicate and is causing problems in waterways.*
- This situation in the USA is a very good example of what Australia will face with GMO crops, pastures and plants.
- What are the management plans that FSANZ and OGTR have in place if there is a bio-security incident? And another example
- (9) *the illegal and unexpected spread of Monsanto's genetically modified glyphosate-resistant wheat. Found in farmland within the state of Oregon, the USDA is now admitting that we may have a very serious case of GM crop pollution — and that really concerns me coming from a company that backs Monsanto 365 days a year.*

- And yet another *(9) "Monsanto's genetically altered alfalfa may have been set free in 2003 — a full two years or more before it was deregulated in 2005. In a letter, obtained by NaturalSociety with permission to post for public viewing, it becomes clear that the USDA may have turned a blind eye to the entire situation, allowing widespread GMO contamination of GMO-free crops. ..... We first discovered the unintended presence of the Roundup Ready gene in our conventional alfalfa seeds in 2005. It was identified in one of our foundation seed production lots grown in California. We tested the foundation seed lot prior to shipping it to a producer who intended to plant it for organic seed production"...* and
- even more GE wheat (10) "*And that means genetic pollution is already out of control. The GE wheat for which Monsanto claims patent ownership is now invading farms that never planted GE wheat.....All U.S. commercially-grown wheat now suspect*
- *There are at least five serious ramifications from this:*
  #1) Monsanto can now sue all the farms where GM wheat has been found growing. According to U.S. federal courts, those farmers have "stolen" Monsanto's intellectual property.
  #2) The spread of GM wheat from experimental fields to wheat production fields is proof that GMOs cause genetic pollution -- self-replicating pollution with the potential to devastate global food production.
  #3) All wheat produced in the United States will now be heavily scrutinized -- and possibly even rejected -- by other nations that traditionally import U.S. wheat. This obviously has enormous economic implications for U.S. farmers and agriculture.
  #4) It proves the USDA cannot control the GMO field experiments it approves. Open-field experiments are not "safe" nor "controlled." They are experiments conducted in the open air, where genetic pollution is an inevitable result. The genetic pollution that began in 1998 can't be put back into the box in 2013...
  #5) U.S. consumers who eat wheat products are right now almost certainly ingesting some level of genetically modified wheat. This level may currently be very small -- perhaps even less than 1% -- but it is yet another source of GMO pollution in the food supply that could hugely impact Americans' grocery shopping decisions."
- **Glyphosate issue - FSANZ and APVMA are both too slow to act in managing a serious health issue which has been highlighted by the World Health Organisation (WHO) in 2015.**
- **(11)** *Glyphosate is "definitely genotoxic", says Prof Chris Portier, a co-author of the report by the World Health Organisation's cancer agency, which classed glyphosate as a probable carcinogen*
- *Prof Christopher Portier, one of the co-authors of the recent report by the World Health Organisation's International Agency for Research on Cancer (IARC), which determined that glyphosate is a probable carcinogen, said at a scientific briefing today, "Glyphosate is definitely genotoxic. There is no doubt in my mind." "Genotoxic" means it damages DNA. It is widely believed by regulators that for genotoxic chemicals that are also carcinogenic, as glyphosate appears to be, there is no safe level of exposure.*

- The following article demonstrates how little knowledge scientists have in regard to chemicals and new technologies on the environment. 16/03/2016 - Qld Countrylife Newspaper - Dr Lukas van Zwieten - GRDC Chemical Residue Scientist - Ground Breaking Research about Glyphosate -(12) *The principal area of concern appears to be the risk that remaining glyphosate, previously used in fallow weed control, may be toxic to the next crop. Dr Rose suggests this is more likely to be a problem on sandy soils, or those with lower clay content, that can't hold onto glyphosate molecules like heavy pug.*

- *On lighter soils a small dose of phosphorous fertiliser tends to release glyphosate from clay particles making them available - again - to potentially reduce crop growth. "The results were quite unexpected," said Dr Dr Van Zwieten. "In every one of the surface samples - and in most sub-surface samples - we found AMPA."*

- *The half-life of glyphosate can vary, but under some conditions can be more than 40 days, which means that four applications in a year results in a slow build up of the chemical remaining in the soil – in addition to a build up of AMPA.*

- Our true scientists are continuing to learn more in the past 5 years than any time in the past 30 years as they are honest, diligent, thorough and want to create healthy food and ecosystems.

Anti-Competitive Behaviour

- The behaviour of research organisations such as GRDC, CSIRO and its affiliate organisations has been totally in support of the GM industry with little understanding or regard for farmers who understand the negative side of GM crops and do not support old agronomic methodologies that do not work today. GRDC has the ability to move forward as the key

driver of sustainable farming with soil/ microbe management, reducing chemical applications, composting, and cover cropping to improve sustainability, but instead focus on more poisons, higher rates of the same old fertilisers, going backwards.

- It gets to a point where farmers walk away from the R&D organisation because they do not get listened to. Meetings have fewer and fewer members in attendance. These extension organisations need to be paid on farmer involvement basis (10% involvement - 10% pay). This might make organisations and hierarchy more adaptive.
- The Australian Government MP's and Queensland state government MP have little or no knowledge of farming systems, issues of GM, issues of glyphosate or any related agriculture health issue. When questioned, they simply ask the relevant Minister, who asks the CSIRO or FSANZ or OGTR person who says, the world is wonderful, there's nothing to worry about (trust me). The GM industry is so well organised and pushed from the top in the CSIRO/ OGTR/ FSANZ, that the farmers or community have little input and cannot get accurate, honest answers to key issues.
- The Anti-competitive practise has been promoted as a result of government support for GM wheat, Sugar Cane and other products. CSIRO is pushing for its GM wheat to be introduced as the government can profit from royalties and scientists get to keep their jobs. There is huge difference between the government research funding for GM and the sustainable farming research.

In regards to real policy change for agriculture - This article summarises the 40 years of science research : Organic Agriculture - feeding the world, from research paper (6) Organic agriculture in the twenty-first century . (13) Reganold and Wachter **"recommend *policy changes to address the barriers that hinder the expansion of organic agriculture. Such hurdles include the costs of transitioning to organic certification, lack of access to labor and markets and lack of appropriate infrastructure for storing and transporting food. Legal and financial tools are necessary to encourage the adoption of innovative, sustainable farming practices".***

Key Recommendations -

1. *To establish a Royal Commission into the role and management of FSANZ/ OGTR ability to test for health implications of GMO crops and food products, including a full review of the science of GM crops and foods on human health.*
2. *To establish an organisation to manage GM and chemical testing of imported food products and domestic products.*
3. *To improve the GMO labelling of all food products when food products contain any GM portions. To be labelled on the product with the amount of genetically modified material.*
4. *To put a ban on any new GM crops entering Australia or being released until it can be demonstrated that all the issues of anti-competitive behaviour, impact on non gm farmers and chemical safety issues are corrected.*
5. *Restrict the use of glyphosate being sold in garden centres and restrict the use of glyphosate being sold to farms until a management plan can be assessed.*
6. *Establish a register of GMO affected farms that can be accessed through the Australian government website.*

These issues will affect every single Australian family, their health, and the future of agriculture. They issues require a lot more farmer and community input than a few big corporates placing a Christmas wish list.

Scientific Papers and articles for citing information.

(1) Royal Society of Canada: Elements of precaution: recommendations for the regulation of food biotechnology in Canada; An Expert Panel Report on the Future of Food Biotechnology. 2001, January [http://www.rsc.ca//files/ publications/expert_panels/foodbiotechnology/GMreportEN.pdf]

(2) No scientific consensus on GMO safety - 2015

Angelika Hilbeck1,2*, Rosa Binimelis1,3, Nicolas Defarge1,4,5, Ricarda Steinbrecher1,6, András Székács1,7, Fern Wickson1,3, Michael Antoniou8 , Philip L Bereano9 , Ethel Ann Clark10, Michael Hansen11, Eva Novotny12, Jack Heinemann13, Hartmut Meyer1 , Vandana Shiva14 and Brian Wynne15

(3) Genetically engineered crops, glyphosate and the deterioration of health in the United States of America (2014)
Nancy L. Swanson1 , Andre Leu2 *, Jon Abrahamson3 and Bradley Wallet4 US Congressional Hearing on Glyphosate
(4) Republished study: long-term toxicity of a Roundup herbicide and a Roundup-tolerantgenetically modified maize (2014)

Gilles-Eric Séralini, Emilie Clair, Robin Mesnage, Steeve Gress, Nicolas Defarge, Manuela Malatesta, Didier Hennequin and Joël Spiroux de Vendômois

(5) A long-term toxicology study on pigs fed a combined genetically modified (GM) soy and GM maize diet
Judy A. Carman1,2*, Howard R. Vlieger3, Larry J. Ver Steeg4, Verlyn E.
Sneller3, Garth W. Robinson5**, Catherine A. Clinch-Jones1, Julie I.
Haynes6, John W. Edwards (2013)

(6) Organic agriculture in the twenty-first century
John P. Reganold, & Jonathan M. Wachter (Feb 2016)
Nature Plants **2**, Article number: 15221 (2016) doi:10.1038/nplants.2015.221

(7) http://www.abc.net.au/news/2015-03-18/australian-corn-maize-production-better-than-expected/6328468 (March 2015)

(8) http://www.capitalpress.com/Oregon/20160302/farmers-challenge-usdas-gmo-bentgrass-plan

(9) http://naturalsociety.com/usda-genetically-modified-wheat-escapes-test-fields/

(10) http://naturalsociety.com/did-monsanto-plant-gmos-before-usda-approval/

(11) http://www.gmwatch.org/news/latest-news/16302-glyphosate-damages-dna-says-world-health-organisation-expert (15th July 2015)

(12) http://www.theland.com.au/story/3792459/residual-roundup-not-what-you-think/?cs=4951 (16/03/2016)

(13) http://sustainablepulse.com/2016/02/05/40-years-of-science-organic-agriculture-key-to-feeding-the-world/#.V9TbMvl97IW

Other valuable articles for future of agriculture
Recoding Nature Critical Perspectives on Genetic Engineering.
Carman J. Is GM Food Safe to Eat? In: Hindmarsh R, Lawrence G,
Sydney: UNSW Press; 2004. p. 82-93.

A long-term toxicology study on pigs fed a mixed GM diet.
Adverse effects of GM crops found. By Dr. Judy Carman 2013

Do GMOs Accumulate Formaldehyde and Disrupt Molecular Systems Equilibria? Systems Biology May Provide Answers
V. A. Shiva Ayyadurai*, Prabhakar Deonikar (2015)
http://www.integrativesystems.org/systems-biology-of-gmos/

Does eating GM crops harm the digestive tracts of rats?
A review of the scientific evidence.
By Dr Judy Carman 2014

GM crops and the rat digestive tract: A critical review
I.M. Zdziarski a, J.W. Edwards b, J.A. Carmanb,c,*, J.I. Haynes a

Long-term toxicity of a Roundup herbicide and a Roundup-tolerantgenetically modified maize
Gilles-Eric Séralini, Emilie Clair, Robin Mesnage, Steeve Gress, Nicolas Defarge, Manuela Malatesta, Didier Hennequin and Joël Spiroux de Vendômois

http://www.scientificamerican.com/ - Human Genome's Spirals, Loops and Globules Come into 4-D View **march 2015**

http://www.naturalnews.com/040541_GMO_genetic_pollution_GE_wheat.html#ixzz4JfSnHjc6 (10)